1946

The Hospital Study of the City of Houston and Harris County

The Texas Medical Center

James A. Hamilton and Associates, Hospital Consultants, Minneapolis, Minnesota

A HOSPITAL STUDY

of the CITY OF HOUSTON

and HARRIS COUNTY, TEXAS

conducted under the auspices of

THE TEXAS MEDICAL CENTER, INC.

by

JAMES A. HAMILTON AND ASSOCIATES

HOSPITAL CONSULTANTS

Minneapolis, Minnesota

1946 - 1947

TEXAS MEDICAL CENTER, INC.

Board of Trustees

JAMES A. HAMILTON AND ASSOCIATES

Study Staff

JAMES A. HAMILTON, Minneapolis, Minnesota
Director

GLEN E. CLASEN, Cleveland, Ohio
Resident Director

GAYLORD ANDERSON, M.D., Minneapolis, Minnesota
School of Public Health

EDNA NICHOLSON, Chicago, Illinois
Chronic Illness

LUCILE PETRY, Washington, D. C.
Nursing Education

I N D E X

SECTION I -- THE SURVEY AREA

THE SURVEY AREA-CONTINUED

SECTION II - THE COMMUNITY PROGRAM

SECTION III - THE TEXAS MEDICAL CENTER

SECTION IV - SPECIAL STUDIES

CHRONIC ILLNESS

SCHOOL OF PUBLIC HEALTH

NEEDS AND EDUCATIONAL FACILITIES FOR NURSES

APPENDIX A

APPENDIX B

CHARTS APPEARING IN TEXT

F O R E W O R D

The Texas Medical Center is a project that still will be growing twenty, forty, or perhaps fifty years in the future. Its Board of Trustees, therefore, recognize the essentiality of the advice and counsel not only of the membership of the boards of the participating institutions but that of technical men as well.

The desire to contribute to the health and well-being of the citizens of Texas and the Southwest, which led to the organization and establishment of the Texas Medical Center cannot be fulfilled without the very best in professional advice in many fields, such as engineering, architecture, education, and of course, in data on the hospitalization needs.

Following the decision to have made a professional survey of the existing health facilities and the future needs, the firm of James A. Hamilton and Associates was retained. Because of its geographical size and its large population, Harris County was designated as the area to be surveyed.

It is the hope of the Board of Trustees of the Texas Medical Center, Inc., that this survey report will be useful not only to the constituent units in the Medical Center but also to public and private agencies interested in health, hospital, educational and research problems throughout this state.

E. W. Bertner, M.D.
President
Texas Medical Center, Inc.

P R E F A C E

The frontier of medical care lies within the hospital as a medical center. The modern hospital of the future must be truly a medical center of service in a coordinated chain of health agencies developed into an integrated system.

The present situation in Houston permits an opportunity for intelligent community planning which can secure better health for the people of Harris County and which can save the community millions of dollars in capital investment and in continuing operating expense.

Pooling the interests of several independent institutions, The Texas Medical Center, organized by trustees of broad vision, has already begun to correlate the planning necessary to meet the impelling medical and hospital needs of the community, of Texas, and, indeed, of the Southwest.

We are pleased to have had a part in constructing the proposals for a long-range program of hospital care and health education and in making recommendations as to the role which The Texas Medical Center shall take in meeting these needs as well as in correlating the plans and purposes set forth by the individual institutions.

Grateful acknowledgment is made for the willing cooperation and valuable assistance afforded to us by many community agencies, officials, and vitally interested citizens.

James A. Hamilton

James A. Hamilton

For JAMES A. HAMILTON and ASSOCIATES

S C O P E O F S U R V E Y

Houston has entered a period of rapid increase in population and great economic development. As a community, it now requires and will continue to require an even greater increase in its hospital and health facilities to keep pace with its contemplated economic development.

The modern hospital, as a medical center, has become the keystone of the health service of the future. A hospital study was undertaken, primarily:

1. To define the needed hospital facilities of the area served;
2. To outline an integrated program to meet these needs;
3. To define the facilities which should be constructed on the site of the Texas Medical Center; and
4. To prepare general recommendations which would furnish a guide to the community, that waste and unnecessary duplication might be avoided.

Visits were made to the hospitals in the area, to the State, City, and County health units and to other City and County departments. Meetings were held with officials of The Council of Social Agencies, Visiting Nurses Association, Anti-Tuberculosis League, Chamber of Commerce, Superintendent of the Independent School System and many others.

This survey has been conducted under the auspices of The Board of Trustees of the Texas Medical Center, Inc. and with full cooperation and excellent support from all universities, hospitals, health units, numerous community agencies and several public spirited groups of Houston interested in the health and welfare of Texans.

A technical advisory group and specialty sub-groups have held meetings with the survey staff and have contributed in a large measure toward bringing into proper perspective the material collected. Acknowledgments are made throughout the report for special sources of information but do not express fully our indebtedness to the many who contributed to our orientation.

This report is a greatly condensed statement of the facts and ideas which form the basis of the recommendations. No attempt was made to reproduce a great part of the voluminous data of research and conference material used in arriving at our conclusions.

ABSTRACT OF A HOSPITAL STUDY REPORT

(The original report is some 400 pages and contains many charts, tables and other supporting data.)

Houston has entered a period of rapid increase in population and great economic development. As a community, it now requires and will continue to require an even greater increase in its hospital and health facilities to keep pace with its contemplated economic development.

The modern hospital, as a medical center, has become the keystone of the health service of the future. A hospital study was undertaken, primarily:

(1) To define the needed hospital facilities of the area served;

(2) To outline an integrated program to meet these needs;

(3) To define the facilities which should be constructed on the site of the Texas Medical Center; and

(4) To prepare general recommendations which would furnish a guide to the community, that waste and unnecessary duplication might be avoided.

SECTION I - SURVEY AREA

A thorough study of the actually recorded residence of 40,740 patient admissions to four of the larger general hospitals of Houston in the year ending June 30, 1946, revealed that 92.7% of admissions were residents of Harris County, while 3.3% resided in counties bordering Harris, and the remaining 4.0% were residents of other Texas counties or other states.

The admission range of the City-County hospitals and of the Industrial hospital in effect left but 17,000 admissions to all Harris County registered hospitals unidentified as to residence. It was believed that inasmuch as these were to small proprietary hospitals, the proportion of out-of-area-patients would be small and insufficient to change our concept of the Area being served. Therefore, Harris County was selected as the Survey Area.

Harris County hospitals are exerting only limited drawing power upon an outer area wherein far less than adequate facilities exist. Through the inevitable education of the population in use of hospital and health facilities, greater dependency upon Harris County facilities may be the natural sequence of trends. Undoubtedly, Houston will become, largely through the development of the Texas Medical Center, the medical center of the Southeast section of Texas.

Harris County comprises an area of 1,747 square miles, void of any natural barrier to uninterrupted expansion and growth. It is the largest county of East Texas and almost twice the size of the average county in the United States. These potentialities, however, pose the problem of "accessibility" of hospital and health facilities to the presently scattered yet rapidly growing population. Houston is approximately 45 miles from

certain points in Harris County near the Waller and Montgomery County lines. This distance, even without the hazards of congested areas inevitable in future growth, creates a local need of small community hospitals and outlying public health and medical service centers as these communities develop.

A - Population, Social and Economic Factors.

Harris County is undergoing a rapid increase in population estimated to result in a population slightly in excess of one million by 1960, and only slightly less than a million and a half by 1970. It is estimated also that the population of Metropolitan Houston will by 1970 approximate 1,300,000, representing a more rapid growth proportionately than that reflected for the total county.

In 1940 the Area was 77.7% urban in character, and the balance represented a rural non-farm population of 16.4%, and a rural farm population of 5.9%. However, we find the number of farms decreasing 27% between 1940 and 1945, and every indication that the influx of manufacturing, as well as general population increase, will further reduce the farm area and, hence, farm population through increasing land values.

Although constantly decreasing in proportion the Negroes comprise 17.5% and the Mexicans 4.6% of the population.

The age group "65 and over" is significantly below the average for the country as a whole, but consistently follows the national trend to increase proportionately.

Living conditions in the Area reflect the growth in population which has been so rapid that the machinery of "assessment" and "expenditure" of tax funds for improvements has failed to keep pace. The result is that environmental conditions exist that are certainly not exemplary of the best in sanitation methods, and there are situations that have led to contamination and contagion hazards.

certain points in Harris County near the Waller and Montgomery County lines. This distance, even without the hazards of congested areas inevitable in future growth, creates a local need of small community hospitals and outlying public health and medical service centers as these communities develop.

A - Population, Social and Economic Factors.

Harris County is undergoing a rapid increase in population estimated to result in a population slightly in excess of one million by 1960, and only slightly less than a million and a half by 1970. It is estimated also that the population of Metropolitan Houston will by 1970 approximate 1,300,000, representing a more rapid growth proportionately than that reflected for the total county.

In 1940 the Area was 77.7% urban in character, and the balance represented a rural non-farm population of 16.4%, and a rural farm population of 5.9%. However, we find the number of farms decreasing 27% between 1940 and 1945, and every indication that the influx of manufacturing, as well as general population increase, will further reduce the farm area and, hence, farm population through increasing land values.

Although constantly decreasing in proportion the Negroes comprise 17.5% and the Mexicans 4.6% of the population.

The age group "65 and over" is significantly below the average for the country as a whole, but consistently follows the national trend to increase proportionately.

Living conditions in the Area reflect the growth in population which has been so rapid that the machinery of "assessment" and "expenditure" of tax funds for improvements has failed to keep pace. The result is that environmental conditions exist that are certainly not exemplary of the best in sanitation methods, and there are situations that have led to contamination and contagion hazards.

With consideration of relative values to the overall problems, we omitted from our intensive inventory of existing hospital facilities five institutions having a total of 126 beds. Likewise, we omitted seven very small, non-registered hospitals and clinics with an aggregate capacity of 77 beds. However, in the calculation of total bed requirements for the Area those omitted were evaluated.

Of the 15 hospitals with a total of 2,183 beds selected for study, there were eleven general, one industrial, two nervous and mental, and one tuberculosis hospital, of which there was city-county control of two, representing 596 beds, church control of three with 783 beds, non-profit association control of three with 487 beds, and individual, partnership, or corporation ownership of seven hospitals operated for profit and representing 317 beds.

General study was made of the City and County Health units, the Mexican Clinic, the Bureau of Mental Hygiene, the Houston Anti-Tuberculosis League, the Independent School District Division of Health, the City-County Welfare Board, the Visiting Nurse Association, the M. D. Anderson Hospital for Cancer Research, and numerous Nursing Homes and Institutions.

1. - Approval.

"Registration", mentioned in a previous paragraph, is a basic recognition extended to each hospital, concerning which the American Medical Association has no evidence of irregular or unsafe practices. It is in a sense a "negative approval" as compared to the approval of a hospital by the American College of Surgeons or by the Council of Medical Education and Hospitals of the American Medical Association. The first of these latter two approves hospitals which meet unconditionally its minimum requirements, and we find only six of the Area's hospitals so conforming. The second body approves hospitals for interneships and for

residency and fellowship training, and we find only three of the Area's hospitals approved for interne training and six approved for residencies and fellowships. There were nine hospitals of the 15 studied without approval or accreditations of any sort, and these represent over 25% of the total beds.

Approved interneships in the hospitals of the Area were, as of August 1946, limited to 40 of the State's total of 143. Approved residencies and fellowships were limited to 44 of the State's 188, and were at the same time confined to six of the 23 branches of medicine subject to joint approval by the Council on Medical Education and the Advisory Board for Medical Specialties.

These approvals, in general, deal with professional staff organization, including the frequency and content of staff conferences, and the ethical standards of staff members. They measure the adequacy and completeness of medical records, the adequacy and usage of diagnostic facilities, and they measure the quantity of service rendered, as well as the proportion available for teaching purposes.

It can readily be seen that these factors are basic to good hospital care, not merely refinements which would be "nice to acquire." Hence, we stress the desirability, the absolute necessity of each hospital appraising its standards and establishing effective means of maintaining high quality medical care. This is essential to "approval", and approval in turn is essential to interneships and residencies in the number necessary to carry out a coordinated undergraduate-graduate training program.

2. - Physical Plant.

In general the physical plants of the 15 hospitals were in fair to good condition, but some were quite evidently suffering from low initial investments coupled with obsolescence and general depreciation.

Conditions in others reflected disunity in organization as a result of frequent additions to original buildings.

However, with consideration of the future building program to be started by Methodist Hospital, the most serious physical condition remaining within the Survey Area would seem to be that under which Houston Negro Hospital is operating. In part, this would seem to stem from original weaknesses in original construction and planning and from the more recent lack of funds with which to maintain or remedy such conditions. Even during the time the Survey has been in progress, improvement in maintenance and housekeeping has been noticed in the hospital, brought about principally through the efforts of the new superintendent. We do not wish to indicate a hopeless situation, but only one that will require concerted effort on the part of groups interested in the continued improvement and ultimate raising of standards of the facilities for Negroes.

The overall condition most hazardous in our opinion rests in the overcrowded conditions which exist in several of the larger institutions.

3. - Occupancy.

A formula has been devised and used nationally to establish the optimum occupancy at which hospitals of varying size can most safely be operated. Applying this formula to Memorial Hospital with its 95.7% occupancy, and with its bed capacity of 270, reveals that its occupancy should average 80%. The difference between its actual and optimum occupancy in 1945 indicated an excess of 15,000 patient days. Similarly, St. Joseph's Infirmary operated at an actual occupancy of 95.1% against an optimum of 83%, representing an excessive patient load of 16,600; and Methodist Hospital reflected a similar condition to a lesser degree.

The occupancy rate for all hospitals was very much in line with what might be expected or attempted. This false picture was brought

about statistically by reason of the numerous privately owned small hospitals whose occupancy was in the neighborhood of 50 to 60%. Without exception the smaller hospitals have substantially the shorter lengths of stay, which coupled with their low occupancy and profit making concept of organization create an undesirable situation.

Admitting policies of the hospitals were studied at some length to determine their effect on racial problems, segregations, and the limitations of their facilities in the care of diseases requiring special techniques for handling. The general hospitals follow a pattern common among most such hospitals, except that we find a dearth of acute nervous and mental facilities, as well as facilities for the handling of contagious and venereal diseases, convalescent patients and drug addicts. Likewise, we find two of the large hospitals accepting no negroes, two others accepting them in limited numbers, and only Jefferson Davis and Houston Negro assigning facilities in any proportion approximating their numerical weight in the community.

The auxiliary departments in each hospital, essential to the complete care of the patients now accepted by these institutions, we believe to be above average both in distribution and amount. Again we find physical limitations in the physical areas designated for their activities, which in some hospitals are of a degree to interfere with procedures and create work problems. We judge that these facilities are in the amount to care adequately for the present burden, but that no additional service of any size could be absorbed.

4. - Training Courses.

We have already made mention of the training of internes, residents, and fellows in our discussion of approvals and accreditations. Five schools of nursing, affiliated with the University of Houston, graduate 188 in 1947 and 105 in 1948-49. There are only 29 students

registered in various technical training courses which many general hospitals have found so advantageous to conduct. These represent courses for student dietitians, laboratory technicians, hospital pharmacists, record librarians, x-ray technicians, and physical therapy technicians. Our recommendations stress consideration of establishing and strengthening certain of these programs.

5. - Operating Costs.

In an analysis of patient day costs, we find that in this area, as in many others, there are literally as many accounting systems as there are hospitals. The resultant tabulations of per capita costs in the general hospitals studied ranged from $14.30 to $3.42. These are obviously not the true reflections of costs, but it was considered beyond the scope of our study to spend an undue amount of time bringing into comparability the numerous factors. The low cost mentioned above is that submitted by St. Joseph's Infirmary, and it is known that no effort has been made to evaluate the contribution of time by the Sisters which in this particular organization would be a substantial factor. On the other hand, the highest rate quoted is for Park View Hospital, and again it is known that these costs bear the salaries of certain of the interested physicians. Although the figures and tabulations made are of limited value, the by-product of such study is reflected in our recommendations dealing with advantages of group services and group actions under sponsorship of a central body such as a Houston Hospital Council.

D - Other Health Facilities.

We will not deal in this abstract upon the health agencies and organizations of the Area. However, we emphasize that an integration of the two health departments of the Area with the Independent School District Health Department would seem to have material advantages. We are, therefore, recommending that the Health Committee of the Chamber of Com-

merce pursue its efforts to obtain legislation to make such a single unit self-supporting through taxation, and that in addition to the advantages accruing from such an autonomous organization further thought be given to the possibilities inherent in a close tie-up between this organization and the present City-County Hospitals. Both the hospitals and the public health unit have need for laboratory facilities, x-ray equipment, et cetera. Both operate out-patient departments, and their programs dealing with maternity patients, infants, tuberculosis and venereal disease patients overlap, as do their programs of health education, preventive medicine, visiting nurse service, and social service. It is believed that through joint operation of an out-patient department each hospital would benefit through extension in the quantity of their work and, hence, in the clinical material supplied, while the public health unit would benefit through the use of more adequate facilities than are usually available, and through the interest of physicians trained in diversified specialties.

SECTION II - COMMUNITY PROGRAM

On this background of the Area's growth, characteristics, vital statistics, and its hospital and health facilities, we suggest the development of a community program stressing the bed requirements, the teaching and research programs, and the aspects of development which would ordinarily lead to a strengthened position in the community of the organizations and agencies interested in the health and welfare of Texans. We have attempted to develop this program in organized stages, realizing that the number of variables introduced by such a rapidly growing community would indicate careful periodic reviews of the factors which have guided us in making basic recommendations.

With this in mind we have made certain in the full report that there is in each instance sufficient information and explanation of our ratios and common denominators used in the estimates so that reviews might be expedited. We, of course, have given consideration to the building programs now being considered by Hermann Hospital, Methodist, St. Luke's, San Jacinto Memorial, St. Elizabeth's Negro, the City's plan for its tuberculosis hospital, and to the plans for the M. D. Anderson Hospital for Cancer Research.

A - Hospital Bed Requirements.

1. - Acute General.

The number of acute general hospital beds needed in a community such as this is usually calculated at five beds per thousand population. Recently, a formula was advanced by the Commission on Hospital Care based upon the fact that the need for general hospital beds is related to the crude birth and death rates modified by "bed-birth" and "bed-death" ratios. We have used both methods in arriving at the acute bed requirement and found only a fraction of a per cent variation in the end result.

To this basic requirement we gave consideration to the increased overall "use" and the increased "use" by non-residents of Harris County. The first factor relates to the ever increasing education of the population in the advantages of hospital and medical care in early stages of illness, while the second was introduced to account for the inevitable increase in the drawing power of a metropolitan area, and more particularly a medical center area.

These ratios and allowances applied to population growth indicated a present need of 3,100 beds, a 1950 need of 3,650 beds, a 1960 need of 5,450 beds, and a 1970 need of 8,200.

Available statistics point out that 14.3% of acute beds are required for obstetric care; that in an area such as this where less than 25% of the population is under 15 years of age, 10% of all acute hospital beds will safely care for the pediatric needs of the community; that the eight major medical specialties will require 30% of all acute beds; and that the balance representing 45.6% will be necessary for the care of general medical and surgical patients.

Building plans by the existing hospitals above-mentioned, although not developed to the stage where specific allocation of beds has been made, indicate that approximately 916 beds will be available in these general services. After application against the 1950 needs of the community, an actual shortage of 860 general acute beds remains. Unless additional building programs are entered into before 1960, shortage of acute beds will amount to 2,660, and under the same conditions will amount to 5,415 by 1970.

2. - Other Beds.

To this acute hospital picture must be added the problems of the tuberculosis patient, the communicable disease patient, the nervous and mental cases, and the chronically ill.

Tuberculosis needs can be met by a factor of 2-1/2 beds per annual tuberculosis death according to studies by the Committee on Sanatorium Standards of the National Tuberculosis Association. The decreasing tuberculosis death rate we have estimated will decline from its present 43.1 per 100,000 population to approximately 20.0 in 1970. However, this decreasing death rate is entirely offset by the increasing rate of overall population growth so that the calculations reflect a requirement of 667 beds in 1950, mildly increasing to 737 beds in 1970. With the consideration of present facilities and assuming the construction of the proposed City Tuberculosis Hospital by 1950, the shortage may be reflected as 427 in 1950 and 487 in 1970.

In the planning of an integrated program, we emphasize the desirability of treating a certain number and type of tuberculosis patients in the general hospitals of the Area. We believe that general hospitals can materially assist in care as well as in the campaign for the further reduction of tuberculosis. Likewise, this would tend to counteract the frequent difficulty in securing physicians and employees for tuberculosis care, and would provide the consultant services for non-tuberculosis conditions which are frequently correlated with the disease.

Communicable diseases in a community can usually be adequately cared for in a ratio of .2 beds per thousand population. This factor projected against the population growth of the Area indicates need of 139 beds in 1950 and 295 contagious beds by 1970. Present facilities are limited to a unit of 57 beds in Jefferson Davis and a few at St. Joseph's Infirmary. It should be mentioned that certain other hospitals occasionally find themselves faced with contagious diseased patients and attempt care and isolation largely depending upon nursing techniques. We recommend that no new specialized beds be built for this purpose but that the general hospitals equip themselves with the minor special facilities re-

of disconnected, unrelated services. Therefore, we suggest that a system of inclusive rates be established after careful study and analysis of proposed operating plans; that unnecessary variety of rates be eliminated; and that there be a minimum of variables in the rates which cannot be controlled by patients and their physicians.

Coordinated study of such a system and proposed action can be secured through the channels of the proposed Hospital Council.

3. - Group Hospital Service Plan.

The State of Texas is credited with establishing the first group hospital service plan (Blue Cross) on a non-profit basis.

In many sections of the country, enrollments have reached 50% and in a few instances 80% of the total population. Enrollment in this Area at present is slightly less than 4%. There is a history here of changes in policy, retraction of contracts and losses in "good-will."

Participating hospital membership means more than merely accepting subscribers as patients. It means active participation in the organization and development of the Plan. It means complete support by the use of the Plan for its own employees and the conduct of educational programs outside of its own organization.

We suggest that the representatives of participating hospitals meet with the directors of the Plan in an effort to remedy the present situation. We urge that all parties consider the long range benefits accruing through greatly increased coverage of the Area population and put forth every effort to remove all obstacles to this progress.

4. - Ambulance Service.

It was evident that many aspects of the present emergency ambulance service left much to be desired. The number of accidents and emergency treatments occurring in a city of this size during a twenty-four hour period are likely to be very large. A special committee of the

evaluated, and undoubtedly it will not be confined to the Area, Texas, or even the Southwest.

G - Group Community Action.

1. - Hospital Council.

In view of the multitudinous problems which quite apparently will face the hospitals and health agencies of this Area during the next few years, it would seem of benefit to establish the closest possible working relationship, as well as the best possible procedures for the exchange of ideas and conformity in group action.

With this in mind we urge that consideration be given to the abandonment of the present Hospital Council and the organization of a Houston Hospital Council with a full time director and with a well-laid plan of organization and purposes. Such purposes would include the development of uniform procedures in the hospitals as well as the collection and compilation of reports, statistics, and such other information as might be desirable. The Council would negotiate and cooperate with the Council of Social Agencies, the Health Committee of the Chamber of Commerce and with City and County officials in an effort to develop hospital service to the community and further the interests of the member hospitals. It would undertake central purchasing, central collection and investigation, as well as other group services as they became apparently advantageous.

2. - Inclusive Rate System.

The significant development of the hospitals in this Area within the next few years permits a review of and, if advisable, a change in the present rate system of charges to patients.

We believe that hospitals can best serve their patients in the future development of the modern hospital by offering a completely integrated service charge rather than a room charge plus charges for a series

vancement of medical care is the proposed erection by the Houston Academy of Medicine of a library building in the Medical Center to house the combined libraries of the Academy of Medicine and the affiliating units of the Medical Center as well as a museum of clinical exhibits. This venture should not only affect the medical science in the Area but will have a significant influence on the medical development of Texas.

F - The Texas Medical Center.

A major aspect of the coordinated community "hospital-health" program for Harris County is the contemplated development of The Texas Medical Center. Details of this huge undertaking are dealt with in a separate section of the report because of its complex structure and the importance of its scope.

We visualize the Medical Center with its large general and special hospitals; its medical, dental, public health, nursing, and other schools; and its numerous facilities and affiliations for research and study as the hub of this community program.

As its component units develop they can be expected to assist or direct, in almost unlimited spheres, the activity and progress of outlying organizations seeking improved standards. Within their fields they can mold public opinion and direct public education of benefit to all agencies and all organizations working for the improved health standards of the Area.

Facilities, coupled with a spirit of education, research, and high purpose, will draw trained specialists seeking outlets for their experience and study. Others will follow, recognizing these scientists and teachers as additional assets, and so on down the line until an overall infectious atmosphere prevails which more than anything else designates the "medical center" of today and creates real lasting benefits to the health of the communities it serves. Its influence can never be truly

and Rehabilitation Center at the Medical Center, that a school be established by the Baylor University School of Medicine of sufficient standards to be approved by the Council on Medical Education and Hospitals.

11. - School of Medical Social Work.

Trained medical social workers are of vital necessity to the operation of a modern hospital. Graduates of a good School of Social Work have many opportunities beyond the medical social field. There is an estimated shortage of at least 80,000 trained workers in the United States.

We suggest a School of Social Work be established by the University of Texas at Austin, with its field work in medical social work developed in Houston in connection with the Medical Center and the social agencies of the community.

Such a course should be at the graduate level, cover two years with a Master's Degree and should conform with the standards of the American Association of Schools of Social Work and of the American Association of Medical Social Workers.

12. - School for Medical Record Librarians.

Nationally, there is a shortage of trained Medical Record Librarians. Houston and Texas will undoubtedly need a large number in the next few years.

We suggest that a course for Medical Record Librarians be established in the proposed Out-Patient Department of the Medical Center and the University of Houston; three years of the arts and sciences at the University and the fourth year devoted to the theory and practice in Medical Record Library science, so that a student may receive a B. S. degree. The curriculum should meet the standards of the Educational Board of the American Association of Medical Record Librarians.

E - Medical Library.

One of the finest developments in the community toward the ad-

of nine students. Only one course is accredited by the Council on Medical Education and Hospitals and registered by the American Registry of X-Ray Technicians. All courses should have such approval.

Neither of the courses of the two hospitals to be included in the Medical Center are approved. It is suggested that a central course be established in the Medical Center of sufficient standard to gain approval and it be made the prime responsibility of one of these hospitals although utilizing all available facilities.

9. - School of Pharmacy.

The School of Pharmacy of the University of Texas, located in Austin, would seem sufficient in scope and size to meet the greater part of the general needs. However, the already small segment of this student body interested in hospital work should become no smaller and, if possible, should grow to meet the expanding need.

Elsewhere in this abstract is proposed a central Pharmaceutical Manufacturing Unit at The Texas Medical Center.

We suggest that a branch of the University of Texas School be established in the above unit under the auspices of a Pharmacologist of their faculty to conduct advance courses in manufacturing and in hospital pharmacy. Research activities for graduate students could be conducted here as well. Also, interneships in the general hospitals of the Medical Center could be developed under the direction of the respective pharmacists who can become members of the faculty.

10. - School for Physical Therapy Technicians.

No School for Physical Therapy Technicians exists in the Area. The nearest school, limited to six students every nine months, is conducted by the University of Texas School of Medicine at Galveston. The proposed expansions will require a greater supply.

It is suggested, in connection with the proposed Out-Patient Unit

Therefore, it is suggested that a graduate course in hospital administration be conducted, preferably by the University of Texas in the School of Public Health to be located in The Texas Medical Center. The course should be of twenty-one months' duration, including nine months of academic study and twelve months of supervised administrative residency in a hospital approved by the University. A degree of Master of Hospital Administration should be granted on completion.

6. - School for Clinical Laboratory Technicians.

Two hospitals of the Area conduct schools for the training of clinical laboratory technicians with a total enrollment of ten students and are approved by the Council on Medical Education and Hospitals. The Jefferson Davis' course is affiliated with the University of Houston and is more likely to satisfy the requirements of the Registry of Technologists of the American Society of Clinical Pathologists which is the source of examination and registration.

It is suggested that at least two of the general hospitals of the Medical Center conduct such courses in affiliation with the University of Houston and in a manner to meet minimum accreditation.

7. - School for Hospital Dietitians.

No hospitals in the Area conduct a course for the training of student dietitians. Four of the hospitals have the essentials necessary for accreditation.

At least one of the hospitals should conduct such a course in a manner so as to be accredited by the American Dietetic Association. Arrangement should be made with the University of Houston whereby an evaluation of the twelve months' hospital training of these graduate students can be credited toward a Master's Degree in Home Economics.

8. - School for X-Ray Technicians.

Four hospitals in the Area train x-ray technicians with a total

offer a twelve months program. The graduates should be eligible for State licenses and should operate under supervision of professional nurses.

(b) the merging of the five existing and the one proposed schools of nursing, or any two thereof, into a College of Nursing, organized and administered by a university, but located at The Texas Medical Center. It should offer a four-year, integrated program leading to a baccalaureate degree and should admit annually 250-300 students.

(c) the establishment of a school for Negro nurses in connection with the proposed Negro Medical School.

(d) the establishment of advanced programs for graduate professional nursing in public health, hospital nursing services, schools of nursing instruction and administration.

(e) the establishment of a Nursing Council to initiate and assist in carrying forward the above suggestions particularly through recruitment and public information on nursing needs and opportunities.

5. - School of Hospital Administrators.

Together with the growing complexities of hospital operation has come a considerable expansion of facilities. No section of the country will experience a greater growth than the South and the Southwest.

The demand for competent and well-trained hospital administrators far exceeds the available supply. Five universities now offer graduate courses in this field. None exists in the Southwest. With the development of the Medical Center excellent facilities are available for such instructions here.

from which to spread its activities both locally and internationally.

We also recommend that

(a) Cooperative relationships be established with Baylor Medical School, University of Texas Dental School and Rice Institute to obviate duplication of facilities for instruction.

(b) An undergraduate course in public health nursing be organized in the School of Public Health having affiliations with other units for instruction in the social and nursing subjects.

(c) Certain functions of the local and state health departments could be carried on by them to greater advantage if maintained physically in the School Area.

(d) One of the proposed five City district health centers be integrated with the School.

(e) Certain non-official agencies, such as Visiting Nurse Service, Tuberculosis Association and the like, be integrated in the School.

4. - Nursing.

Only 800 graduate, professional nurses will be available in 1950 to meet the need for 1,850 nurses to serve hospitals and institutions in Harris County and the need of 140 public health nurses at the minimum level. By 1960 these needs will increase to 2,805 nurses in hospitals and 205 public health nurses. This means a possible shortage of 1,190 nurses in 1950 and 2,210 in 1960.

To maintain a very minimum of nursing service and to catch up on the deficit, approximately by 1960, we propose:

(a) the establishment of one or two vocational schools of nursing admitting a total of 100 students annually to

3. - School of Public Health.

Already the Regents of The University of Texas and the Directors of The Texas Medical Center propose to establish a School of Public Health within the Medical Center. There is need for such additional facilities in the United States. There is no School of Public Health in the Southwest and the local facilities for the training of public health nurses are inadequate. Therefore, the establishment of such a school would not only help to fill an existing need but would undoubtedly be called upon to meet an even greater need in the future.

As an agency for the graduate education and training of the entire public health team, it should provide the broadest possible training in public health on a graduate level. Its program should include courses for physicians, dentists, engineers, nurses, medical administrators, hospital administrators, laboratory personnel, health educators and such other professional personnel as may be included within the public health field. Because of its location, particular emphasis might well develop in the field of tropical medicine and hygiene.

An Institute of Geographical Medicine should logically be part of a School of Public Health. During recent years there has been a growing realization of the fact that relationships may exist between geography and disease. The Southwest represents a geographical unit which remains largely unexplored as far as concerns its disease problems determined by clinical and other geographic factors. The resumption of international commerce in the post-war period and the speeding up of travel incidental to aviation developments have emphasized the need for more precise studies of geographical medicine. Because Houston is apparently developing into a major gateway to Latin America and to a lesser degree to Africa, such an Institute located here, bringing together skills in medical research, epidemiology and geography would find a logical focus

therefore, it will be necessary to delegate to personnel of less skill and knowledge the performance of many of the functions now imposed upon the professional dentists. We presume to call this person a Dental Nurse. She would be trained to perform the functions of the Dental Hygienist and some routines now performed by the Dentist. A present Graduate Professional Nurse's training is not sufficient; therefore, it is proposed that the School of Dental Nursing be established in the University of Texas with ultimately a four-year course culminating in a Bachelor of Science Degree in Dental Nursing requiring a high school diploma for entrance. The student would undertake two years of cultural and basic subjects in Austin to be followed by two years in the Dental School in Houston. The small amount of instruction required in the general nursing field could be secured during the last two years from the proposed College of Nursing to be located in the Medical Center. Clinical instruction can be conducted in the Dental School, in the Hospitals and out-patient service of the Medical Center, in the Public Health Centers of the City, and in the Public Health Centers of the Area. It would be advisable to secure concurrently the passage of a State Licensing Law for the examination and registration of Dental Nurses to insure a sufficient minimum standard and regulation to protect the public users of this service. Moreover, it would seem advisable to start with a small student body, gradually enlarging it to 100-150 students in accordance with the evidenced demand for its graduates.

periods of time from general hospitals through the dental services of the out-patient unit and the special hospitals of The Texas Medical Center as well as the dental services of the City Dental Clinics, and as well as the Health Centers and small community hospitals established throughout the County. Dental residencies (second year interneships) should be established in all metropolitan hospitals where the minimum requirements in hospital census and an oral surgical service is maintained. Arrangements should be made whereby some period of the service must occur in the hospital of long-stay patients.

(c) Post-Graduate. The Post-Graduate School of Dentistry and Stomatology should provide continuous education and intensive short courses for the practicing dentists of the Area; for those seeking graduate degrees in at least Orthodontics, Oral Surgery, Pedodontics, Prosthetics, and Periodontics; and for graduate students in medicine.

(d) Research. No field offers more opportunity than does Dentistry. Therefore, it would seem wise to develop a research program in connection with the Dental School focussed particularly in the Medical Center. However, it should not be confined to Jaw and Facial Deformities solely. We suggest that research efforts be developed as well in facial infections in relation to medicine and surgery, acute infection of dental origin, fractures of maxilla and mandible, and oral manifestations of all disease.

(e) Dental Nursing. If the needed service in this Area is to be adequately met, it cannot be done by dentists solely. The volume of service required is too great to be mastered;

2. - Dentistry.

The organization of the undergraduate and the graduate training of Dental Students in the Area will be conducted formally by the Dental Branch of The University of Texas and informally by the practicing Physicians, Dentists, and Hospitals in Harris County. It has already been determined to provide facilities in the Texas Medical Center for a Dental School of 240-300 Dental Students, a Postgraduate and Graduate School of Dentistry and Stomatology of 100-150 Physicians and Dentists; a College of Dental Nursing of 100-150 students, and an Institute of Orthodontics for Research in Jaw and Facial Deformities.

(a) Undergraduate. All hospitals and out-patient units that establish divisions of dental service which meet the minimum basic standards of the American Dental Association should arrange for clinical teaching of any undergraduate students in accordance with the standards of, and under the supervision of, the faculty of the Dental Branch. The size of student bodies contemplated above should require the clinical work of the patients available in all of the dental services which could be established within the Area. It is important that some of this undergraduate teaching occur in the specialized hospitals of the Medical Center so as to afford the dental student with opportunities for viewing conditions not usually common in the Dental School Clinics.

(b) Interneships and Residencies. Dental interneships should be established in all metropolitan hospitals of the Area where the minimum requirements in hospital census and an oral surgical service is maintained. Arrangements should be made whereby these internes are rotated for appropriate

lections would depend greatly upon the needs and the interests of the personnel within the Area as well as the special skills and interests of the available instructors.

Undoubtedly the Medical Center and its associated units would offer also excellent opportunities for the conduct of periodic clinical conferences, symposiums, or graduate assemblies in various specialties covered by available clinical material, opportunity for practical work and for scientific exhibits.

Medical research, especially in those diseases particularly prevalent within the Area, would be necessary for and stimulated by the conduct of this special post-graduate study.

(c) Interneships and Residencies.

Previously we urged the development of approved programs in the fields of interne, resident and fellowship training within the hospitals of the Medical Center and the Metropolitan Area. It should be mentioned at this point that the gaining of these various approvals do not in themselves guarantee good teaching programs. It is quite possible for a hospital to bring about conditions meeting approval and yet fail completely to perceive its responsibility in the field of education. It is important that the hospitals in cooperation with a medical school assume responsibility for conceiving and organizing these programs in a manner to stimulate, to strengthen through disciplined thinking, and to afford opportunities for observation and work experience without the excessive burden of repetitive procedure.

be drawn. It is entirely possible and in keeping with current trends to develop also teaching programs in the private and semi-private units of the hospitals. The success of such an effort will be in direct proportion to the hospital's success in public relations and education coupled with careful indoctrination of the student and medical staff.

(b) Post Graduate.

If the physicians of this area are to complete their education for eligibility to the Medical Specialty Boards and are to keep up with modern medical practice, it will be necessary to establish continuation courses of a review or refresher nature. These educational endeavors could primarily be undertaken by the University of Texas Post-Graduate Medical School Unit on the site of The Texas Medical Center.

The facilities will be available in the Center for systematic instruction as provided by the medical, other educational institutions, and medical laboratories. Some courses of post-graduate study could be offered by lectures, demonstrations, clinics, ward-rounds, symposiums and conferences in the associated hospitals located at the Center. The length of these courses would vary from a short review course of five or more days to intensive courses extending over one year and, in some instances, two years. The subject matter offered would undoubtedly include basic sciences and selected clinical fields contained within the provinces of the 15 Medical Specialty Boards and their many more numerous sub-specialties. The specific se-

can become the spearhead in the development of this vitally needed community effort.

D - Professional Education.

The responsibility for the training of physicians, dentists, nurses, and other highly skilled health workers, although resting formally with the existing and proposed educational institutions, rests informally upon practicing physicians and dentists, hospitals, and in fact the citizenry of Harris County.

1. - Medicine.

(a) Undergraduate.

The Medical School of Baylor University has indicated that its planned program calls for the yearly instruction of 100 undergraduate students in each class. They believe their requirements for clinical teaching can be met through the availability of 1,000 bed patients in the appropriate professional specialties.

As mentioned earlier, we are recommending that the goal of the Texas Medical Center be to have sufficient facilities to train all medical undergraduates within the Center, thereby eliminating problems of travel and guaranteeing maximum uniformity in teaching techniques and standards. Applying the standards set by the Schools against the allocation of beds in the Center, we find that by 1970 this should be quite possible, and would require the availability of between 20 to 25% of all patients to meet the needs of the educational program.

Eventually the Center will be expected to have in addition 1,200 beds for contagious, tuberculosis, cancer, and chronic patients from which valuable teaching material may

to make it possible for the recipient to obtain a minimum of quality of medical and hospital care, especially in the early stages of chronic disease and thus avoid much greater public expense.

6. - Children's Hospital Facilities.

In view of the tremendously high death rate for children in Texas, we believe unusual emphasis should be placed upon the development of medical and hospital service for patients under the age of 15 years. Elsewhere in this abstract we recommend the establishment in The Texas Medical Center of a Children's Center, including at the start at least 200 beds, combining the services of child guidance, general pediatrics, orthopedic, contagious and psychiatric care of well, sick and handicapped children. Herein should be conducted undergraduate and postgraduate teaching programs and research in metabolism, in the growth and development of children, in child behavior and in preventative medicine.

Such a development need in no way to interfere with the normal development of pediatric units in the other general hospitals in the Area, both in the Medical Center and elsewhere. Moreover, for the good of the community as a whole, the efforts of the various community agencies, which have so splendidly recognized this acute problem, should be coordinated toward this mutual objective which will do more to help solve the child problem than anything else.

7. - Health Education.

Very little activity is conducted in the health education of adults in this community. It is proposed that the suggested Health Department establish a full time division of health education which can be a highly effective weapon to save community health expense. The efforts of the other existing agencies in this regard should be augmented and coordinated with the above unit, and the proposed School of Public Health

competent medical attention should be undertaken by the proposed consolidated Health Department in cooperation with the School of Public Health proposed to be developed in The Texas Medical Center.

(e) Public Health Services, not only of vital statistics of chronic diseases, but including effective licensing, registration, and other means of control over the physical facilities and quality of care offered in the nursing homes, homes for the aged and other places of shelter and care for the chronically ill, should be undertaken by the Health Department.

(f) Additional Community Services should be developed to offer help, on a visiting basis to families caring for invalids in their own homes, in the following specialties: housekeeping aides, nutrition advisors, diet therapists, occupational therapists, physical therapists, and recreational workers. The Health Council of the Council of Social Agencies might act as a coordinating agency through a committee composed of agencies now concerned to promote such a development. Such services, primarily designed to prevent the necessity of hospitalization, should be offered to all economic classes. Those able to pay should do so and the cost of the services for the low-income and dependent people should be met through public assistance or other forms of financial help.

(g) Adjustment of the Legal Provisions of the State Constitutional Limit should be made to permit varying the amount of public assistance payments when illness occurs in the individual cases. This limit should be at a level at least

suggested by the Baruch Committe should be established in this community. It is recommended that The Texas Medical Center create such a community Rehabilitation Service Center integrated with its Chronic Hospital and its Central Out-Patient Unit.

5. - Chronic Care.

In addition to the hospital services and facilities for invalids previously described in this abstract, other facilities and services are urgently needed for the prevention and control of chronic diseases.

(a) Medical Research, both in the basic sciences and clinical research, into the causes, methods of prevention, and methods of treatment, especially in arthritis, heart diseases, arteriosclerosis, hypertension, cancer and senility, should be actively undertaken under the leadership of the Baylor Medical School and the professional staff at the Chronic Hospital of The Texas Medical Center.

(b) Social and Economic Research into causes and methods of prevention and relief, of factors other than physical damage which contribute to invalidism, should be undertaken primarily at the Rehabilitation Center located at The Texas Medical Center.

(c) Professional Education, not only of physicians in the field of geriatrics but of social workers, nurses, dietitians, rehabilitation experts and others upon whose skill the care of the chronically ill person depends, should be provided primarily by the organizations developed in The Texas Medical Center.

(d) Health Education on a mass basis, directed toward educating people on nutrition and the prompt seeking of

a Dental Service, not including fillings or restorative work.

(b) Small Hospitals and Health Centers, located in the outlying sections of the Area, should arrange with the Dental School and the metropolitan hospitals a part-time dental service.

(c) City Clinics should furnish the indigent patients, in cooperation with the Dental School, a complete service in all phases of dentistry both for children and adults.

(d) Special Hospitals with long-stay patients should establish a complete dental service, including fillings and restorative work, in charge of a full-time dentist assisted by the Dental Internes from the general hospitals.

3. - Veterans Care.

The proposed Veteran's Hospital, although primarily a neuropsychiatric hospital, is planned to have 400 beds for general medical and surgical services. Eligibility for care liberally interpreted is not likely to deny any veteran admission who seeks such care. However, well-known counteracting influences will not cause this hospital to become a major relief to the acute general hospital needs in the County.

4. - Convalescent Care and Rehabilitation.

Stimulated by the successful experiences in military medical care, rehabilitation services during the convalescent and post-convalescent period is now considered an effective and fruitful endeavor in a community's health service. This is especially true in this area which is rapidly becoming a highly developed industrial area. Physical facilities and specially trained personnel to conduct activities of physical therapy; occupational therapy; vocational testing, guidance and retraining; and psycho-social evaluation and treatment organized along the patterns

real consideration of the Negro, approximating 17.5% of the total population. The importance of this consideration becomes apparent through the study of certain vital statistics which indicate that the colored death rate is 4.8 per thousand higher than the white death rate; that their stillbirth rate is 51.9 per thousand compared to 16.7 per thousand for whites; that the deaths of infants under one year of age amount to 73.9 per thousand live births as against 27.9 per thousand among white infants.

From all indications, the per cent of Negro to total population will continue the downward trend established in the past two decades, and in estimating the facilities needed for this group we have indicated that 17% of the 1950 overall need be earmarked for Negro care, and by 1970 that 15% of the overall facilities would in all likelihood meet the Negro need. We are not proposing that this need be met primarily by separate Negro hospitals. If the proposed Medical School for Negroes is established, undoubtedly a hospital in connection with it would offer good care. However, wherever feasible hospital beds for Negroes should be established in the same institution, even though segregated. Several areas of the Southland have found that this plan tends to raise the standard of care given the colored patient.

2. - Dental Care.

This area, like most areas in the United States, has been slow to recognize the full contribution which a well organized hospital Dental Service can make in the care of the sick. It is rapidly becoming obligatory for a modern, first-class hospital to have an effective Dental Department, not only to treat the sick, but to assist in the prevention of disease.

(a) General Hospitals and Out-Patient Units should establish, in cooperation with The University of Texas Dental School,

large proportion of the less complicated medical and surgical needs of the non-metropolitan population. They would be expected to "feed" into the larger hospitals and into The Texas Medical Center the patients requiring more complicated service and equipment which would also provide valuable clinical and teaching material. These two types, we feel, should embody all of the various types of medical services required except for the 370 chronic beds allocated to this segment of the Area.

The 5,000 beds allocated to The Texas Medical Center were based upon the values of a closely knit, integrated unit and upon the decision that eventually there should be a sufficient concentration of facilities that would permit training of all medical undergraduates within the Center. In addition, the 5,000 beds would provide a cross section of patients with average abnormalities and unusual medical conditions that would assure a nucleus for graduate training which could then be supplemented by affiliation with Area hospitals.

The Houston metropolitan area, other than the Medical Center, should add 6,800 hospital beds of all types by 1970. This necessary increase in facilities should be carefully studied, planned, and supervised from a community viewpoint so that there not be an undue concentration nor an unusually large number of hospitals for profit. No hospitals of less than 100 beds, preferably 200 beds, should be planned. This expansion and rapid population growth will some time in the future require the City and County to face the consideration of expanding their currently adequate general hospital service. This may be accomplished through government building programs or through government contracts with non-profit hospital organizations. We believe the latter method preferable if expanded facilities can be made available through contributed capital funds.

C - Special Patient Services.

1. - Negro Hospital Facilities.

This developmental program should not be carried through without

B - Types of Facilities.

It was not considered a premise of the Survey to attempt to locate and describe in detail the type and size of the future individual facilities. However, after consideration of the distribution of facilities that would best meet the characteristics of the Area and the contemplated growth of The Texas Medical Center, with due thought being given to the concentration of patients for medical education and specialized research, we have determined that by 1970 there should be a total of approximately 1,600 hospital beds in the non-metropolitan section of the Area, and 11,800 beds in the metropolitan section. Of the latter, approximately 5,000 beds should be located within The Texas Medical Center.

We visualize the probable need for two types of institutions to meet the non-metropolitan area requirements; namely, a "community hospital" type and a "public health and medical service" center type. The community hospital would be of 50 or possibly more beds serving at least 1,500 to 2,000 persons who otherwise would be required to travel in excess of 20 miles to a good hospital. These hospitals should not be expected to provide more than 50 to 70% of the hospital service needed within the community inasmuch as certain patients will invariably need to go to the larger centers for the more complex hospital care. The public health and medical service center of 10-15 beds with diagnostic and public health facilities would be expected to give the necessary coverage to the balance of the county population residing in areas in which the density does not justify construction and operation of even a small hospital. It would provide services normally furnished by the public health agency, as well as facilities for the care of a limited number of in-patients, and could be supported by a community as small as 500 population.

These two types of facilities judiciously located and properly affiliated with the larger hospitals could be expected to care for a

from two to four beds per thousand population. On the minimum basis we have a bed requirement of 1,400 by 1950, and 3,000 by 1970. The value and continued usage of presently available facilities in Houston has met with considerable local discussion and dissatisfaction. The 30 to 35 small proprietary nursing homes with a capacity approximating 800 must in our opinion undergo drastic improvement or replacement in about 50% of the cases. On the other hand, the two governmentally operated institutions are deemed to render better than average care, and the four institutional homes operated on a non-profit basis are serving a real need. For the purpose of establishing realistic shortages in chronic facilities, we have reduced the number of beds available in proprietary nursing homes substantially and reflect a shortage of 800 beds in 1950, increasing to 2,400 by 1970.

3. - Summary.

The analysis of requirements and shortages are summarized as follows:

SUMMARY OF BED REQUIREMENTS AND SHORTAGES
HARRIS COUNTY

	Estimated Beds Required			
	1945	1950	1960	1970
Acute Diseases	3,099	3,649	5,448	8,204
Tuberculosis	692	677	762	737
Communicable Diseases	128	139	222	295
Nervous and Mental Diseases *	227	334	651	1,179
Chronic Diseases	1,290	1,400	2,000	3,000
Total	5,436	6,199	9,083	13,415

	Estimated Bed Shortage			
	1945	1950	1960	1970
Acute Diseases	1,226	860	2,659	5,415
Tuberculosis	568	427	512	487
Communicable Diseases	61	72	155	228
Nervous and Mental Diseases *	84	163	480	1,008
Chronic Diseases	690	800	1,400	2,400
Total	2,629	2,322	5,206	9,538

* Acute short stay only

quired and enter upon educational programs to reassure the public that proper techniques can and are being maintained to prevent cross infection. This would seem a logical step and in full accord with the present advance in medical science and nursing service.

The beds necessary for the care of nervous and mental diseases is complicated by the fact that here, as in most states, responsibility for the care of such patients is vested in the County and State Governments. We find on a national plane that 84% of all psychiatric patients, usually the custodial type, are in State and County institutions. We know that Texas has a ratio of 2.7 beds per thousand population available for this type of care, and this ratio is the 35th lowest among all states, with New York having the present highest ratio of 7.1. Our calculations of need were, therefore, based upon premises that the State and County will continue to bear responsibility for 84% of such patients and that the State of Texas should increase the facilities from the ratio of 2.7 to a ratio of 5.0 beds per thousand by 1970.

Interpreting these factors into Survey Area needs for mental cases reflects a voluntary and proprietary hospital responsibility for 334 beds in 1950, increasing to 1,179 by 1970. The available beds in the Area as well as those planned in expansion programs reflect a shortage of 163 in 1950 and a shortage of 1,008 in 1970. Again we emphasize the possibility, in fact, desirability of establishing units for short-stay nervous and mental care within general hospitals. There is general recommendation that much can be done for the patient in the very early stages of mental illness, and that there is an inter-relationship between mental and organic illness which calls for careful diagnostic service even where mental symptoms predominate. These can and should be a function of the general hospital.

The needed facilities for chronic care are frequently measured

Hospital Council should prepare and propose a plan to meet these exigencies. We suggest that the Houston Police Department organize, operate and financially support an emergency ambulance service, under the direct supervision of a surgeon, manned by officers well-trained in first aid, with units located at Jefferson Davis Hospital, in The Texas Medical Center, in Park View Hospital and in the new St. Elizabeth's Hospital.

SECTION IV - SUMMARY OF RECOMMENDATIONS

We recommend:

Section I - The Survey Area

1. That the citizens of Houston realize that its available general hospital beds per thousand of population are far below those available in other large metropolitan cities.

2. That despite the presently apparent limit to the drawing power of Survey Area hospitals upon neighboring counties, the medical and hospital needs of these counties not be overlooked in future planning. That recognition be made of their inevitable education in "use" as well as the correlated "recognition" of Houston as a medical center.

3. That hospital and health facilities be planned in an amount to meet the needs of the Survey Area; which is void of any natural barriers to uninterrupted expansion and growth; and whose population which is rapidly increasing in size is estimated to reach 695,500 in the year 1950, 1,017,500 by 1960 and 1,474,500 by 1970.

4. That rapid growth in the past has been responsible for the existence of certain environmental conditions hazardous to good health practices and that these levels in some sections must be raised to eliminate conditions conducive to contamination and contagion.

5. That, in general, the Area be considered as of an economic level that permits, in fact, demands first class hospital and health facilities.

6. That the health statistics of the Area be considered as indicative of normal nationwide rates or trends except for an excessively high birth rate and for an excessive variable between the white and colored races in statistics relating to Stillbirths, Maternal Deaths, and Infant Deaths.

7. That the high percentage of non-accredited hospitals, 9 of the 15 studied, be given every assistance and stimulation to raise their stan-

dards of operation to a level at which they could receive approval by the American College of Surgeons as meeting its minimum requirements.

8. That the larger hospitals of the community not meeting the standards for interne training prescribed by the Council on Medical Education and Hospitals of the American Medical Association make a concerted effort to gain such accreditation.

9. That the number as well as the diversity of residencies and fellowships be increased to meet the demands of a coordinated undergraduate-graduate training program at a level proposed by the Baylor University College of Medicine.

10. That, with the exception of Jefferson Davis and Greenwood Sanitorium, none of the present hospitals be considered as capable of expansion within present sites, but to the contrary their physical plants should be considered unduly congested to the point of uneconomical operation.

11. That in future planning, consideration be given to the fact that low initial investments coupled with obsolescence and general depreciation have reduced many of the 15 hospitals, either wholly or in part, to a physical status under first-class hospital standards.

12. That in future planning, the present auxiliary departments of the larger hospitals be considered inadequate to carry an added teaching and research program of any sizable scope.

13. That more complete usage be made of the teaching material and facilities available for the instruction of skilled hospital personnel other than medical and nursing groups.

14. That as many hospitals as possible introduce tuberculosis case finding routines on all patient admissions.

15. That designated hospitals assume responsibility for the rapid treatment of venereal disease to obviate the necessity of sending such cases out of the Area.

public relations office, serving participating hospitals and the Medical Center as a whole in the conduct of a program aimed at the education of the public through ethical releases of information.

110. That there be developed in the Center under the administration and control of The Texas Medical Center, housing facilities for student groups and for various technical and professional personnel of the Medical Center at a level of lease or rental commensurate with the individual's earning power.

111. That a service building be erected which would combine the central power plant, laundry and linen service and maintenance department.

112. That central storage areas be provided in the service building to permit of bulk purchasing and central control.

113. That consideration be given to a central telephone system, central mail and messenger service, and a central pneumatic tube system between hospitals and the Out-Patient Department.

114. That a central blood bank, combined with a blood donor registry, be organized in the Out-Patient Department Laboratory.

115. That a central library under auspices of the Houston Academy of Medicine be established at the Medical Center on a level that would supply the library needs of the entire Center.

116. That a medical museum be started as an adjunct to the central library.

117. That a Rehabilitation Center be constructed as a unit integrated with the Out-Patient Department and Chronic Hospital.

118. That a Continuation Center be established at the Medical Center by the University of Texas or The Texas Medical Center.

119. That an Administration Building be constructed to house the main offices of the Medical Center, the central purchasing, personnel and public relations offices and the offices of certain community health

tions and sterile solutions, prepared at cost, could be supplied to participating hospitals.

101. That this central pharmaceutical manufacturing unit operate under advice of a Pharmacy Committee representative of the hospitals, medical, and pharmacy staffs and this committee undertake the preparation of a standard formulary for use by the participating hospitals.

102. That a central power plant be erected to furnish heat, light, power and steam to all units of the Medical Center, and that the service plant be operated on a non-profit basis by The Texas Medical Center.

103. That a central laundry and linen service be organized to furnish service to all units of the Medical Center and that this service be operated on a non-profit basis by The Texas Medical Center.

104. That a central dining facility be constructed to furnish low-cost meals to personnel, student groups, ambulatory patients and visitors primarily on a cafeteria level.

105. That participating hospitals consider cash payment to employees and token payments to students for meals now considered perquisites.

106. That a central department for the maintenance of buildings and grounds be instituted and operated by the Medical Center on a cost basis to participating units.

107. That a central purchasing division be established that would correlate the needs of all hospitals and units in the Medical Center, yet not duplicate the bulk purchasing phases of a Hospital Council purchasing section.

108. That a central personnel organization be developed that would embody all functions of recruitment, pre-employment interviewing, indoctrination, in-training, and health and welfare programs for personnel in hospitals as well as in allied units of the Medical Center.

109. That consideration be given to the establishment of a central

in the operation, support and benefits of a central Out-Patient Department.

94. That this Out-Patient Department offer services in all general clinical fields including psychiatry and venereal disease, which are weaknesses in the present out-patient services rendered.

95. That the Out-Patient Department be owned and operated by The Texas Medical Center, assisted by an advisory group representative of the participating hospitals, and medical, public health, and nursing schools.

96. That the medical and dental policies and appointments of the Out-Patient Department be the responsibility of the Baylor University College of Medicine and the University of Texas Dental Branch.

97. That the Out-Patient Department be held responsible for the final determination of medical indigency, for the need of hospitalization and for "referral" to the proper in-patient service of the hospitals of the Medical Center, as based upon predetermined budgets of maximum indigent case loads and with consideration of the specialty fields available within the participating hospitals.

98. That the Out-Patient Department encompass the central medical record and medical statistics tabulating rooms, through which would pass all records of out-patients and in-patients alike, but wherein only out-patient records would remain in permanent files.

99. That the Out-Patient Department encompass the central pathological unit and morgue which would be the site of major teaching and research work, yet available to hospitals in the Survey Area that are without the services of a pathologist. It would not obviate the desirability of the larger hospitals having their own pathology unit and carrying out their routine autopsy work.

100. That a central pharmaceutical manufacturing unit be organized in the Out-Patient Department from which a large number of bulk medica-

86. That hospitals in the Area, now participating in the voluntary Blue Cross Plan for hospitalization only to the extent of accepting subscribers, consider more carefully the long-range advantages to supporting the Plan without reservation in an endeavor to enroll a larger proportion of the population.

87. That a special committee of the proposed Hospital Council prepare and propose a plan for a consolidated emergency ambulance service operated by the Houston Police Department in cooperation with the hospitals.

Section III - The Texas Medical Center

88. That The Texas Medical Center plan a program to provide 2,500 hospital beds by 1950, 4,000 beds by 1960, and 5,000 beds by 1970.

89. That the 1970 capacity of the Medical Center be distributed among the various medical specialty services in a manner to fulfill proper community obligations, to permit all undergraduate teaching of the proposed professional schools to be carried out in the Medical Center, and to provide adequate clinical material for graduate training and research (see III, A).

90. That immediate consideration be given to meeting the 1950 shortage of 1,036 beds in the Medical Center allotment of community needs, which will exist after completion of presently proposed building plans (see III, A).

91. That consideration be given to the enlargement of the three proposed new general hospitals to 500 beds each or to seeking one or two additional general hospitals.

92. That, although the acute bed shortage assigned the Medical Center appears disproportionate to the overall community shortage in 1950, major emphasis and impetus be given the Medical Center upon its inception.

93. That within the Medical Center the voluntary hospitals participate

79. That consideration be given to adoption by the various hospitals of an inclusive rate plan of hospital charges that would eliminate the majority of special service charges to patients and permit physicians the use of facilities as required rather than on the basis of the patient's ability to pay.

80. That the present Houston Hospital Council be reorganized, incorporated and placed under the guidance of a full time executive director.

81. That the Hospital Council embody a central purchasing service for member hospitals, and that at an appropriate time it consider group service in the field of collection and investigation of hospital accounts.

82. That the Hospital Council be an autonomous body with primary representation by hospitals acting for them, but in cooperation with existing groups in the Council of Social Agencies and in the Chamber of Commerce.

83. That a hospital committee be appointed from the non-profit institutions to study, with the Community Chest organization and the health unit of the Council of Social Agencies, the present absence of financial support to the hospitals caring for the medically needy and to make recommendations for securing adequate annual financial assistance. Hospitals should be paid on a service rendered basis, but the plan should permit the Community Chest to establish a reserve for the unusual load which occurs during economic depressions.

84. That the study of consolidating the City and County and the School District Health units be pursued by the Chamer of Commerce Health Committee and the consolidation be brought about.

85. That the Chamber of Commerce Health Committee also consider for recommendations the added advantages of a close alliance between the proposed Health Department and Jefferson Davis Hospital to further programs of economy through effective use of the hospital's out-patient facilities and staff.

71. That one or two vocational schools of nursing should be established in the community.

72. That a state licensing law should be enacted for the regulation of vocational or practical nurses.

73. That at least two of the existing professional schools of nursing should join with a university to become a College of Nursing, offering a four-year program leading to a Baccalaureate Degree.

74. That endowment be sought to maintain the College of Nursing in order to provide this education to young women at a reasonable tuition charge.

75. That advanced programs of study in public health nursing, nursing education, and special clinical fields, all leading toward an advanced degree, be established as a part of a university and located at the Medical Center.

76. That a school be established for Negro student nurses in a college or university and using clinical facilities in existing hospitals and units in proposed hospitals, clinics, and health units at the Medical Center.

77. That all possible use be made of educational facilities of the Medical Center for preparation of practical nurses, professional nurses on both basic and advanced levels to the end that fine nursing services be available for the Medical Center and that the Medical Center fulfill its educational obligations in the Southwest.

78. That the following schools be established as part of the respective programs of available universities, and that these schools be located at The Texas Medical Center: School of Hospital Administration, School for Clinical Laboratory Technicians, School for Hospital Dietitians, School for X-Ray Technicians, School for Hospital Pharmacists, School for Physical Therapy Technicians, School for Medical Social Workers, School for Medical Record Librarians.

61. That every effort be made to correlate the interests and resources of the Arabia Temple Crippled Children's Organization and the Bureau of Mental Hygiene, as well as other local groups having interest in supporting pediatric care and research.

62. That the proposed Public Health Department, in cooperation with the proposed School of Public Health, conduct a continuous, greatly expanded, program of Health Education.

63. That as a means of raising the level of medical care received, hospitals be encouraged to establish teaching programs among private and semi-private patients, after proper indoctrination of the students and the respective medical staffs.

64. That a complete program of post-graduate training in medicine and dentristry be developed at The Texas Medical Center.

65. That interne and residency in medicine training now carried by three hospitals of the Area be expanded as rapidly as possible, both in the number of approved interneships and in the number of hospitals approved for interneship.

66. That dental interneships and residencies be established, in cooperation with the University of Texas Dental Branch, in all metropolitan hospitals where minimum requirements can be met.

67. That a College of Dental Nursing be established at the Medical Center.

68. That a School of Public Health be established at the Medical Center.

69. That an undergraduate course in public health nursing be established in the School of Public Health.

70. That certain functions of the proposed Public Health Department, one of the City District Health Centers and certain non-official community health agencies should be located in the Medical Center.

and that wherever feasible such Negro facilities be established in the same institutions as the white facilities, even though segregated.

53. That when establishing Negro facilities, a fair proportion be of a private and semi-private type accommodation, allowing and encouraging the Negro to pay for and receive his choice.

54. That general hospitals and out-patient units should establish, in cooperation with The University of Texas Dental School, a dental service, not including fillings or restorative work.

55. That small hospitals and health centers, located in the outlying sections of the Area, should arrange with the Dental School and the metropolitan hospitals a part-time dental service.

56. That city clinics should furnish the indigent patients, in cooperation with the Dental School, a complete service in all phases of dentistry both for children and adults.

57. That special hospitals with long-stay patients should establish a complete dental service, including fillings and restorative work, in charge of a full time dentist, assisted by the dental internes from the general hospitals.

58. That the proximity of the Veteran's Hospital should not be depended upon to afford any major relief to the acute hospital bed shortage of the Area.

59. That consideration should be given to the establishment of convalescent units in or adjacent to the larger general hospitals, restricted in use to short-term convalescent patients, and integrated with the activities of the Community Rehabilitation Center.

60. That a Children's Hospital and Research Institute of at least 200 beds to be located in The Texas Medical Center be established to offer child guidance, general pediatric, orthopedic, contagious and psychiatric care of children.

Tuberculosis, Psychiatric and Chronic Diseases, of 13,400 be accepted as the 1970 community goal, and that it be recognized that this requirement will reflect a community shortage of approximately 9,500 beds when all the presently proposed hospitals are constructed.

45. That the community plan to meet this need by locating 5,000 beds in The Texas Medical Center, 6,800 in the Metropolitan Area other than in the Medical Center, and 1,600 beds in the Non-Metropolitan Area. This distribution considers population growth, characteristics, and concentration of patients for purposes of medical education and research.

46. That the bed capacity of the M. D. Anderson Hospital for Cancer Research be considered as additional to the above allocation of beds to The Texas Medical Center.

47. That all undergraduate medical students of Baylor University College of Medicine be trained by 1970 in the hospitals located in The Texas Medical Center.

48. That the inevitable need for more City-County hospital care should be met by contracting with non-profit hospitals for the care of the indigent instead of by construction of more governmental facilities.

49. That the bed requirement in non-metropolitan areas be met by the construction of "Community Hospitals" of 50 or more beds, serving populations of at least 15,000.

50. That the bed requirement in non-metropolitan areas, in communities as small as 500 population, be met by the establishment of "Public Health and Medical Service Centers" prepared to furnish, in a limited manner, combined public health and hospital care.

51. That of the total hospital facilities a portion be reserved for the care of the Negro so as to equal 17% in 1950, 16% in 1960, and 15% in 1970.

52. That the number of separate Negro hospitals be kept to a minimum,

be replaced or markedly improved.

37. That the bed shortage for the chronically ill should be met by the development of units as integral parts of general hospitals, but specialized units could operate effectively provided close working relationships were maintained with general hospitals.

38. That there is need for a Community Rehabilitation Center closely correlated with out-patient services and with the facilities for the long-term care of chronically ill patients.

39. That present agencies expand their programs or new agencies be created to emphasize preventive measures in the field of geriatrics through increased medical research, social and economic research, professional education, and general public health education.

40. That the proposed consolidated Public Health Department not only keep pertinent vital statistics of chronic diseases, but that aggressive licensing procedures be invoked to improve rapidly the physical facilities and the quality of care in units furnishing service to the chronically ill.

41. That, as a means of retarding the chronic problem, community services be developed on a visiting basis to families caring for invalids in their homes, in the following specialties: housekeeping aides, nutrition advisors, diet therapists, occupational therapists, and recreational workers.

42. That a coordinating agency be created to promote the above activities for the chronically ill in the community.

43. That an immediate effort be made to bring about the removal of the State Constitution limit on the amount of public assistance which may be paid to needy individuals so as to permit the chronically ill to receive adequate medical and hospital care.

44. That a total hospital bed requirement, including Acute, Contagious,

death rates exceeds the rate of increase in the population.

30. That acute general hospitals provide facilities for the care of private tuberculosis patients and in addition seek methods whereby governmental agencies now providing care would subsidize in general hospitals the care that represents future needs, rather than build additional sanatoria.

31. That failing to agree upon a contractual relationship, governmental agencies should be encouraged to locate their tuberculosis sanatoria near large general hospitals where they may readily be adapted to other use as the need for tuberculosis care diminishes.

32. That the psychiatric bed requirements of local responsibility be considered 334 by 1950, increasing to 1,179 by 1970. These estimates give consideration to the increased population and assume that the State and County will increase their beds for custodial care so that this Area may more nearly approach the United States average in furnishing facilities for this type patient.

33. That inasmuch as the local responsibility of voluntary and proprietary hospitals for mental cases should represent only 14% of the total need, effort should be made to stimulate County and State governments into accepting their responsibility.

34. That the acute general hospitals provide facilities for the diagnosis and treatment of short-stay mental patients not in need of long-term institutional care.

35. That by 1950 there will be a minimum requirement of 1,400 beds for the care of the chronically ill patients, increasing to 2,000 by 1960 and to 3,000 by 1970.

36. That of the maximum 1,030 beds now available for the chronically ill in present institutions and nursing homes, at least 430 beds should

23. That 10% of the total acute bed requirement be allotted for pediatric care, reflecting a bed requirement of 365 by 1950, increasing to 820 by 1970.

24. That 30% of the total acute bed requirement be reserved for the requirement of the eight medical specialties studied, reflecting a bed requirement of 1,055 by 1950, increasing to 2,385 by 1970.

25. That the balance of acute general bed requirements be assigned for general medical and surgical patient cases (following a pattern of approximately two surgical beds for each medical bed), reflecting a bed requirement of 1,707 by 1950, increasing to 3,826 by 1970.

26. That in addition to the above allowance for acute medical care, contagious beds required are in the amount of 139 by 1950, with the requirement increasing to 295 by 1970 in proportion to the growth in population.

27. That the shortage of contagious beds, 72 by 1950, increasing to 228 by 1970, be alleviated not by new specialized beds but by location in acute general hospital beds, with consideration to the possible inroads that medical science will surely make in the field of contagious diseases.

28. That educational programs be instituted to reassure personnel, public and patients of the logic and safety of the plan for contagious cases, and that it is in full accord with the advances in medical science and nursing techniques.

29. That, at present, 692 tuberculosis beds are required for the Area, and that this need will increase to 737 by 1970 following the pattern of increasing population, but with full consideration of a decreasing death rate resulting from the advancement of medical science and the increase in preventive controls. However, this requirement will reflect only a shortage of 427 in 1950 after completion of the proposed City Tuberculosis Hospital, and by 1970 the shortage will be 487 as the decrease in tuberculosis

16. That all hospitals institute employee health services with pre-employment examinations and immunizations and that there be periodic physical examinations, chest x-rays and blood tests at least yearly following employment.

17. That the number of autopsies performed should be more nearly doubled for the general hospitals, and that the large teaching hospitals should strive to perform autopsies on 80% of all deaths in their hospitals.

18. That in future planning, allowance be made for a greater percentage of single and two-bed accommodations than now reflected and that these two types might safely approach 75% of all general hospital accommodations.

Section II - The Community Program

19. That by 1950 the acute general hospital bed requirement of the Survey Area be accepted as 3,649 beds and that, assuming completion of building programs now considered by Hermann, Methodist, St. Luke's, San Jacinto and St. Elizabeth's, a shortage of 860 beds be recognized.

20. An acute general hospital bed requirement of 5,448 by 1960 and a bed requirement of 8,204 by 1970 after consideration of increased population and with allowance made for the increased drawing power of the Medical Center upon out-of-area population, as well as increase in the rate of use of hospitals which by then should be apparent through the educational measures inherent in the development of the Medical Center.

21. Recognition of a shortage by 1960 of 2,659 acute general hospital beds and of 5,415 beds by 1970, after completion of the building programs now definitely known to exist.

22. That 14.3% of the total acute bed requirement be allotted for obstetric care, reflecting a bed requirement of 522 by 1950, increasing to 1,173 by 1970.

agencies.

120. That an education building be erected for the College of Nursing.

121. That a student nurses' residence be constructed in quadrangle form.

122. That a central advisory administrative committee be created in the Medical Center organization (see III, C, 11).

123. - That special advisory committees be created for specific joint services at the Medical Center (see III, C, 11).

SECTION I - SURVEY AREA

A - The Hospital Survey Area Determined.

To be selected as the "Hospital Area" for survey purposes, the population of the "Area" must now or soon will be, routinely and in large proportions, cared for in the area's hospitals and health units. Frequently a close analogy exists between the "retail trade area" and a "hospital area", but in this instance we find the Chamber of Commerce defining the Houston retail trade area as consisting of 32 adjoining counties extending as far North as Cherokee County and as far Southwest as Victoria County. It was immediately apparent that such a territory was too large for the natural "hospital area". While undoubtedly the most complex medical cases would come for hospital care to Houston from the extreme districts, the more normal habit would be to be cared for closer to home when hospitals were so constructed in the future. Therefore the boundaries of the retail trade area were not considered synonomous with the perimeter of the "hospital area".

An analysis of hospital admissions "by residence", for the year ending June 30, 1946, admitted to St. Joseph's Infirmary, Hermann Hospital, Memorial Hospital and Methodist Hospital were studied. The total number of admissions to these hospitals amounted to 40,740 and with the 13,000 admissions to City-County institutions and to the Southern Pacific Hospital where the admission-ranges were known, there were left only 17,124 admissions to all Harris County registered hospitals unidentified as to residence.

Exhibit I has been prepared to reflect a recapitulation of the analysis made of 40,740 admissions and it is to be noted that the percentage distribution shown in the table below follows a reasonably clear-cut pattern in all four hospitals.

It is to be noted that Memorial and Methodist Hospitals seemingly draw from a wider area than the other hospitals, with Methodist admitting patients representing 112 Texas counties, 105 of which were beyond the peripheral area. However, the number of admissions from any one County was noted to be very small.

PERCENTAGE DISTRIBUTION OF ADMISSIONS
BY PLACE OF RESIDENCE
Year Ending June 30, 1946

	St.Joseph's	Hermann	Memorial	Methodist	Total
Houston	84.6	88.2	81.4	84.7	85.3
Other Harris County	8.1	6.3	8.8	4.4	7.4
Peripheral Counties	5.0	1.2	2.8	3.3	3.3
Non-Peripheral Counties	2.0	3.8	6.4	7.1	3.4
Other States	.3	.5	.5	.5	.5
Other Countries	.0	.0	.1	.0	.1
Total	100.0	100.0	100.0	100.0	100.0

In accepting recent experience of hospitals in distribution by residence of patients, it was recognized that heavy demands on hospital facilities by local residents in the past few years might have left fewer beds available for non-residents. Greater inquiry determined that this policy did not carry sufficient weight for further consideration. Hence, it was finally concluded that the study of admissions, as made, reflected a fair picture of all conditions and should primarily determine the "hospital area" and thus the "survey area".

Certain thought was given to using the City of Houston as the Survey Area but on the strength of the closely inter-locked problems of public health and by reason of joint controls of City-County Hospitals, as well as by reason of the 7.4% of patients coming from the area outside Houston but within Harris county, it was finally determined that the area should be that of Harris County representing 92.7% of admissions studied.

C -General

Harris County, determined to be the Survey Area, has an area of 1747 square miles of gentle to rolling terrain, traversed by numerous bayous and fronting on Galveston Bay. It is the largest county in East Texas and is vitally rich in natural resources, productive crops and valuable livestock.

It is bounded by seven Texas counties, and arcs drawn from Houston strike the county perimeter at distances varying from 15 to 45 miles; hence points along the Fort Bend - Harris County line vary from 15 to 25 miles in their distance from the center of Houston. The following table sets forth these distances:

County Line	Distance To Houston	
	Minimum	Maximum
Ft. Bend-Harris	15	25
Waller-Harris	25	45
Montgomery-Harris	20	45
Liberty-Harris	25	30
Chambers-Harris	25	30
Galveston-Harris	25	30
Brazoria-Harris	15	20

The history of Harris County is in effect the history of Houston, the growth and development of which has influenced the entire area.

The Allen Brothers bought a tract of land at the head waters of Buffalo Bayou for $5,000 and established the town of Houston on August 30, 1846. At that time, in a newspaper announcement offering lots for sale, they made this prophetic declaration:

"The town of Houston is located at a point on the river which must ever command the trade of the largest and richest portion of Texas, and when the rich lands of that section have been settled,

a trade will flow into it, making it beyond all doubt the great interior commercial emporium of Texas. Situated at the head of navigation on Buffalo Bayou, its advantages are now for the first time brought to public notice. Houston combines two important advantages, a communication with the coast and with different portions of the Republic of Texas. As the country shall improve, railroads will come in use and will be extended from this point to the productive sections of the State, and in a few years the whole trade of the Upper Brazos will make its way through Houston, Buffalo Bayou and Galveston Bay."

This prediction was soon known to be quite correct. People were swarming into Texas. The streets were little better than muddy roads, but many wagons made their way into Houston and remained. Word about the growth and possibilities of Houston trickled to other parts of the country, and in 1850 the United States Census Bureau counted 1396 persons. The need for improvements of navigable waters was laid before the Texas Legislature. The State spent $4,000 to improve Buffalo Bayou. A contract for $22,000 was let to clear sailing through Morgan's Point. A central Railroad was persuaded to lay its tracks to Houston and the city secured its first telegraphic link with the seacoast in 1854.

But the growth of Houston was not accomplished without a struggle. Population growth took a downward turn from 1859-1870, for a fire had swept Houston, and ten dark years of reconstruction followed. Commerce was almost nothing, and in 1870 there were only 9,382 persons in Houston.

Then a new cry sprung up - a cry that did not quiet itself until the great idea was carried through -- "Deep Water -- Give Houston a deep water highway to the seas."

On June 13, 1902 a bill calling for an appropriation of $1,000,000 for the development of the Houston Ship Channel from Galveston to Harrisburg was signed, and as a result of this progress of ship channel improvement, Houston is now the second port in the nation in deep seas tonnage and third in total tonnage. The Ship Channel connects Houston with deep water in Galveston. Its length is 50 miles, bringing an enormous consuming territory 50 miles nearer tide water than any of the other Gulf ports.

From an historic and romantic past, Houston has developed into a great industrial center. Industries include oil refining, oil field and refining tool and equipment manufacture, steel, shipbuilding, rice milling, cotton compressing and warehousing, iron product fabrication, flour milling, cement making, container manufacture, and chemical production.

The founders of Houston were guided by a prophetic vision, the fulfillment of which is today manifested on every side.

D -Population Characteristics.

An understanding of population facts and trends is essential to proper hospital planning as the distribution, as well as the size of hospitals, must be related to the distribution and density of population, while facts on age groups and, to some degree, on sex composition of the population will dictate the type of facilities.

Experience indicates definite yardsticks of measure for rural and urban areas while economic variations in the survey area may point out still other considerations. Employment has a bearing since certain industries represent hazards and particular policies of management which thus create an urge, as well as furnish, better health programs and benefits than do others. Consideration must be given to race and group problems to assure ample hospital service.

1 - Rural and Urban

The character of the population of Harris County can be seen from the following table to be 77.7% urban in 1940, a 6% proportionate decrease from 1930. This trend does not follow that of the county as a whole, where rural areas surrounding metropolitan centers have shown proportionate declines. However, it is believed that in Harris County, there have been shifts of population to the fringe areas of Houston and of Metropolitan Houston and the statistics prove the point in that the gain in rural percentage is almost entirely within rural non-farm areas.

	Harris County 1940		1930	
	Population	Percent	Population	Percent
Urban	410,884	77.7	301,012	83.7
Rural	118,077	22.3	58,316	16.3
(a) Rural Non-Farm	86,855	16.4	38,272	10.6
(b) Rural Farm	31,222	5.9	20,044	5.7
Total	528,961	100.0	359,328	100.0

The Agricultural Division of the CED released data in February of this year that reflects a sharp drop in the number of farms in the county, which is the factor most closely keyed to the farm population trend. In 1930 there were 4,131 farms; in 1935, 3,846; in 1940, the total reached 6,949 but in 1945 dropped back to 5,083. This represents a decrease of 27% in the number of farms between 1940 and 1945, and as borne out in 1930 and 1940, the overall population will vary directly with the number of farms.

From the above, we can safely say that the population of the survey area will continue the trend toward suburban and even urban character in the years to follow and that with each degree of growth in this direction, land values will increase and farming become less profitable.

2 - Sex and Racial Groups

The population of Harris County and of the City of Houston has through the years been almost evenly divided between male and female with the 1940 census showing 262,478 male and 266,483 female in the County.

In this area, however, we find that even large groups are not enrolled and have not had the privilege of enrolling, which leaves the most important implications of this schedule ineffectual.

5 -Economic Factors

There are many dependable indices by which the economic level of a community may be judged, but the area is sufficiently above average so that no detailed study seemed indicated.

Harris County in 1945 expended $365,264,000 on retail sales, which amount was slightly over 25% of retail expenditures for the entire State of Texas. This alone would indicate that the survey area has the potentiality to deserve, appreciate, as well as support first class hospital and health facilities in an amount geared to its population and flexible enough to change with its growth.

Further, "Sales Management" shows the County's effective buying income for 1945 to be $730,255,000 or $3,642 per family. This is slightly higher than in 1944 which in turn had been higher than in 1943. It is far from the wealthiest county in the country, where family income registered $6,500, but comfortably above average.

EMPLOYMENT BY MAJOR OCCUPATIONAL GROUPS
HARRIS COUNTY (AGE 14 AND OVER)

Occupation	Number	% Of Total
Total Employed Workers	163,161	100.0
Professional	11,053	6.8
Semi-Professional	2,222	1.4
Proprietors, Managers, and Officials	17,275	10.6
Clerical and Sales	38,505	23.6
Craftsmen and Operatives	44,465	27.3
Domestics	16,692	10.2
Service Workers	18,146	11.1
Laborers	13,249	8.1
Occupation Not Reported	1,554	.9

As usual in an area of this general composition the "craftsmen and operatives" represent the greatest number followed by "clerical and sales" and "service workers"; however, one could have expected an even greater percentage in the "craftsmen and operative" group and in the"professional" group, with corresponding lower percentages in the "domestic", "service workers" and "labor" group.

Usually such an analysis indicates limitations to enrollment in Hospital Blue Cross Plans in that self-employed and small groups of employees are frequently barred from participation.

	1940		1930	
	Number	% of Total	Number	% of Total
CITY OF HOUSTON				
Under 15 Years	80,788	21.0	70,803	24.2
15-44 Years	221,974	57.7	169,349	57.9
45-64 Years	65,293	17.0	42,156	12.3
65 and Over	16,459	4.3	9,281	5.3
Not Reported	-0-	-0-	763	.3
Total	384,514	100.0	292,352	100.0

In the City of Houston, it will be noted that the percentage in the "under 15" group to the total population decreased in 1940, while the "45-64" age group increased in its percentage to the total population as well as representing a proportionate increase of slightly more than 50%.

The survey area trend toward a much larger old age population represents a real problem in planning for the increasing chronic illness in this area. To lend further aid to our subsequent discussions and recommendations on this phase of health, we have included in Appendix A, as Exhibits 4 and 5, more detailed analyses of population by age groups for the City of Houston and for Harris County for the year 1940.

This age distribution has been studied further in connection with white and colored, and it has been determined that the Negro male and female groups follow very closely the same pattern as the total of all races.

4 -Major Occupational Groups

An analysis of the distribution by major occupational groups of the employed workers in Harris County in 1940 follows:

the growth of the white population steadily out-distanced the Negro growth so that by 1900, only 32.2% were colored. Percentages since that date are shown above, but despite loss in proportionate growth, there still remains an estimated 112,000 Negroes to be considered in hospital planning. Special attention is devoted to this problem in a later section of the report.

In 1930 the City of Houston had a population of 14,149 Mexicans or about 5% of the total population. It is currently estimated that about 30,000 Mexicans now reside in Harris County or approximately 4.6% of the total population.

3 -Age Groups

The distribution of the population in Harris County by the four major age groups conforms fairly well to that of the country as a whole and to a similar break-down for the City of Houston. There is a noticeable trend in the "45 and over" group, with the group "65 and over" showing an 85% proportionate increase over 1930. While the "45-64" group also shows a substantial proportionate increase, it is somewhat less in percentage than the older group.

	1940		1930	
	Number	% Of Total	Number	% Of Total
HARRIS COUNTY				
Under 15 Years	123,950	23.4	93,029	25.9
15-44 Years	298,061	56.4	202,717	56.5
45-64 Years	85,260	16.1	51,086	14.2
65 and Over	21,700	4.1	11,674	3.2
Not Reported	-0-	-0-	822	.2
Total	528,961	100.0	359,328	100.0

During the last three decades, the native white population of Harris County has been gradually increasing and the foreign-born white group has been declining. Whereas in 1910, the foreign-born white comprised 8.2% of the population, it represented only 3.6% in 1940, while the native white group increased from 65% to 76.7% in the same period of time. The same trend prevailed for the City of Houston. The Negro group in the County in 1940 constituted 19.6% or 2.8% less than the Negro percentage in the City of Houston.

PERCENTAGE DISTRIBUTION BY RACE

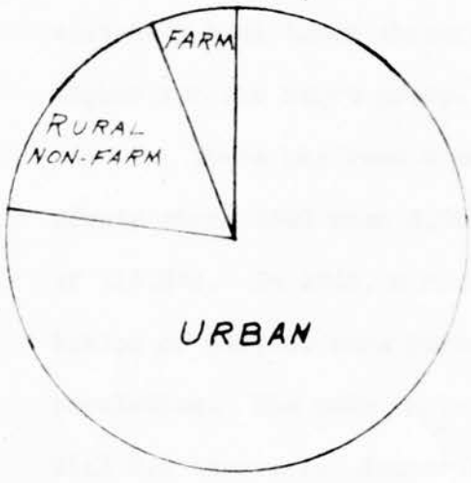
HARRIS COUNTY	1940	1930	1920	1910
Native-Born White	76.7	73.5	68.3	65.0
Foreign-Born White	3.6	6.2	8.6	8.2
Total White	80.3	79.7	76.9	73.2
Negro	19.6	20.2	22.9	26.8
Other	.1	.1	.2	-
Total	100.0	100.0	100.0	100.0

CITY OF HOUSTON	1940	1930	1920	1910
Native-Born White	73.5	72.1	66.7	61.6
Foreign-Born White	4.0	6.1	8.7	8.0
Total White	77.5	78.2	75.4	69.6
Negro	22.4	21.7	24.6	30.4
Other	.1	.1	-	-
Total	100.0	100.0	100.0	100.0

Special attention must be directed to the trends of negro and Mexican group populations in the area, the statistics on the latter group being made difficult to obtain by the present policy of the Bureau of Census to include this group with the white. In 1870, the City's population was 39.3% colored, but since that time,

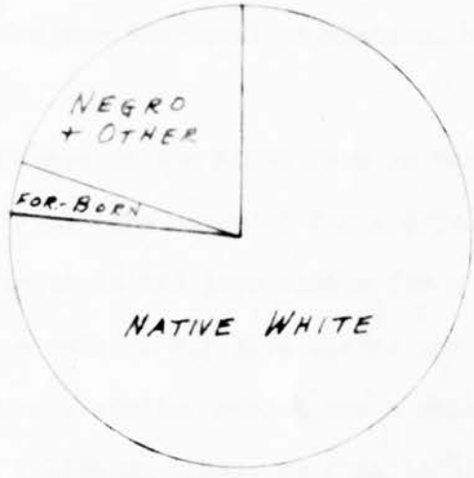
POPULATION CHARACTERISTICS
HARRIS COUNTY
1940

URBAN—RURAL



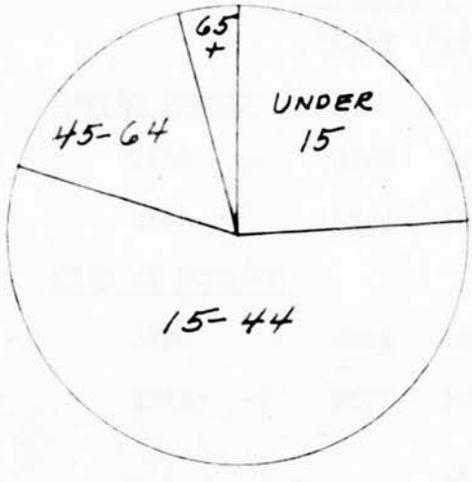
528,961 PERSONS

NATIVITY



528,961 PERSONS

AGE



528,961 PERSONS

OCCUPATION

169,161 EMPLOYED PERSONS

E - Vital Statistics

1 - Births and Deaths

The general trend of births and deaths in Harris County has been in recent years about normal as compared with Houston, with the State of Texas and with the United States.

Harris County's birth rate as compared with Houston has consistently been lower through the years for the total population, but higher for the Negro group.

There has been a marked increase in the birth rate in the County since 1930 when 6,054 live births were recorded for a population of 115,673. In 1945, a record number of 15,825 live births for a population of 642,000 were recorded, or a gain of 7.8 live births per 1000 population. The gain in the City over a similar period was a substantial 5.9 increase. Summarizing the following table, we find in 1945 a birth rate of 24.6 in Harris County, 26.1 in Houston as against 23.0 for the State and 20.8 for the United States. All rates are based upon live births per 1000 population. Exhibits 6 and 7 in Appendix A reflect detailed statistics on births and deaths.

	---Number Live Births---			---Birth Rate---		
	White	Colored	Total	White	Colored	Total
Harris County						
1930	4999	1055	6054	17.4	14.5	16.8
1945	13324	2501	15825	25.1	22.3	24.6
City of Houston						
1930	4834	1078	5912	22.5	13.9	20.2
1945	9959	2352	12311	28.3	19.7	26.1

Total number of deaths from 1930 through 1945 and the death rate per thousand population appear in the table below. From this it can be seen that Harris County continued the progress made in the decade from 1930-1940 and reduced the death rate 1.2 per thousand population between 1940 and 1945. The City of Houston reduced deaths .7 per 1000 from 1930 to 1940, but since then it has made a greater proportionate reduction than has the County.

The actual number of Negro deaths reached a peak in 1942 in both County and City and although the Negro population has continued to grow in the City, it is believed to have declined slightly in 1945 in the County. This can be partially confirmed by recognizing that there were actually 76 fewer deaths in 1945 than in 1942.

The over-all deaths per 1000 population in the United States amounted to 10.5 in 1945 while for the State of Texas a rate of 8.6 applied. Rates quoted are all based upon deaths, excluding stillborn, per thousand population.

	--Number of Deaths--			------Death Rate-----		
	White	Colored	Total	White	Colored	Total
Harris County						
1930	2579	1272	3851	9.0	17.5	10.7
1940	3442	1368	4810	8.1	13.2	9.1
1945	3731	1331	5062	7.0	11.8	7.9
City of Houston						
1930	2346	1255	3601	10.9	16.2	12.3
1940	3157	1306	4463	11.0	13.4	11.6
1945	3324	1275	4599	9.5	10.6	9.8

2 - Births and Deaths in Hospitals

The following table reflects the per cent of total births and deaths occurring in hospitals. We find some slight increase in the per cent of births occurring in hospitals and note that the use of hospitals for births was only slightly lower for the County as a whole than for the City of Houston. The use of hospitals for births in both County and City is substantially greater than the national average use in 1944 of 75.6%. The use of hospitals for deaths remained rather constant over the period studied; for the County it is only slightly higher than the national average of 45.4% but for the City it is substantially higher.

NUMBER OF BIRTHS AND DEATHS
OCCURRING IN HOSPITALS

	Births			Deaths		
	In Hospitals	Total Births	% Of Total	In Hospitals	Total Deaths	% Of Total
HARRIS COUNTY						
1944	12,909	14,358	89	2,580	5,297	48
1943	12,895	14,616	88	2,703	5,510	49
1942	*	12,976		2,359	4,893	40
1941	9,818	11,451	85.5	2,308	4,754	48
1940	8,421	10,077	83.5	2,299	4,810	47
CITY OF HOUSTON						
1944	11,548	12,747	90	2,454	3,544	69
1943	11,587	12,824	90.3	2,526	3,612	69
1942	*	11,656		2,270	3,139	72
1941	9,155	10,518	87	2,241	3,088	72
1940	7,896	9,245	85	2,067	3,157	65

* Could not be determined

3 - Stillborn

Stillbirth statistics represent a phase of maternal health and pre-natal education having a real bearing on our problem. From the table below, it may be seen that progress is sketchy, but downward in general. The Harris County rate in 1940 of 28.6 per 1000 live births is lower than the rate for the State of Texas which was 31.5 and the United States which was 31.3. Houston was higher than Harris County, but lower than Texas and the United States.

It was noted that the 1942 statistics were lower by actual count in both Harris County and Houston than could be expected or accepted. It is believed that some fallacy of recording or year-end over-lapping occurred.

A comparison of stillbirths per 1000 live births between white and colored indicates a much greater divergence in Harris County and the City of Houston than exists in the State or the United States. In 1940 the State recorded 63.8 colored stillbirths per 1000 live births and 26.9 white stillbirths per 1000 live births. For the same years, the United States rates were 56.7 colored and 27.7 white for a total of 31.3 stillbirths per 1000 live births. Exhibit 8 of Appendix "A" reflects detailed analyses.

	--- Number of Stillbirths ---			--- Stillbirth Rate ---		
	White	Colored	Total	White	Colored	Total
Harris County						
1940	191	98	289	23.0	54.8	28.6
1945	223	130	353	16.7	51.9	25.5
City of Houston						
1940	173	94	267	23.1	54.8	29.0
1945	195	119	314	19.6	52.8	25.5

4 - Maternal Deaths

Maternal death is not among the major causes of death, and only 30 to 40 in the County die each year from this cause. It is, however, important to note that from 1940 to 1945, the rate of death per 1000 live births has been reduced to a greater degree in the County than in the City and that the State in general has made even greater strides in reducing its total rate in 1945 to 2.3, lower than that in the City of Houston. The rate for the United States had dropped from 6.7 in 1930 to 3.8 in 1940. Greater reduction in the colored rate is noticeable.

Maternal death rates are based upon deaths per thousand live births. Exhibit 9 of Appendix "A" reflects detailed analyses.

	---Number of Deaths---			--- Death Rate ---		
	White	Colored	Total	White	Colored	Total
Harris County						
1940	21	15	36	2.5	8.4	3.6
1945	24	7	31	1.8	2.8	2.0
City of Houston						
1940	17	14	31	2.3	8.1	3.4
1945	22	7	29	2.2	3.0	2.4

5 - Deaths of Infants Under One Year

Deaths of infants under one year of age account for over 10% of all deaths and there are twice as many deaths occurring before a child reaches one year of age than there are during any other five year period during the balance of the life span.

Because of this significance, we have prepared Exhibit 10, Appendix A, showing the infant death rate per 1000 live births for Harris County and the City of Houston. Therein it may be noted that progress in the City far exceeds that of the County.

The 1940 death rate for the State of Texas was 68.3 and for the United States was 47.0 while Harris County rate was 47.1 and Houston 47.9. The White infant under one year would appear to have less chance of survival in the city than in the County. Rates herein express deaths per thousand live births.

	---Number of Deaths---			--- Death Rate ---		
	White	Colored	Total	White	Colored	Total
Harris County						
1940	324	151	475	39.1	84.4	47.1
1945	373	185	558	27.9	73.9	40.3
City of Houston						
1940	301	142	443	40.4	82.2	47.9
1945	316	169	485	31.7	71.6	39.4

6 - Deaths from Principal Causes

More complete trends on the eight major causes of death were available on a State-wide basis than by City or County and similarly for statistics on the leading causes of death divided into age groups. We have prepared Exhibits 11, 12, 13, 13A and 13B, Appendix A, reflecting detailed statistics on these subjects. In general, no substantial error can be conceived as likely to occur by projecting known State ratios against City and County populations.

Briefly, we find heart disease the leading cause of death in Texas as elsewhere, gaining in startling proportion since 1925 with cancer and apoplexy following similar patterns. Nephritis deaths are somewhat lower while substantial inroads have been made against tuberculosis, pneumonia, diarrhea and enteritis.

DEATH RATE PER 100,000 POPULATION

PRINCIPLE CAUSES - TEXAS

	1945	1940	1935
Heart Disease	192.4	186.5	151.2
Cancer	87.6	78.6	68.0
Apoplexy	73.4	71.7	64.3
Nephritis	50.5	65.6	57.6
Tuberculosis	43.1	59.1	68.6
Pneumonia	37.7	56.2	83.2
Diarrhea, Enteritis, etc.	21.3	36.8	37.0
Senility	15.1	17.8	17.8

As a guide to whether projection of state rates meets conditions in the City and County in 1945, we have prepared Exhibit 12, Appendix A, to show the 1945 deaths from principle causes divided by race and sex. From this it is possible, for instance, to determine that the rate of tuberculosis deaths in the State is slightly higher than in the Survey Area.

On the same exhibit, we have added the total deaths occurring from selected causes, namely, syphilis, poliomyelitis, diphtheria, whooping cough, typhoid and typhus. The relative "occurrence" of the latter group in Houston as compared to approximately 190 other Health Districts in the U. S. may be seen in the section of the report dealing with the City Health Department.

7 - Chronic Diseases

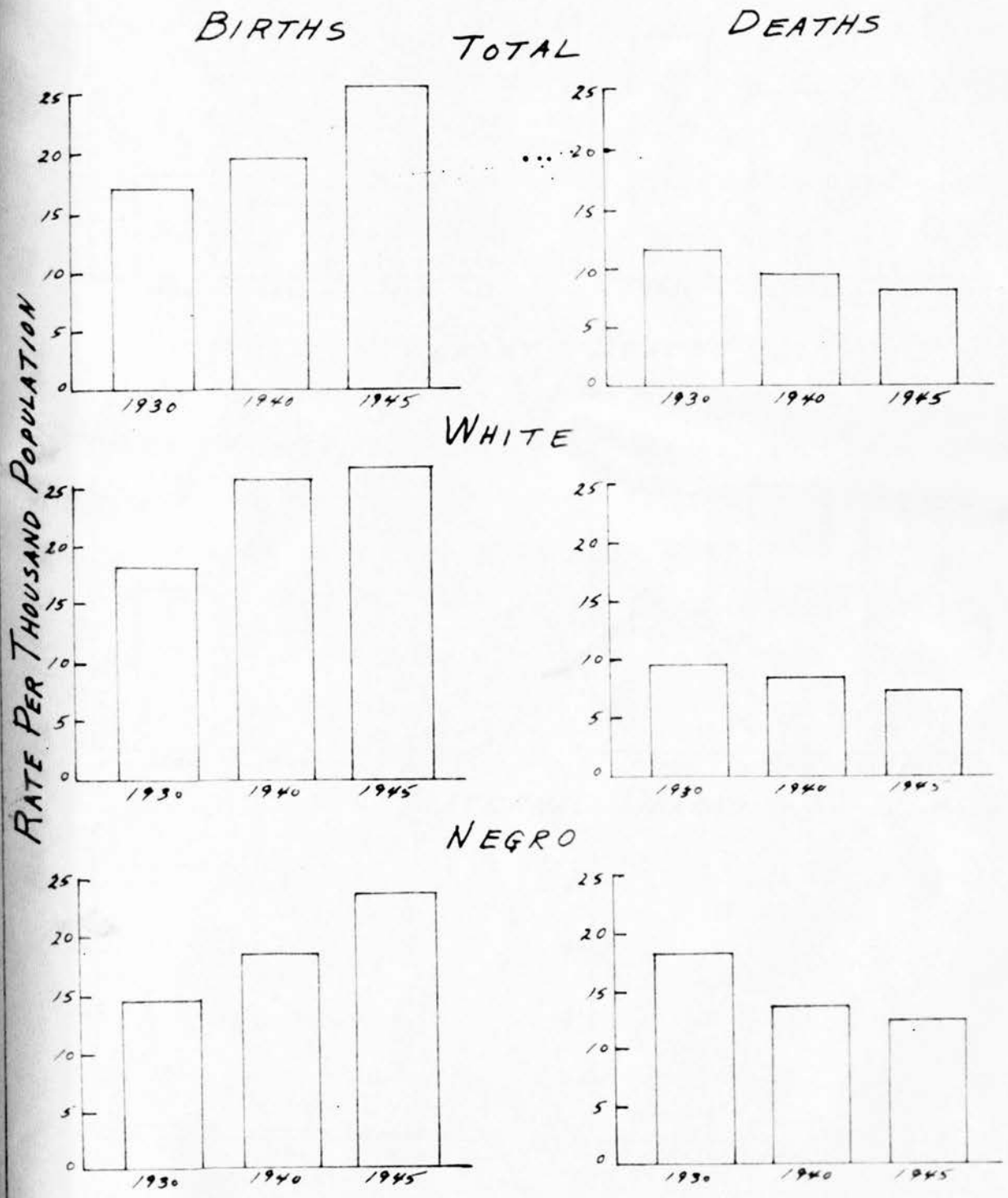
The five leading causes of death in 1945 were chronic diseases. Added together, they accounted for 347 deaths for every 100,000 persons in the population. If we add to them those attributed to "senility", the total is 362 per 100,000 population, and applying these rates to the estimated population of Harris County, we estimate that there were approximately 2,400 deaths due to these six causes in 1945.

The death rates of the major chronic diseases have been climbing steadily. In the decade from 1935 to 1945, deaths from heart disease in the State of Texas rose from 151 per 100,000 population to 192. Cancer increased from 68 to 88. Apoplexy rose from 64 to 74.

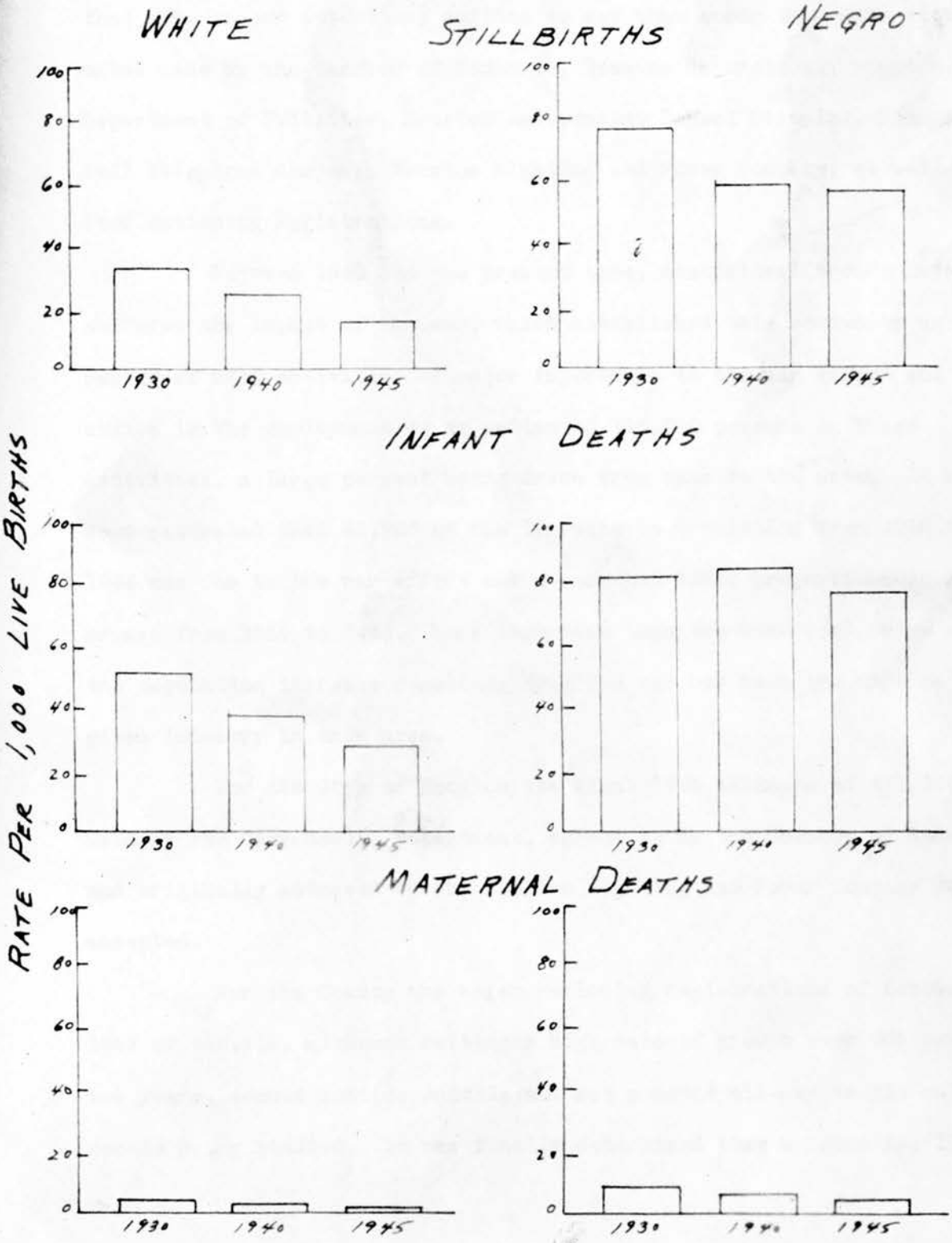
It is estimated that there are in Harris County, as of June 30, 1946, at least 114,000 persons suffering some degree of handicap as a result of chronic illness or severe physical impairment. Of these, approximately 7,000 are invalids.* Approximately three-fourths of all invalids in Harris County are under 65 years of age, the majority of them falling within the age groups between 35 and 65. There are slightly more invalids under the age of 35 than there are over the age of 65. More specifically, it is estimated that of the 7,000 invalids in Harris County, approximately 25% are under the age of 35; about 50% are between 35 and 65 years of age; and the remaining 25% are 65 and over.

* Estimates based on rates established by U. S. Public Health Service National Health Survey applied to estimated population of Harris County.

BIRTH AND DEATH RATES
HARRIS COUNTY
1930, 1940, 1945



STILLBIRTH, INFANT AND MATERNAL DEATHS
HARRIS COUNTY
1930, 1940, 1945



F - Population Trends

No attempt will be made to carry the reader through the intricacies of accepting, rejecting and adjusting the population estimates that came to our attention; suffice to say that among them were estimates made by the Chamber of Commerce, Houston Natural Gas, Houston Department of Utilities, Houston Independent School District, Southern Bell Telephone Company, Houston Lighting and Power Company, as well as Food Rationing Registrations.

Between 1940 and the present time, statistical trends have suffered the impact of the war, which established this community as a center of many activities of major importance to the war effort and resulted in the employment of an estimated 125,000 persons in these activities, a large percent being drawn from outside the area. It has been estimated that 45,700 of the increase in population from 1940 to 1944 was due to the war effort and a somewhat lower proportionate increase from 1944 to date. More important than the numerical value of the population increase resulting from the war has been the impetus given industry in this area.

For the City of Houston the final 1945 estimate of 471,167 used by the City Health Department, agreed to by the Chamber of Commerce and originally advanced by the Houston Lighting and Power Company was accepted.

For the County the sugar rationing registrations of October, 1943 of 615,339, although setting a high rate of growth over the previous two years, seemed most dependable and set a point mid-way in the half decade being studied. It was finally determined that by June 30, 1945,

Harris County had reached, but certainly not exceeded, 642,000 which left a 5.9% gain necessary to meet the currently publicized 679,000 population of June 30, 1946. The estimate mentioned seems entirely credible and the rate of 5.9% quite possible.

There follows a table of Population by Races for the County and for Houston in which is reflected the percent gained over each preceding census period regardless of whether that be a decade or a year. In 1945 we indicate a loss in colored population in the county of 1.5%, representing 1750 Negroes. This might seem implausible until reconciled with the fact that there were actually 38 fewer deaths that can only be accounted for as representing a decline in population.

POPULATION BY RACE

	--------Population-------			----Percent Gain----- Over Previous Period		
	White	Colored	Total	White	Colored	Total
HARRIS COUNTY						
1910	84,631	30,950	115,693	-	-	-
1920	143,551	42,734	186,667	69.6	38.1	61.3
1930	286,464	72,603	359,328	99.6	69.9	92.5
1940	424,819	103,745	528,961	48.3	42.9	47.2
1941	428,000	107,000	535,000	.7	3.2	1.2
1942	442,400	110,600	553,000	3.4	3.4	3.4
1943	504,300	110,700	615,000	14.0	.1	11.2
1944	510,900	114,100	625,000	1.3	3.1	1.6
1945	529,650	112,350	642,000	3.7	- 1.5	2.7
CITY OF HOUSTON						
1910	56,139	23,929	78,800	-	-	-
1920	104,268	33,960	138,276	53.8	40.1	75.4
1930	228,836	63,337	292,352	54.4	86.5	111.4
1940	298,212	86,302	384,514	23.2	36.2	31.5
1941	306,362	88,638	395,000	2.7	2.7	2.7
1942	329,620	95,370	425,000	7.6	7.6	7.6
1943	349,020	100,980	450,000	5.9	5.9	5.9
1944	356,776	103,224	460,000	2.2	2.2	2.2
1945	365,437	105,730	471,167	2.4	2.4	2.4

Specific attention is called to the fact that population of Harris County increased 61.3% from 1910 to 1920, 92.5% from 1920 to 1930 and 47.2% from 1930 to 1940. For the same intervals, the City of Houston increased 75.4%, 11.4% and 31.5%. From 1940 to 1945, Harris County would seem to have increased 21.3% and Houston 22.5%, which increases are of course during half the period used in the above calculations.

At this point, it is necessary to retrace our steps slightly and introduce a study made by Alvord, Burdick, and Howson, a firm of Chicago engineers retained by the City of Houston in 1938 to study and make recommendations on the problem of Houston water supply. Among their first approaches was a rather extensive study of future population of Houston and, in our belief, showed considerable imagination and depth of conception of Houston's potentialities.

In the pages following, we have accepted their principal line of thought but prefer to think of this growth in terms of Metropolitan Houston and through interpolation, Harris County. By so doing, we avoid consideration of corporate limits which have no bearing on hospitalization and deal instead with an over-all concentration of population which does have its effect on hospital problems.

So far we have made no special mention of the importance of this phase of the survey as it should be apparent to all that the expense to the community through over-building or under-estimating needs could be tremendous. In addition to the care and attention given this phase of the survey, we have only one other safeguard, in that we can plan by degrees for potential growth which will allow for rechecking at various intervals to assure that no unforeseen circumstances have arisen that

suggest revision of the estimate. Houston has already, in its relatively short life, a regrettable history of under-estimates in city planning and it is hoped that in connection with the hospital program and the Texas Medical Center, this routine can be somewhat averted.

From here on our population estimates are based on the following premises suggested by Alvord-Burdick and Howson:

1. In the states that have reached a high economic level because of natural resources and initiative in industrial and agricultural development, one city of that state has outgrown all other cities of that state.

2. That city's growth has come primarily through capitalizing on its more advantageous geographical location.

3. That city's population will grow to approximately 20% of the total state population.

The table that follows is inserted so that throughout the discussion, mental comparisons can be made between "Texas-Houston" potentiality and other leading "State-City" achievements.

State		City				
Name	Pop. Rating 1940		Pop. Rating 1940	% of State Population Highest	(Yr.)	1940
New York	1	New York City	1	55.3	(1940)	55.3
Pennsylvania	2	Philadelphia	3	20.9	(1920)	19.5
Illinois	3	Chicago	2	44.1	(1930)	43.0
Ohio	4	Cleveland	6	13.8	(1920)	12.7
California	5	Los Angeles	5	21.8	(1940)	21.8
Texas	6	Houston	21	6.0	(1940)	6.0
Michigan	7	Detroit	4	32.4	(1930)	30.9
Massachusetts	8	Boston	9	20.0	(1900)	17.9
Missouri	10	St. Louis	8	22.7	(1920)	21.6
Washington	30	Seattle	22	23.3	(1930)	21.2
Oregon	34	Portland	27	32.9	(1920)	28.0

The first premise led to our choice of 11 states most closely following the definition and includes 9 of the 10 most populated states

and gives us 8 of the 10 most populated cities. In addition, we have Texas, the sixth most populated state with its largest city comprising only 6 percent of its population.

The second premise above need not be dealt with at any length, as it is common knowledge that the above cities are, for the most part, strategically located "at-the-neck-of-the-funnel" through which a great share of their area's imports and exports must flow. Houston has such a setting and its position as the principal seaport of Texas, with ample rail connections, is enhanced by its central location on the great coastal plain of East Texas, affording unlimited opportunity for industrial expansion. As further bearing on the future of Houston as a seaport and manufacturing and distributing center, there lies to the North even beyond Texas, a vast productive region in the Mississippi Valley that will grow in importance as tributary trade territory, to say nothing of the ultimate trade possibilities with Mexico and other Gulf countries. The favorable conditions at Houston for growth of manufacturing, the City's advantage as leading Gulf seaport and the trade potentialities of the vast territory inland and overseas all seem to point to sustained rapidity of growth in this community.

The third premise, indicating that leading cities assumed growth representing approximately 20% of their state's population, may be judged from the above table where (excepting Houston) only one of the 10 studied failed to accomplish this proportion at some time in its history. On the other hand, 7 of the remaining 9 fell within a few percent of the estimated proportion and the other two far outgrew their alloted percentage.

It is suggested that to add to the list of states and the major cities that meet the stipulation set forth in the original premises will necessitate some degree of rationalization in each instance and it is therefore believed that an unbiased list has been prepared.

If these premises, assumptions and facts can be conceded as applicable to Texas and Houston, we may proceed to estimate the future growth of Texas, establish a gradual increase in the proportionate growth of Metropolitan Houston, pointing toward 20%, and finally give consideration to the sparsely populated areas beyond Houston but within Harris County. The result will reflect population growth in the Survey Area.

The State of Texas, when fully settled and developed in a way comparable to the older states of the Central West and Eastern Seaboard, would seem more than sufficient to support a seaport city of the first rank. The state is immense, the well-watered East third alone being equal to New York and Pennsylvania combined, which have a total population of 23,379,000. In natural resources, including soil and climate, the state compares favorably with many other parts of the country, supporting much denser population and greater industrial activity.

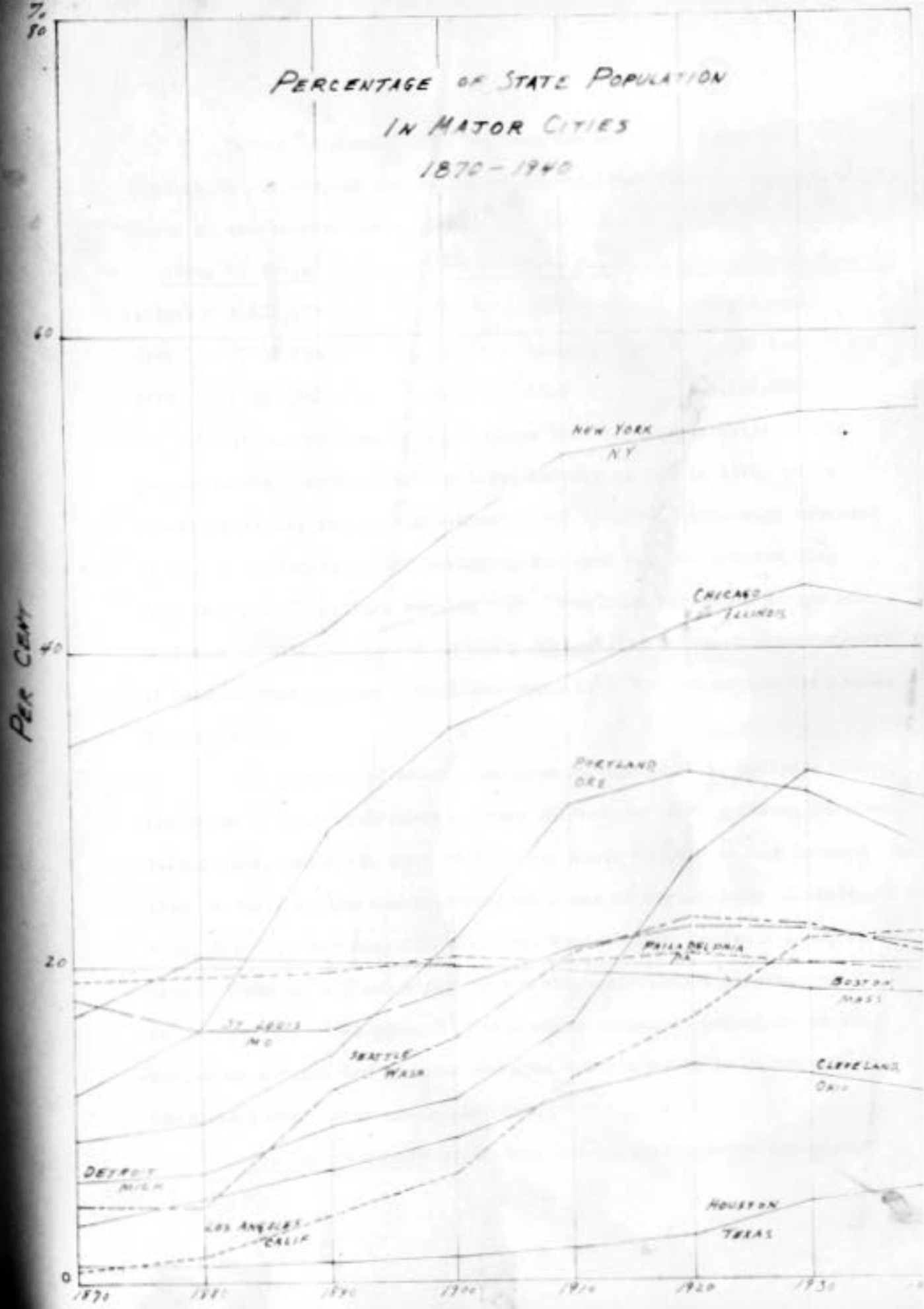
The growth of approximately 10% per decade was estimated through study of early development in more established states and falls in the lower range of probability. Alvord, Burdick and Howson estimated Texas would reach 10,000,000 in 1980, which would require a 16% gain over our 1970 figure.

Metropolitan Houston has at present only approximately 7% of the State's population and again we make reference to proportionate growth in older and more established states to learn that with the exception of an occasional very rapid growth during one or two decades, the increase in proportionate growth has been from two to five percent per decade.

In the following table we have shown actual census data and actual rate of growth from 1910-1940 as well as our estimated projection through 1970.

Year	State Of Texas Population	Percent Gain Over Previous Period
1910	3,896,542	-
1920	4,663,228	19.7
1930	5,824,715	24.9
1940	6,423,577	10.3
1945	6,786,740	5.6*
1950	7,126,077	10.9
1960	7,838,684	10.0
1970	8,622,552	10.0

*This estimate was made by the U.S. Bureau of Census and reflects in 5 years (1940 - 1945) 5.6% of the 10 year gain estimated at 10.9% (1940 - 1950).


PERCENTAGE OF STATE POPULATION
IN MAJOR CITIES
1870 - 1940
PER CENT
70
60
50
40
30
20
0
1870
1880
1890
1900
1910
1920
1930
NEW YORK
N.Y.
CHICAGO
ILLINOIS
PORTLAND
ORE
PHILADELPHIA
PA.
BOSTON
MASS
ST. LOUIS
MO
SEATTLE
WASH
CLEVELAND
OHIO
DETROIT
MICH
LOS ANGELES
CALIF
HOUSTON
TEXAS

In the following table we show the estimated State population and project the estimated Metropolitan Houston population based on established percentages.

State Of Texas		% Of State Pop.	Metropolitan Houston
1950	7,126,077	8.0	570,086
1960	7,838,684	11.0	862,255
1970	8,622,552	15.0	1,293,383

It can be seen from the above that we have established the proportionate growth of Metropolitan Houston at 15% in 1970, while Alvord, Burdick, and Howson estimated 18% by 1980. Estimates advanced by Mr. G. L. Fugate, Chief Designing Engineer for the Houston City Department of Utilities, working with Consulting Engineers Horner and Shiffrin in 1942, indicated in their survey that a "reasonable forecast" of Metropolitan Houston population would be 1,000,000 within the decade 1965-1975.

For purpose of record, we deem it important to indicate the inclusion of such incorporated areas as West University Place, Pasadena, Galena Park, Bellaire, Southside Place, South Houston in the Metropolitan Area, as well as the non-incorporated areas of Garden Oaks, Lindale, Oakwood, Kashmere Gardens, Clinton Park, Meadowbrook, Garden Villas, Brookhaven, Shady Acres, and a few very small, undeveloped allotments. It is to be mentioned that several short-ranged estimates coming under our review were discarded because the area covered could in no manner be reconciled with other areas estimated.

The Harris County population only, remains to be measured.

In 1940 the population outside Metropolitan Houston yet with Harris County represented 24% of the Harris County total population and as cited in other sections, this group was showing proportionate loss that seems likely to continue as Metropolitan Houston grows, and through its growth, renders rural property values too high for profitable farming. With this in mind, we show, in the following table, the diminishing percentage of population in other than Metropolitan Houston and the resultant estimated population of Harris County.

	Metropolitan Houston	Added % For Non-Met. Houston	Harris County
1950	570,086	22	695,505
1960	862,255	18	1,017,461
1970	1,293,383	14	1,474,456

Here, we have only the June 30, 1946 composite estimate advanced by the Chamber of Commerce with which to check our efforts and this showed 679,000 as the county population, leaving only a gain of 16,505 over a three year period necessary to render the estimates comparable. We feel that percentages introduced here assure a "factor of safety" in that Non-Metropolitan Houston growth in such areas as Goose Creek, Baytown, Pelly, LaPorte, and Humble may, in part, counter-balance loss in rural areas and therefore render less substantial the losses reflected above.

In conclusion, we might say that through utilization of every known source of information, we confidently believe that Metropolitan Houston will reach a population of one million about 1965 and Harris County will pass the million mark shortly before 1960. These estimates summarized as follows are used elsewhere in our survey in calculations of necessary facilities to be planned for.

	Metropolitan Houston	Non-Metropolitan Houston	Harris County
1950	570,086	125,419	695,505
1960	862,255	155,206	1,017,461
1970	1,293,383	181,073	1,474,456

G -Transportation Facilities

Important to the success of the population and industrial growth of the Area is the continued alertness to problems of travel and transportation. If development of these facilities fails to keep abreast of over-all growth, that growth will cease or be seriously retarded.

Harris County alone with its 1,747 square miles represents a sizable problem in dealing with "accessibility" to hospitals. Add to this the potential drawing-power of a metropolitan medical center upon the outer area and you have a problem which, in itself, would require separate research and survey.

We have listed counties of the Retail Trade Area as used elsewhere in the report and have shown the mileage from that county's principal city to Houston, in order to visualize the scope of the travel problem that some day may face the Center, and even now faces the community. This table appears in Appendix "A" as Exhibit 14.

This places the closest out-of Harris County major town, Rosenberg, Fort Bend County 38 miles away, and establishes Jacksonville, Cherokee County at a distance of 177 miles from Houston.

Serving most of this area and passing or terminating in Houston are 6 Major railway systems composed of 17 separate lines.

	Metropolitan Houston	Non-Metropolitan Houston	Harris County
1950	570,086	125,419	695,505
1960	862,255	155,206	1,017,461
1970	1,293,383	181,073	1,474,456

G -Transportation Facilities

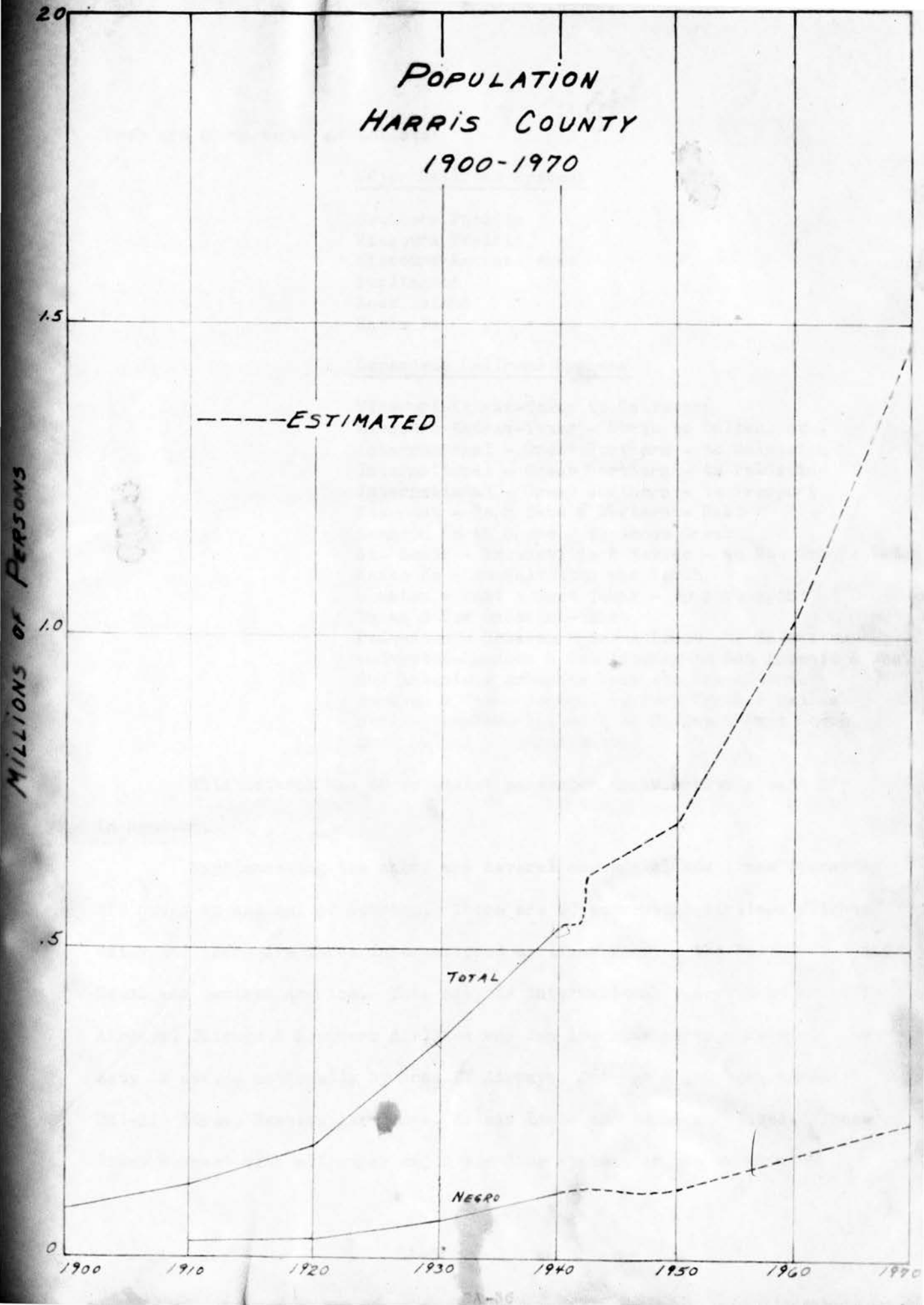
Important to the success of the population and industrial growth of the Area is the continued alertness to problems of travel and transportation. If development of these facilities fails to keep abreast of over-all growth, that growth will cease or be seriously retarded.

Harris County alone with its 1,747 square miles represents a sizable problem in dealing with "accessibility" to hospitals. Add to this the potential drawing-power of a metropolitan medical center upon the outer area and you have a problem which, in itself, would require separate research and survey.

We have listed counties of the Retail Trade Area as used elsewhere in the report and have shown the mileage from that county's principal city to Houston, in order to visualize the scope of the travel problem that some day may face the Center, and even now faces the community. This table appears in Appendix "A" as Exhibit 14.

This places the closest out-of Harris County major town, Rosenberg, Fort Bend County 38 miles away, and establishes Jacksonville, Cherokee County at a distance of 177 miles from Houston.

Serving most of this area and passing or terminating in Houston are 6 Major railway systems composed of 17 separate lines.


POPULATION
HARRIS COUNTY
1900-1970
-----ESTIMATED
TOTAL
NEGRO
MILLIONS OF PERSONS
2.0
1.5
1.0
.5
0
1900
1910
1920
1930
1940
1950
1960
1970

These are shown to be as follows:

Major Railroad Systems

Southern Pacific
Missouri Pacific
Missouri-Kansas-Texas
Burlington
Rock Island
Santa Fe

Dependent Railroad Systems

Missouri-Kansas-Texas to Galveston
Missouri-Kansas-Texas - North to Dallas, etc.
International - Great Northern - to Galveston
International - Great Northern - to Palestine
International - Great Northern - to Freeport
Beaumont - Sour Lake & Western - East
Houston North Shore - to Goose Creek
St. Louis - Brownsville & Mexico - to Rio Grande Valley
Sante Fe - to Galveston and North
Houston - East & West Texas - to Shreveport
Texas & New Orleans - East
Galveston - Houston & San Antonio -to Galveston
Galveston-Houston & San Antonio-to San Antonio & West
San Antonio & Arkansas Pass -to San Antonio
Houston & Texas Central to Fort Worth & Dallas
Burlington-Rock Island - to Dallas & Fort Worth
Rock Island - to Galveston

This network has 66 scheduled passenger train arrivals each day in Houston.

Supplementing the above are several commercial bus lines operating 225 buses in and out of Houston. There are 50 commercial airlines flights daily and there are three international airlines serving the West Indies and South and Central America. This city is internationally served by Braniff Airways, Chicago & Southern Airlines and Pan American Airways System. The city is served nationally by Braniff Airways, Chicago & Southern Airlines, Dal-Air Lines, Eastern Air Lines, Essair Lines and Texas Air Lines. These lines connect with all other major air line systems of the country.

U. S. highways lead out of the city in eleven directions, according to a road map revised by the Chamber of Commerce in June 1946.

H - Hospitals Of The Survey Area

The American Hospital Association Directory* and the Hospital Register of the American Medical Association show Harris County as having nineteen registered hospitals and one related institution**. Of this total, sixteen are located in Houston, two in Goose Creek and one each in Pasadena and Almeda.

For the purpose of our survey, with consideration of time available, the size of the hospital and the adequacy and availability of records, the following were omitted from our efforts toward detailed study:

Home Hospital	23 Beds (Related Institution)
Wright Clinic	28 Beds
Ear, Nose and Throat Hospital	23 Beds
Turner Urological Hospital	17 Beds
Montrose Hospital	35 Beds
Total	126 Beds

*Registration of hospital is governed by the essentials of a registered hospital adopted by the House of Delegates of the American Medical Association as revised in 1939. Registration is a basic recognition extended to each hospital and related institution concerning which American Medical Association has no evidence of irregular or unsafe practices.

**Related institutions include nursing homes, infirmaries, and other institutions designed to give certain medical and nursing care in an ethical and acceptable manner without giving full hospital service.

Also, these non-registered hospitals and clinics were omitted from our study:

Avenue Hospital	12 Beds
Walker Eye, Ear, Nose, Throat	7 Beds
Baytown Hospital	18 Beds
Deaton Hospital	10 Beds
Ilda Memorial	20 Beds
Goose Creek Ear, Nose & Throat	6 Beds
McKay Clinic	4 Beds
Total:	77 Beds

Only in the final projection of hospital needs in relation to population will the 126 beds in registered hospitals not surveyed and the 77 beds in non-registered hospitals be considered.

With these institutions eliminated, we deal in the survey with eleven General Hospitals, one Industrial Hospital, two Nervous and Mental Hospitals, and one Tuberculosis Hospital, of which there is City-County control of two, representing 596 beds; Church control of three with 783 beds; Proprietary control of seven hospitals representing 317 beds; and Non-Profit organization control of three representing 487 beds.

In Appendix "B" we have included a map of the City of Houston divided into nationally recognized "Census Tracts" and thereon we have plotted the locations of 12 Houston hospitals and the present City operated clinics.

From the center of the Houston Business District, we have inscribed arcs of 1-2-3 and 4 miles and from the location of each general hospital we have also drawn a circle with a radius of one mile.

Each census tract has been shaded in accordance with the "key" shown on the map, so that at a glance, the relation between hospital location and population may be observed. Further study through use of census tract data, reproduced and appearing on Exhibits 1-2 and 3 of Appendix "B", will reveal facts about the characteristics of the population surrounding hospitals and the economic level of such groups.

We realize that hospitals are not "neighborhood" affairs but in a community representing 73 square miles, "accessibility" is a factor.

We believe that this map will tend to bring into "focus" the present "coverage", indicate weaknesses in the "accessibility" and finally suggest modes and methods by which prompt treatment of emergencies, as well as routine "referrals" from isolated areas may be guaranteed.

In Appendix "B" we have included somewhat detailed "Hospital Sketches" on the fifteen hospitals visited and studied, but for our immediate purpose have included at this point very condensed versions aimed at high-lighting characteristics and facilities about which we are most interested. Also in section "B" of the Appendix will be found more lengthy reviews of the activity of the City of Houston Health Department, the Harris County Health Unit, the Houston Anti-Tuberculosis League, the City-County Welfare Board and the Visiting Nurses Association.

1. NAME: GOOSE CREEK HOSPITAL

LOCATION: GOOSE CREEK, TEXAS

SUPERINTENDENT: MRS E. GRANTHAM

This is a general hospital of 40 beds and 10 bassinets, operated for profit. It is registered with the American Medical Association but has no accreditations and conducts no training courses. Average occupancy for the year 1945 was 82.5%. There were 12,045 patient days and 2,138 adult discharges with an average stay of 5.6 days.

2. NAME: HEIGHTS HOSPITAL

LOCATION: 1917 ASHLAND, HOUSTON, TEXAS

GENERAL MANAGER: MR. W. A. PETERSON

This is a general hospital of 74 beds and 24 bassinets and is operated for profit. This hospital is registered with the American Medical Association and minimum approval by the American College of Surgeons has been applied for. There are no training courses available in this hospital.

Highest occupancy was reached in 1945, being 52.8%. Adult patients admitted totaled 3,071, patient days 14,260, with an average stay of 4.6 days. This very short stay was due to a large number of minor surgical and over-night emergency cases. An active emergency unit is in operation.

3. NAME: HERMANN HOSPITAL

LOCATION: HERMANN PARK DRIVE, HOUSTON, TEXAS

SUPERINTENDENT: MR. R. OSWALD DAUGHETY

This general hospital has an adult bed capacity of 294 and an additional 30 bassinets. There are 49 beds for Negro patients. The Out-Patient Department is restricted to residents of Harris County, and in 1945 visits totaled 20,235, a marked increase over the previous two years. This hospital is owned and operated by a Board of Trustees of the Hermann Hospital Estate, consisting of 7 members. It is operated not for profit and is not incorporated.

Hermann is approved by the American College of Surgeons as meeting minimum requirements and is approved by the American Medical Association for the training of Interns, Residents, and Fellows. It is also approved by the American College of Surgeons as capable of offering graduate training in Surgery. Its memberships are in the American Medical Association, State Hospital Association and local Hospital Council. Its School of Nursing is approved by the State Nurses Board.

Admission policies of the hospital parallel those of other general hospitals in the area, but there are only occasional cases of tuberculosis, psychiatry and venereal disease. The type of patients analyzed by "pay classification" indicates 44.3% non-paying and charity cases.

In 1945 there were 7,026 adult patients discharged with

a total of 76,917 patient days, with an average length of stay of 10.9 days. Occupancy was 71.7%. There were 837 new-born discharges with a corresponding 6,053 patient days.

4. NAME: HOUSTON NEGRO HOSPITAL

LOCATION: 2900 ELGIN, HOUSTON, TEXAS

SUPERINTENDENT: J. E. PERRY, M. D.

This is a general non-profit hospital with 64 adult beds and 20 bassinets treating only Negro patients. There is a bi-racial Board of Directors of 13 members. The hospital is registered with the American Medical Association but with no other accreditations or approvals other than being licensed for maternity care.

In 1945 there were 2,530 adult discharges and 14,568 days of care, with a resulting length of stay of 5.7 days. There were 727 new-born discharges and 2,181 new-born patient days.

5. NAME: JEFFERSON DAVIS HOSPITAL

LOCATION: 1801 BUFFALO DRIVE, HOUSTON, TEXAS

SUPERINTENDENT: MR. A. S. REAVES

This general hospital is City-County owned and operated and is controlled by a Board of Managers consisting of 13 members.

Jefferson Davis is approved by the American College of Surgeons and is also approved for Intern training and for Residency and Fellowship training by the Council of Medical Education in

Hospitals of the American Medical Association. Its School of Nursing is accredited by the State Board of Nursing Examiners and is also approved by the National League Of Nursing. Its memberships are with the American Hospital Association, the State Hospital Association and the local Hospital Council.

This general hospital has a 57 bed contagious unit, representing almost all such beds in the area; and in this unit all polio cases in the area are treated.

Also the hospital maintains a unit for pay patients originally intended to relieve the acute bed shortage in other general hospitals of the area.

An active Out-Patient Department is in operation as is an emergency division. Negroes are accepted without discrimination.

In 1945 there were 10,297 adults discharged, 115,551 patient days, with an average length of stay of 11.2 days. Occupancy was 75%. There were 1,162 newborn discharged with a corresponding 8,053 patient days.

6. NAME: LILLIE AND DUKE HOSPITAL

LOCATION: GOOSE CREEK, TEXAS

SUPERINTENDENT: MRS. MCFADDEN

This is a general hospital of 30 beds and 6 bassinets, operated for profit. It is registered with the American Medical Association, but has no accreditations and conducts no training courses. There is a large traffic in industrial work.

Average occupancy for the year 1945 was 47.2%. There were 5,170 adult patient days, 1,034 admissions, and an approximate length of stay of 5 days.

7. NAME: MEMORIAL HOSPITAL

LOCATION: 602 LAMAR STREET, HOUSTON, TEXAS

SUPERINTENDENT: Mr. JOHN G. DUDLEY

This general hospital has a capacity of 277 beds and 34 bassinets. It is a non-profit, Church operated corporation approved by the American College of Surgeons, registered with the American Medical Association, and with its School of Nursing accredited by the State Board of Nursing Examiners. Memorial holds memberships in the American Hospital Association, State Hospital Association, Local Hospital Council, and Protestant Hospital Association of America.

In 1945, there were 10,314 adult patient discharges, 94,467 patient days, with an average length of stay of 9.1 days. Occupancy was 95.8%.

This hospital follows the admission pattern of most general hospitals in the area, but has added facilites in Psychiatry, represented by an 18 bed unit, well equiped to care for these cases.

The hospital does not operate an Out-Patient Department. It does have an active emergency division which is especially favored because of the down-town location of the hospital.

There are Residents and Fellows in training despite the fact that the hospital is unapproved by the Council on Medical Education and Hospitals of the American Medical Association.

8. NAME: METHODIST HOSPITAL

LOCATION; 3020 SAN JACINTO STREET, HOUSTON, TEXAS

SUPERINTENDENT: MRS. JOSIE M. ROBERTS

This general hospital has a capacity of 136 beds and 22 bassinets. It is a non-profit hospital, consisting of 4 units, owned by the Texas Conference of Methodist Churches. This hospital is approved by the American College of Surgeons, and it is also approved by the American Medical Association for the training of a limited number of Interns, Residents and Fellows. Its School of Nursing is accredited by the State Board of Nursing Examiners. Memberships are held in the American Hospital Association, State Hospital Association, and the local Hospital Council.

In 1945, there were 42,742 adult patient days 4,566 patients discharged, and a length of stay averaging 9.3 days. Occupancy was 86%.

There are no colored patients admitted to this hospital, but otherwise it follows the admitting policies of the majority of general hospitals in this area.

There is a limited Out-Patient Service rendered, and this is rapidly being expanded.

Methodist is the only hospital surveyed making routine x-ray examination of all patients for the purpose of tuberculosis case-finding.

9. NAME: PARK VIEW HOSPITAL

LOCATION: 7444 HARRISBURG BOULEVARD, HOUSTON, TEXAS

SUPERINTENDENT: DR. J. S. OLIVER

This is a general hospital operated for profit with 35 adult beds and 6 bassinets. It is registered with the American Medical Association, but has no other approvals or accreditations. There are no training programs. Considerable industrial work under contract is done and in 1945 there were 1,092 admissions and 5,110 adult patient days, with an average stay of 4.6 days. Average occupancy was 40%.

10. NAME: PASADENA HOSPITAL AND CLINIC

LOCATION: PASADENA, TEXAS

BUSINESS MANAGER: MRS. M. BRIGGS

This is a general hospital with 37 adult beds, and an additional 11 obstetric beds and 12 bassinets available in the Clinic, which is some 7 blocks from the Hospital. Both units are operated for profit. The Hospital is registered with the American Medical Association, and is licensed by the State for maternity work.

There is a large industrial practice and both Negro and Mexican patients are accepted.

In 1945 there were 2,582 adult discharges and 9,490 patient days: 647 newborn discharges and 2,696 newborn days of care. The average length of stay was 3.6 days and the average occupancy was 54%.

11. NAME: ST. JOSEPH'S INFIRMARY

LOCATION: 1910 CRAWFORD ST., HOUSTON, TEXAS

SUPERINTENDENT: SISTER M. FIDELIS, SUPERIOR

This is a 377 bed, 92 bassinet general hospital, owned and operated by the Sisters of Charity of the Incarnate Word, a non-profit Church Organization.

This hospital is registered with the A.M.A. and approved by the A.M.A. for training of six Residents in Surgery and Obstetrics. It has met the minimum requirements of the American College of Surgeons, which has additionally approved it as a hospital capable of offering graduate training in Surgery and Obstetrics. Its School of Nursing is approved by the State Nurses Board. The Maternity Work is licensed by the State of Texas. Memberships are in the American Hospital Association, State Hospital Association, Local Hospital Council and Catholic Association.

The Out-patient department functions for the care and instruction of Pre-Natal and Post-Natal Mothers and Clinics are held in connection with both each week. Out-Patient visits totaled 1978 for 1945.

In 1945, there were 17,784 adult patient discharges, 130,691 patient days, with an average length of stay of 7.3 days. Occupancy was 95%.

12. NAME: GREENWOOD'S SANITARIUM

LOCATION: MAIN STREET ROAD, HOUSTON, TEXAS

SUPERINTENDENT: DR. JAMES GREENWOOD, JR.

This is a nervous and mental hospital with a capacity of

40 adult beds, however, the unit has facilities for expansion to 80. It is privately owned and operated for profit. The Sanitarium is registered with the American Medical Association, but it has no other approvals, accreditations, or memberships. There is no training offered.

In 1945 there were 9,490 patient days, with 130 discharges and an average length of stay of 73 days. The average occupancy was 65%.

13. NAME: HOUSTON TUBERCULOSIS HOSPITAL

LOCATION: 3602 WEST DALLAS, HOUSTON, TEXAS

SUPERINTENDENT: MISS MAE ALDRIDGE

This hospital is City-County controlled with 124 hospital beds and 50 beds located in the Autrey Memorial School Building. A pavillion is being built at this time to house about 20 additional Negro cases, only 22 beds being available to Negroes at present.

The hospital is approved by the American Medical Association only, and has membership in the Texas Hospital Association. No Training courses are undertaken.

The Autrey Memorial School is operated as a preventorium for children between the ages of 4 and 12.

In 1945 there were 54,042 patient days, including those of Autrey Memorial, with 235 admissions and 13 discharges. Daily average census for the year was 148, 41 of which were in the Autrey School, reflecting an over-all average occupancy of 85%.

There are no facilities for surgical work, a severe handicap to patient and staff, while laboratory work and other diagnostic service, other than radiographic work, is done at Jefferson Davis.

Admissions to this governmental hospital are controlled by the Anti-Tuberculosis League of Houston.

14. NAME: KEIGHTLEY HOSPITAL

LOCATION: ALMEDA, TEXAS

SUPERINTENDENT AND OWNER: MRS. VIVIAN KEIGHTLEY

This is a 50 bed Nervous and Mental hospital, privately owned and operated for profit. It is registered with the A.M.A. and has a membership with the State Hospital Association. It has no other accreditations, approvals or memberships and conducts no training courses.

There were approximately 9,125 patient days in 1945, representing a 50% occupancy. There were 102 admissions, and an average length of stay of 88 days.

15. NAME: SOUTHERN PACIFIC HOSPITAL

LOCATION: 2015 THOMAS STREET, HOUSTON, TEXAS

SUPERINTENDENT: MR. ROY WILLMISMEIR

This is a 129 bed general hospital, operated by the Southern Pacific Railroad Company, not for profit and is not incorporated. Admissions are limited to employees of the railroad

and subsidiary units residing in Texas and Louisiana, totaling 23,000 at present. This hospital is approved by the American College of Surgeons, and is also approved by the American Medical Association, State Hospital Association and Local Hospital Council.

An active out-patient department exists which in 1945 cared for 19,748 visits. In 1945 adult discharges numbered 2,419, patient days 31,063, average length of stay 12.88 days, and average occupancy was 66%. There were no obstetric, pediatric, contagious, tuberculosis, or venereal disease patients admitted. Training facilities exist solely in connection with the four residents.

I -Other Health Organizations

1 -City Of Houston Health Department

The City Health Department serves the 73 square miles within the corporate limits of the City of Houston with a population estimated to be 471,167 in 1945. The health officer is Dr. Austin E. Hill and offices are at 900 Brazos, the address of the City Hall of Houston. In addition to this office area, it occupies space in the Old Jefferson Davis Hospital at 1100 Elder for laboratories and for clinics in Maternal Child Health, and Venereal Diseases. Also it maintains a Venereal Disease detention ward in the County Jail.

Organization

The department as now organized consists of nine divisions with two additional; namely, dengue fever and malaria control, coming under the direct supervision of the State Health Department. A new organization is now being planned to add tuberculosis, mental hygiene,

adult hygiene, and communicable disease control to the existing nine divisions. There is also a proposed Health Center Program which has in mind the establishment of five outlying health clinics, the first to be erected in 1947 on Lyons Avenue in the colored district.

Financial

In April 1946, the preliminary budget including, State, United States Public Health Service, and Other agency support was submitted by Dr. Hill, and shows expenses borne as follows:

City of Houston	$384,069
State of Texas	1,860
United States Public Health Service	44,180
Other Agencies	3,960
Total	$434,069

Of this amount, $370,080 was salary expense and $63,989 covered supplies, travel, contractual and maintenance expenses. In neither budget was there an allowance for the capital outlay for the first of five clinics to be started in 1946, and in neither budget was there provision for employment of a director to head the Tuberculosis Control Division.

Communicable Diseases

In the following table progress of the department, in fact of the community, in its battle against communicable disease may be drawn. We draw attention to the fact that reporting methods leaves something to be desired. A more complete registration system for communicable disease control must be attempted with great pressure being

exerted upon private physicians and their reporting practices.

RATES PER 100,000 POPULATION

	1943		1944		1945	
	Cases Reported	Deaths	Cases Reported	Deaths	Cases Reported	Deaths
Tuberculosis	95.01	49.45	84.13	47.17	68.13	41.17
Diphtheria	19.11	1.33	18.04	1.09	25.04	1.70
Polio	17.55	2.22	4.13	1.09	24.62	4.67
Typhoid	4.89	1.33	5.43	1.09	3.82	.64
Typhus	27.55	.22	31.52	1.30	21.86	.85
Malaria	.22	.00	.22	.22	.64	.42
Measles	31.11	.22	95.65	.43	5.09	.00

Venereal Disease Program

The only clinic sponsored by the Health Department at the present time is at the old Jefferson Davis Hospital inasmuch as two clinics have been closed because of lack of personnel. In addition to this clinic, the Health Department operates a detention ward in the county jail consisting of seventy beds for incarceration and treatment. In general, case finding is not well developed in this area, and it is mentioned that Texas is one of the three states that require only the male to be examined for syphilis before marriage. It is the practice to send primary and latent cases to a Rapid Treatment Center, located in San Antonio, some two hundred miles away, the transportation being offered free of charge. Forty to fifty percent of the cases so treated remain under treatment until cured. Informal and education programs for venereal disease control leave much to be desired, but a Venereal Disease Committee exists, formed in 1944, and is in part carrying forth this work.

In 1944, there were 73,188 clinic visits coupled with 4,967 field visits while in 1945 there were 70,466 and 5,528 of the corresponding type visit.

Tuberculosis Control

At present the Health Department functions only in the field of follow up and investigation of family contacts made by those persons having died from tuberculosis. Reporting of these deaths to the Health Department are supposedly made through hospitals and homes. Major responsibility for tuberculosis control is being borne by the Houston Anti-Tuberculosis League, and this relationship and division of responsibilities is discussed elsewhere in this report.

It is to be mentioned, however, that in the 1946 budget no director of Tuberculosis Control has been proposed and that the City recently refused to meet its share of a generous proposal by the Council of Social Agencies that would have enabled the City to make a start toward assuming a more active participation in Tuberculosis Control.

2 - Harris County Health Unit

The Harris County Health Unit serves an area of 1674 square miles which is the area of Harris County minus the 73 square miles covered by the City of Houston Health Department. Officials of the Unit place the 1945 population served at 204,000, but from estimates made during the survey, the observer believes that the population probably did not exceed 171,000.

Offices of the Unit are in the County Hall in Houston and here, also, are given a limited number of immunizations. In addition, two venereal disease clinics are conducted, one in Bordersville for Negroes

and one in the Tri-Cities area for white and Negro combining venereal disease treatment and immunizations. Laboratory work is carried out at the City-County Laboratory located in the old Jefferson Davis Hospital.

Organization

The County Health Unit is responsible to the County Commissioners Court and to the Texas State Health Department. The director of the Unit is appointed by them, and at present Dr. C. A. Dwyer is the part-time acting director, having replaced Dr. H. Wood, who resigned June 1 after serving only five months.

Communicable Disease Control

To all communicable disease cases reported in 1944 and 1945, the nursing staff of the County Health Unit made 411 and 556 visits respectively and caused to be admitted to hospitals 63 and 117 cases.

Immunizations in 1945 were in the following numbers:

Smallpox	1808	Typhoid	2420
Diphtheria	5169	Petrussis	476
		All others	11267
		Total	21140

Venereal Disease Control

As previously mentioned, two venereal disease clinics are maintained by the County and in 1944, visits totaled 6001, coupled with field visits in the number of 334; in 1945 clinic visits dropped to 4,956 and field visits increased to 547. Only six lectures were conducted on this important phase of community health, and attendance averaged about 100 at each.

Tuberculosis Control

The same relationship exists with this unit and the Anti-Tuberculosis League as does with the City Health Department, but so far the major activities of the League have been confined to Houston proper with only slightly more than 5,500 examined in 1945 in the County.

Public School Program

Important is the function of the Health Unit in its contacts with 85 Schools within the County but outside the Houston Independent School District. The nursing staff of the unit in 1945 made 8,500 general examinations, 1,900 eye examinations and 2,400 dental examinations. They lectured to over 15,000 school children in 81 scheduled talks and in effect, assumed the responsibility which, within Houston, is borne by the Health Division of the Independent School System.

3 - The Mexican Clinic

The Mexican Clinic, located at 1909 Canal, is at the present time in the throes of reorganization which has made it difficult to measure its performance or value to the Latin American group. On October 1st, 1946, the Missionary Sisters of the Immaculate Conception, which is the Order now building the St. Elizabeth's Negro Hospital, took over the operation of the Mexican Clinic. They plan to reorganize the Board of Directors, and to revamp the entire clinic structure. This is to be done by degrees and, at present, only two clinics per week are scheduled. One is a well baby conference conducted by a physician of the City Health Department and the other is a Pre-Natal Clinic. In time, Sister Lenardine hopes to conduct clinics in gynecology, medicine, pediatrics, eye, ear, nose and throat, and possibly dentistry.

The clinic is almost entirely supported by the Community Chest with present support amounting to $7,200 per year with plans for 1947 support amounting to $10,000. In discussion with members of their non-professional staff who act as interpreters and technicians, it would seem that the clinic is most certainly needed and has the good will and, at least the moral support, of the Mexican population.

4 - Bureau of Mental Hygiene of Houston

The Bureau is located at 304 McIlhenny, about 1½ miles from the center of the Houston business district. The organization was started as a child guidance clinic in 1929 and existed as such until 1939, when a limited number of adults were included in the program.

The staff includes three psychiatrists, Dr. J. H. Waterman, Dr. Z. S. Brener and Dr. Bond - plus four psychiatric social workers and one psychologist.

Control of the organization rests with the board of 31 members, president of which is Mr. Robert M. Blaine. Appointments are made to this board for overlapping terms of two years.

Support comes mainly from the Community Chest plus the few hundred dollars a year collected from pay visits to the clinic. The allotment from the Chest in 1946 amounted to $34,465 and this is to be increased by $10,000 for the coming year. In 1945 there were slightly over 1,000 patients, almost double the number handled in 1944.

Services rendered in this converted private dwelling are primarily diagnostic. Referrals to the Bureau are made primarily by schools, the juvenile courts and social agencies. At the moment, there is a waiting list of 45 which would indicate a wait of four or five months and the list consists principally of children, who require about three times the number of interviews given to adults.

The staff feels a very real need for a completely rounded clinic where a medical diagnosis and treatment would supplement their own work, as it is now necessary to refer patients believed to have organic disturbances to the out-patient department at Hermann Hospital or Jefferson Davis Hospital. Dr. Waterman conducted a course last year for school teachers, which is to be repeated, on the subject of mental hygiene. It was done in an effort to familiarize the teachers with methods of handling children and determining their eligibility for treatment in the clinic. This was to alleviate the large number of feeble-minded children being referred without much possibility of their ever being helped by the clinic.

5 - Houston Anti-Tuberculosis League

The policies, administrative practices and funds of the Houston Anti-Tuberculosis League are administered by a self-perpetuating Board of Trustees of eleven members. Plans are being made at the present time to increase the number of board members to a maximum of thirty.

At the present time the League is taking full responsibility for any services generally found in the Tuberculosis Division of an official health agency, and this state of affairs has been the subject of considerable discussion in health circles throughout Houston. The surveyor agrees that the practices interlope upon official City-County responsibility, yet believes that until the Official Health Agencies prove through budgetary allotments, their potentiality to absorb this work, the status-quo be observed and all available support be given to the Houston Anti-Tuberculosis League.

The League's support comes from the sale of Christmas seals and annual contributions from the Community Chest. In 1944, the budget was $111,000 and in 1945, the figure was increased to $125,000.

The League maintains a clinic in the basement of Jefferson Davis Hospital, which is open every day, and in 1945 handled 7,864 patient visits.

Its service included 1,665 pneumothorax treatments, 1,841 fluoroscopies, 4,753 laboratory tests, and 2,927 X-rays. Student nurses of Jefferson Davis Hospital spend one week during their course assisting in the clinic as part of their training.

The size of the staff varies with ability to secure nurses, which, at the present time, is quite a problem, due to increased salaries for City Public Health Nurses. This shortage has not kept the League from operating in a very commendable manner, for 99% of the 363 cases reported for 1945 were visited within one month of the report.

In addition to the clinic, the League operates an excellent mobile unit, and in 1945, case findings included 5,055 skin tests, and 37,622 X-rays with the traveling unit. This unit is made available to the city schools and to industry. The proposed program of the Houston Anti-Tuberculosis League for April 1, 1946 to March 31, 1947 states that it hopes to be able to skin test 30,000 small children during the period and to maintain the procedure of testing about 4,000 persons monthly with the traveling X-ray unit, increasing this number, if possible.

Health Education

The League has in the field a trained Latin-American health worker who is integrating his activities with all Latin-American groups and is fostering a large-scale program of education.

A full-time Negro health worker is fostering similar activities among the Negro population. Several institutes are scheduled to reach various Negro groups with health education. A Negro Health Education Volunteer group has been formed and trained, and will stage a schedule of major health projects for strengthened Tuberculosis control, sanitation and hygiene, rat eradication and the like.

Student nurses and medical students are receiving regular classes and demonstrations in tuberculosis control, although the time spent in Tuberculosis affiliation is still far below the standard for minimum indoctrination.

Rehabilitation

The League is working in close cooperation with the State Board of Vocational Rehabilitation to the end of seeing to it that every eligible case secures fullest possible assistance for vocational rehabilitation. During the past year, an institute on the subject of Rehabilitation was held and over 100 representatives from industry and welfare agencies attended. As a result of this institute, a citizens' committee on rehabilitation and medical-social service has been formed and is instituting recreational and occupational therapy in Houston Tuberculosis Hospitals.

6 - Houston Independent School District Division of Health

The Division of Health of the Independent School District of Houston is under the direct supervision of a part-time physician, Dr. Allen Hutchison, with an additional staff of thirteen part-time physicians and thirty-two full time graduate nurses, six of whom are Negroes.

There is a school population of approximately 85,000 in an area encompassing Houston and part of the Metropolitan Area surrounding Houston. The budget for the entire Division of Health amounts to $79,700 per year, of which $59,300 is the salary expense of the nursing staff alone. The health program of the Division calls for annual inspections of all school children during the first and fourth years of grade school and during their first year of Junior High School and their first year of Senior High School. In general, the examination includes teeth, made by a Dental Hygienist, throat, heart, eyes, and general nutrition. Examinations are made without the parents being present in most instances and findings are reported by letter to them.

It is a ruling that small-pox immunizations are a requirement for entrance into any school of the District and this past year a regulation was adopted that required diphtheria immunization if the child is under ten years of age and is entering any school of this system for the first time. In 1945, over 10,000 immunizations and innoculations were given.

The Health Division operates sight-saving classes, maintains a free transportation service for crippled children to and from school, and likewise maintains classes for deaf and dumb and mentally retarded children.

7 - City-County Welfare Board

The Director of the City-County Welfare Board is Mr. Hollis Clark and offices are maintained in the old Jefferson Davis Hospital. Functions of this board are to coordinate city and county relief work not recognized as state responsibility, as in connection with old age assistance. In general, support is received on the ratio of 1/3 county and 2/3 city funds and they have shared in this proportion the support of the chronic program developed as an experiment and continued as a need. This welfare unit is under the control of a seven member board of trustees, two appointed by the city, two by the county, with a citizen elected by each of the two groups and the total of six so elected, appoint one additional citizen as Chairman.

About fifteen months ago, the trustees of the Welfare Board approved expenditures to renovate and maintain a hospital unit of 45 beds to be situated on the top floor of the old Jefferson Davis Hospital, and to be under the supervision and administration of the executive of the Welfare Board.

This unit was to fulfill, in part, a need for chronic indigent already listed with the Welfare Board and secondarily to establish a demonstration unit for this type of care in Houston. The original patients were removed from chronic homes where care was considered to be at the lowest ebb.

The 45 bed unit has an average daily occupancy of 31, rendered somewhat lower than necessary because of the need for discrimination between male and female, white and colored. 28 beds are assigned to white patients, divided equally between male and female, while 17 beds are reserved for Negroes, divided nine male and eight female.

Nursing care is administered by ten persons including four graduate nurses, and although this number would appear close to the minimum, it seems entirely adequate for a closely knit unit under good supervision.

Medical care is somewhat less satisfactorily rendered in that no physician is in attendance or on call. It remains for the patient to be transported to Jefferson Davis Hospital by ambulance in the event of need. This would seem the only weakness of an otherwise excellently maintained and operated chronic unit, setting a very low cost per patient day of about $1.50.

8 - Visiting Nurses Association

This organization was established in 1909 as a unit of the Home Settlement Association and remained as such until 1936 when it became the autonomous agency it is today. Its policies are controlled by a board of 36 members and it is supported principally by the Community Chest, with some small income from "paid" visits.

The role of Visiting Nurses Association in the total public health pattern of the community is dual, in that it combines bed-side nursing, its major and vested function, with well-child health clinics, an education endeavor more fittingly a responsibility of the City-County Public Health Units.

The area the Association attempts to cover is primarily that of the City of Houston with "Paid" visits being made throughout the Metropolitan Area and with a stipulated limit of ten miles from Houston for visits to members of group insurance plans having contracts with Visiting Nurses Association.

In general, the Association gives bed-side nursing on a free, part-pay or pay basis and conducts four well-child conferences each week. In 1945 its revenue from pay, part-pay and contract visits amounted to only $915.00 against a total expenditure of $43,453 for the period, or a disproportionately high percentage of free work.

Visits are primarily confined to private homes but in 1945, 671 were made to hospitals, clinics, laboratories, health centers, and day nurseries, but in each instance were to individual patients. Pre-natal cases requiring care are referred from Hermann Hospital and Jefferson Davis Hospital to the Visiting Nurses Association.

In 1945 the report of attendance at the well-baby clinics was shown to be 2,954 representing 923 different patients. There were 896 immunizations given under physicians' supervision.

This year it is planned that students enrolled in the Public Health Nursing course of the Incarnate Word College of San Antonio are to become affiliated with Visiting Nurses Association to give them their necessary field experience. This is the first time such an affiliation has been tried and the number of students, as well as the length of time each is to spend with the Visiting Nurses Association, has not been decided.

9 - Nursing Homes and Institutions

There are in Houston and Harris County two governmentally operated institutions for the care of patients suffering from long term illness, the convalescent home operated by the Houston-Harris County Board of Public Welfare on the top floor of the old Jefferson Davis Hospital, and the Harris County Home for the Aged, which is located approximately 12 miles out of the City of Houston. The opinion was expressed on a number of occasions by persons interviewed in the course of the survey, that there is urgent need for more beds in governmentally operated institutions. Neither of the two present

institutions is operating at full capacity, however. At the time they were visited, the Houston-Harris County Board of Public Welfare Convalescent Home had 33 patients with a total bed capacity of 45. The Harris County Home had 74 patients and a total capacity of 100. The fact that neither of these homes are operating at capacity can probably be explained by factors other than lack of need for care in the community. The Board of Welfare Convalescent Home is relatively small, and there are some problems of bed adjustments between the male and female services which make it difficult for the home to operate at full capacity. A factor that probably has greater importance, however, is the admission requirements which restrict the services of this home to persons who are totally indigent; are not eligible for assistance under other public assistance programs, and meet all of the rather rigid eligibility requirements for receiving assistance through the Houston-Harris County Board of Public Welfare. The relatively isolated location of the Harris County Home for the Aged probably helps to explain the fact that it is operating well under capacity.

There are four institutional homes in the community operated on a not-for-profit basis and offering some degree of care for disabled people. They include St. Anthony's Home for the Aged with 54 beds, the Maria Boswell Flake Home with 9 beds, the Home for Aged Sons and Daughters of Israel with 15 beds and the Sheltering Arms with 10 beds. These homes are intended, primarily, for the care of aged people, and their residents are predominantly in the higher age groups. Practically all of them, however, are suffering some degree of disability due to chronic illness. It is surprising that in these homes, also, some vacancies were reported, in spite of an obvious need in the community for care. The Home for Aged Sons and Daughters of Israel, for instance, reported 10 patients in the home and 5 vacancies;

the Maria Boswell Flake Home reported 5 residents and 4 vacancies; the Sheltering Arms and St. Anthony's Home for the Aged apparently are operating at full capacity.

Houston and Harris County have relatively fewer institutional homes for the aged or disabled than most communities of this size, and it is difficult to know exactly why this is true. It is probably explained in part, however, by the rapid growth of the city and the fact that even yet the population in this community is younger than is true in many other places. The community has not yet faced the problems of an aged population to the extent that some other communities have been forced to do.

The tendency of small proprietary nursing homes to spring up over night and vanish almost as rapidly makes it difficult to determine exactly how many such homes there are in the community. The number seems to fall somewhere between 30 and 35, with a total bed capacity of, roughly, 800. A few of the homes, not more than 20 or 30 per cent of the total, offer care which is good from the point of view of pleasant surroundings, cleanliness, and adequate physical attention. There is probably no community in the United States at the present time which does not have some inadequate nursing homes. Some of Houston's homes, however, are certainly worse than those tolerated in most communities of its size.

10 - M. D. Anderson Hospital for Cancer Research

Present plans for the M. D. Anderson Hospital for Cancer Research are the result of long-range, clear-sighted vision on the part of the Anderson Foundation. This group, headed by Dr. E. W. Bertner, early recognized the need for a central integrated bureau to coordinate and systematize the various organizations in the state which were separately working on cancer control, and proceeded to interest the State and the various organizations of the State in the plan for the proposed hospital.

On June 30, 1941, the State recognized the efforts of the Cancer Committee of the State Medical Association, the Women's Field Army of the American Cancer Society and other groups, and proceeded to pass legislation approving the establishment of a "State Cancer Hospital and a Division of Cancer Research" to be affiliated with the University of Texas, and appropriated a half-million dollars toward its establishment. In 1942 the M. D. Anderson Foundation matched the State appropriation with the understanding the hospital be located in Houston and bear the name of the M. D. Anderson Hospital for Cancer Research, to be the first unit of the Texas Medical Center. The temporary location was secured by the conversion of a large residence into clinic and laboratory facilities.

This work was completed in 1944, and although the volume and scope of research and treatment is of necessity limited in the present hospital, the work accomplished clearly indicates the comprehensive programing of its founders.

The M. D. Anderson Hospital has been allocated a permanent site in the Texas Medical Center Group. It will be the function of the Cancer Hospital not only to care for and treat patients, but to integrate and coordinate all the cancer work in Texas carried on at present by the many individual organizations.

The present plans outline a bed capacity of approximately 200, to be increased as needs require. The clinical services will be staffed by trained physicians and surgeons, all specialists in cancer treatment. Noting the evident need for specialization in cancer therapy, the Hospital will carry on an extensive teaching program which will include special courses to those students of merit from the University of Texas and Baylor University.

The Hospital will work toward close cooperation with the State Medical Association and other state and local organizations to improve and expedite present methods for assembling data valuable to the treatment of cancer. Efforts will be made to set up registration bureaus and standard records for the hospitals of the State.

The value of comprehensive, complete, well organized medical records in clinical research is very great. Incomplete and inaccessible reports are among the greatest single obstacles to proper clinical research. The proposed new hospital building with the inclusion of a unit of terminal care of advanced cancer patients will make possible the continuous and accurate observation of the patient from the beginning to the end of the disease. This will facilitate and make possible the comprehensive recording of patient treatment from the pre-clinical and detection stage through the treatment processes to the terminal illness. The Hospital will offer this complete and detailed research and will be one of the few institutions in the country where such full and comprehensive study is possible.

The M. D. Anderson Foundation has contributed $500,000 to start the building fund of this State institution, and in addition there is approximately $215,000 of State appropriated money available for buildings. A substantial portion of the balance necessary for the construction of the Hospital will be furnished from the funds collected in the $6,250,000 drive conducted by the University of Texas Development Board. Of this amount, it is understood that 33 1/3% is to be allocated for the M. D. Anderson Hospital for Cancer Research. Recently the University of Texas received under the terms of the Rosalie Hite Will a large sum of money, approximately $500,000 of which will be used in the erection of a Hite Laboratory Building connected with this cancer hospital.

J - Recapitulations of Hospital and Health Facilities

In the preceding pages of this section we have dealt briefly with 15 hospitals, 2 official health agencies and with 6 unofficial health units, all contributing in varying degrees to the health of residents of Harris County. It becomes desirable to pull together into narrower bounds the more important aspects of their contribution so that we may judge, primarily, the over-all deficiencies. Certain factors are herein recapitulated that appear only in the complete sketches under Appendix B.

Principally we are dealing with 11 general hospitals, 1 industrial hospital, 2 Nervous and Mental Hospitals and 1 Tuberculosis Hospital, of which there is City-County control of 2, representing 596 beds, church control of 3 with 783 beds, non-profit association control of 3 with 487 beds and individual, partnership, or corporation ownership of 7 hospitals operated for profit and representing 317 beds.

1 - Approvals and accreditations may be outlined as follows:

a - Approval of American College of Suregons as meeting unconditionally its minimum requirements:

(1) Hermann Hospital
(2) Jefferson Davis Hospital
(3) Memorial Hospital
(4) Methodist Hospital
(5) St. Joseph's Hospital
(6) Southern Pacific Hospital

b - Approvals by the Council on Medical Education and Hospitals of the American Medical Association for Intern training:

(1) Hermann Hospital
(2) Jefferson Davis Hospital
(3) Methodist Hospital

c - Approval by the Council on Medical Education and Hospitals of the American Medical Association for Residency and Fellowship training:

(1) Hermann Hospital
(2) Jefferson Davis
(3) Methodist Hospital
(4) St. Joseph's Infirmary
(5) Southern Pacific Hospital
(6) Memorial Hospital

d - Approval by the American College of Surgeons for Graduate Training in Surgery:

(1) Hermann Hospital
(2) St. Joseph's Infirmary
(3) Southern Pacific Hospital

e - Approval by the American College of Surgeons for Graduate Training in Obstetrics and Gynecology:

(1) Hermann Hospital

APPROVED INTERNESHIPS AND RESIDENCIES

	Interneships	Residencies and Fellowships						
	Total	Med.	Ob. & Gyn.	Path.	Ped.	Radiol.	Surg.	Total
Hermann	12	3	3		3		3	12
Jeff. Davis	24	3	3	1	1		3	11
Methodist	4		1*			2	1	4
So. Pacific		2					2	4
St. Joseph's			3*			1	3	7
Memorial							6	6
	40	8	10	1	4	3	18	44

* Obstetrics Only

From the above table it may be seen that Area Hospitals have a total of 40 approved interneships of the State's 193, and 44 approved residencies and fellowships of the State's 188. Also, that these are in but six of the 23 categories of medicine wherein residencies can be approved by the Council of Medical Education.

Hospitals without approval or accreditation of any sort except the rather "negative registration" as defined in the discussion on Hospitals of the Survey Area follow:

1. Heights Hospital
2. Houston Negro Hospital
3. Park View Hospital
4. Goose Creek Hospital
5. Lillie and Duke Hospital
6. Pasadena Hospital
7. Greenwood's Sanitarium
8. Houston Tuberculosis Hospital
9. Keightley Hospital

The percentage of such non-accredited hospitals, 9 out of 15, representing 555 of the 2,183 beds, or over 25%, imposes the problem of determining the actual or estimated interest of these hospitals toward good or even minimum standards of hospital care and education.

2 - Age of Buildings and Investment

Exhibit I - It was necessary to estimate the value of the investment in five privately owned hospitals in order to arrive at the total investment of $11,500,000, and this was done by assigning estimated costs per bed to the total capacity of each.

In total, the investment represents an average of $5,260 per hospital bed and an average per capita investment in Harris County of $17.83. The United Hospital Fund Survey of 1937 showed a per capita investment at $49.91 in Metropolitan New York and $56.93 in New York City proper.

In general, the physical plants are in good condition, exception to this being Goose Creek, Houston Negro, Methodist, and the fire hazard existing at Greenwood's Sanitarium. With consideration of the building programs underway at Hermann and at Methodist, the most serious problem remaining would seem to rest in the future of Houston Negro Hospital.

Attention is directed to the physical plants which serve to house the Mexican Clinic and the Bureau of Mental Hygiene. Both are revamped private dwellings, inadequate in many regards and careful consideration should be given any proposal to expend good money in renovating or remodeling.

EXHIBIT I

AGE OF BUILDINGS AND INVESTMENT

General	Original Building	1st Addition	2nd Addition	3rd Addition	Total Investment
Goose Creek	1936	1942			$ 100,000 ***
Heights	1923	1940	1945		370,000 *
Hermann	1925				1,675,550
Houston Negro	1926				153,389
Jefferson Davis	1938				2,454,000
Lillie & Duke	1936				105,000 **
Memorial	1907	1914	1924	1941	2,072,497
Methodist	1910	1923	1940		1,293,348
Park View	1929	1936	1940		102,730
Pasadena	1937	1944			172,000 **
St. Joseph's Inf.	1920	1937	1940		2,404,094
SUB TOTAL					$10,902,608
Other					
Greenwood's	1912				$ 180,000
Houston T. B.	1918	1936	1940		105,600
Keightley	1940				125,000 ***
Southern Pacific	1910				167,400
SUB TOTAL					$ 578,000
GRAND TOTAL					$11,480,608

* Estimated at $5,000 per bed - actually hospital rents at $18,000 per year.

** Estimated at $3,500 per bed.

*** Estimated at $4,500 per bed.

3 - Bed Capacity - Type of Accommodation and Race

In Exhibit II, we are primarily interested in the availability of various types of accommodation in general hospitals and we see that 33.8% of the 1790 beds are in single rooms, 18.8% in double rooms, 7.7% in three-bed rooms and the balance or 39.7% in multiple-bed wards.

If Jefferson Davis Hospital is omitted from the above calculations, 42.3% are in single and 18.5% are in double rooms.

Noticeable elsewhere in the country, and believed applicable to the hospitals of this area, are trends away from multiple-bed units and increased demands for private room service. In some areas Blue Cross subscribers have registered over 75% in favor of semi-private while less than 25% have subscribed to ward service, many of whom have altered their contract when actual admission to the ward type accommodation was eminent.

The exhibit likewise shows the distribution of Negro beds with a grand total of 282 of which 238 are in general hospitals. These represent 12.9% of all and 13.3% of general beds, which is substantially less than the proportion of Negro to white population.

It can be seen that 6 hospitals ban colored patients entirely while three hospitals admit a very limited number. No hospital permits or has available facilities other than of a ward type for the colored patient able to pay his way. Even Houston Negro Hospital with a listing of three private rooms reserves such rooms for isolation and for the critically ill.

No mention has been made of the Mexican patient and this for the reason that most hospitals now admit without restriction when available beds will lend themselves to segregation. There is no doubt that on this basis even, the Mexican fares better than the Negro and his problem seems one of over-all bed capacity rather than a minority-group situation.

EXHIBIT II

BED CAPACITY
BY TYPE OF ACCOMMODATION AND RACE

	Beds Per Room								
	1	2	3	4	5	6	8 or Over	Total	Negro Beds
General									
Goose Creek	17	20	3					40	0
Heights	37	22	15					74	0
Hermann	59	16	45	32	40	102		294	49
Houston Negro	3						61	64	64
Jefferson Davis	27	84	21	236		6	48	422	90
Lillie & Duke	24	6						30	1
Memorial	178	48	24	20				270	26
Methodist	52	12		36	10	6	20	136	0
Park View	12	4		8	5	6		35	6
Pasadena	15	24	9					48	2
St. Joseph's	181	102	21	48	15		10	377	0
SUB TOTAL	605	338	138	380	70	120	139	1790	238
Other									
Greenwood's	40							40	0
Houston Tuberculosis							174	174	22
Keightley	50							50	0
Southern Pacific	26	6	3	12		6	76	129	22
SUB TOTAL	116	6	3	12		6	250	393	44
GRAND TOTAL	721	344	141	392	70	126	389	2183	282

4 - Bed Capacity - Medical Service

In development of Exhibit III it was necessary to refer to Patient Day Statistics and on occasion to daily census reports to estimate the number of beds "assigned" or in "average use" by patients of the major medical services.

It would have required endless study of medical records to reconstruct an accurate picture of the "use" of facilities in such specialties as Gynecology, Neurology, Urology, Ophthalmology, Otorhinolaryngology and Neurosurgery. This was not undertaken because "guides" and "yardsticks" are available against which this particular community's needs can be projected.

The exhibit therefore serves merely to point out the general allocation as it exists and serves as a further guide to later recommendations.

EXHIBIT III

BED CAPACITY

BY MEDICAL SERVICE

Hospital	Med.	Surg.	Obst.	Ped.	N&M.	T.B.	Orth.	Contag.	Skin & Cancer	Total
General										
Goose Creek	15	11	10	4						40
Heights	20	20	20	14						74
Hermann	94	102	31	37			10		20	294
Hou. Negro	34	20	10							64
Jeff. Davis	121	121	34	49			30	57	10	422
Lillie & D.	10	8	8	4						30
Memorial	67	136	35	14	18					270
Methodist	34	41	17	29			15			136
Park View	13	14	4				2		2	35
Pasadena	15	12	11	6			4			48
St. Joseph	55	156	93	38			25	10		377
SUB TOTAL	478	641	273	195	18		86	67	32	1790
Other										
Greenwood					40					40
Houston T.B.						174				174
Keightley					50					50
Sou. Pac.	70	54					3		2	129
SUB TOTAL	70	54			90	174	3		2	393
GRAND TOTAL	548	695	273	195	108	174	89	67	34	2183

5 -Patient Types Admitted

Exhibit IV shows that II of the 15 hospitals studied followed a general admission "pattern" by accepting medical, surgical, obstetric, cardiac, eye, ear, nose and throat, orthopedic, dermatology, and cancer patients indiscriminately. Ten of the same group accept pediatric cases routinely while Houston Negro Hospital has no actual facilities for such care and only occasionally takes a case which then must be cared for on an adult ward.

The schedule shows three hospitals accepting nervous and mental patients and three hospitals with facilities to care for nervous and mental detention cases. It is known that other hospitals accept an occasional mild patient, but none in the amount that would suggest a practice that could be depended upon for the care of this type patient.

Contagious facilities, in the true sense of the word, exists only at Jefferson Davis and St. Joseph's Infirmary, but again almost all hospitals occasionally admit patients who frequently develop contagious diseases which are then cared for principally through dependence upon isolation techniques.

In discussion of the balance of the "Patient Types Admitted", we shall deal entirely in terms of hospitals whose general admitting policies permit and/or encourage routine use of their facilities for the specialty under discussion.

The tuberculosis patients have access to only one hospital and that of City-County ownership with no facilities for operative treatment.

Drug addicts, alcoholics and epileptics have access to two privately owned, profit-making sanatoria, while it may be said that chronics, incurables, and venereal disease patients have no facilities in the

hospitals studied and must depend entirely on private homes in case of the first two or upon Federal and State institutions in the latter case.

EXHIBIT IV

PATIENT TYPES ADMITTED

Patient Types Admitted	General											Other					
	GOOSEHCR	HEIGHTSN	HERMANNGR	HUFEDVO	JFLEDAL	LIEIDLU	MEMOAIST	MTHLIEW	PRKDIEA	PAASVEA	STJOINA	SUBTOTAL	GROEUNS	HUEGNTB	KEIGHTAE	SUBTOTAL	TOTAL
Medical	x	x	x	x	x	x	x	x	x	x	x	11			x	1	12
Surgical	x	x	x	x	x	x	x	x	x	x	x	11			x	1	12
Obstetrical	x	x	x	x	x	x	x	x	x	x	x	11					11
Pediatric	x	x	x	*	x	x	x	x	x	x	x	10					10
Cardiac	x	x	x	x	x	x	x	x	x	x	x	11			x	1	12
Eye,Ear,Nose & Throat	x	x	x	x	x	x	x	x	x	x	x	11			x	1	12
Industrial	x	x	x	x	x	x	x	x	x	x	x	11			x	1	12
Orthopedic	x	x	x	x	x	x	x	x	x	x	x	11			x	1	12
Dermatology	x	x	x	x	x	x	x	x	x	x	x	11			x	1	12
Cancer	x	x	x	x	x	x	x	x	x	x	x	11			x	1	12
Nervous & Mental**							x					1	x	x		2	3
Nerv. & Ment. Det.							x					1	x	x		2	3
Contagious **					x						x	2					2
Drug Addiction												0	x	x		2	2
Alcoholic												0	x	x		2	2
Tuberculosis**												0		x		1	1
Epileptic													x	x		2	2
Chronic**															*		
Convalescent**															*		
Venereal**																	
Incurable													*				

* Occasional

**The majority of Hospitals find a few of these cases in their hospital at all times, frequently as a secondary diagnosis and remove same as soon as possible.

6 -General Facilities Available

Exhibit V attempts to reflect the major clinical and operational facilities available in the 15 hospitals.

It can be seen that deep x-ray therapy is available in only five hospitals while radium therapy is available in only four. There is no Occupational Therapy in any hospital, and while the majority have physical therapy, it is known that heat and light treatment, massage and shortwave diathermy is the extent of their work. No actual rehabilitation is undertaken through hydrotherapy, paraffin baths, and muscular exercise equipment.

Only four hospitals operate Pharmacies and of these Methodist and St. Joseph's do only limited compounding and practically no manufacture. No hospital operates under a formulary, but Jefferson Davis has one in preparation now.

Fever Therapy equipment is available in three hospitals, and Shock Therapy equipment in two hospitals and on order for Memorial.

Out-Patient Departments, available to the medically indigent and indigent are maintained in Hermann and Jefferson Davis on a complete basis, and in St. Joseph's for Pre-natal and Post-partum patients. Methodist operates an out-patient department in obstetrics and for crippled children, and is expanding to include medical, surgical and gynecology clinics.

No hospital in the area owns or operates an ambulance service nor does the city or county. All such services are furnished by undertakers and private ambulance establishments.

Of general interest, only Methodist hospital routinely x-rays

admissions in a tuberculosis case finding effort, while only St. Joseph's seems to operate a full fledged health clinic for employees.

EXHIBIT V

GENERAL FACILITIES AVAILABLE

Services Available	General												Other					
	G	H	H	H	J	L	M	M	P	P	S	S	G	H	K	S	S	
	O	E	E	O	E	I	E	E	A	A	T	U	R	O	E	O	U	
	O	I	R	U	F	L	M	T	R	S		B	E	U	I	U	B	
	S	G	M	S	F	L	O	H	K	A	J		E	S	G			
	E	H	A			I	R	O		D	O	T	N		H	P	T	T
		T	N	N	D	E	I	D	V	E	S	O		T	T	A	O	O
	C	S	N	E	A		A	I	I	N		T	S	B	L	C	T	T
				G	V	D	L	S	E	A		A	A		E		A	A
						U		T	W			L	N		Y		L	L
X-ray, Diagnostic	x	x	x	x	x	x	x	x	x	x	x	11		x		x	2	13
X-ray, Therapeutic			x		x		x	x			x	5						5
Laboratory, Clinical	x	x	x	x	x	x	x	x	x	x	x	11				x	1	12
Radium Therapy			x		x		x				x	4						4
Electrocardiography	x	x	x	x	x	x	x	x	x	x	x	10				x	1	11
Physical Therapy	x	x	x	x	x	x	x	x	x	x	x	11		x		x	2	13
Occupat. Therapy																		
Oxygen Therapy	x	x	x	x	x	x	x	x	x	x	x	11				x	1	12
Fever Therapy			x				x					2			x		1	3
Operating Rooms	x	x	x	x	x	x	x	x	x	x	x	11				x	1	12
Delivery Rooms	x	x	x	x	x	x	x	x	x	x	x	11						11
Labor Rooms	x	x	x	x	x	x	x	x	x	x	x	11						11
Pharmacy			x		x			x			x	4						4
Blood & Plasma Bank			x		x		x	x				4						4
Emergency Service	x	x	x	x	x	x	x	x	x	x	x	11						11
Out-Patient Dept.			x		x			x			x	4						4
Private Ambulatory	x	x	x			x	x		x	x		7						7
Ambulance Service																		
T.B. Routine on Pat.								x				1		x			1	2
Rapid Treat. of VD																		
Prenatal Instruc.			x		x						x	3						3
Employee Health Serv.											x	1				x	1	2

7 - Training Facilites Available

In preparing Exhibit V1 it is recognized that at the time of our survey July, 1946, conditions were found in a post-war state of flux wherein many phases of activity appeared unsettled and disestablished asa result of the "wear and tear" of the war years.

The training programs, completely disjointed, would appear as one of the major casualties, but we have attempted to weigh the pre-war "status" and the post-war "intentions" to some degree.

There are 9 hospitals having no training program of any type and only Houston Negro of the nine ever conducted any. A school of nursing did exist in Houston Negro, until 1½ years ago when, advisedly, it was discontinued because the quantity and quality of instruction and clinical material appeared inadequate.

The exhibit reflects the absolute lack of training facilities for six professional groups we have listed and are particularly interested in, namely: Nursing Specialties, Student Dietitians, Intern Pharmacists, Record Librarians, Physical Therapy Technicians, and Student Anesthetists. To this list could also be added the Medical Social Student Training.

Training of Interns, Residents, Fellows, Student Nurses and Laboratory and X-ray Technicians comprise the 833 persons in training and it is pointed out that the 12 Residents and Fellows at Memorial are there under an unapproved curriculum.

It is evident from the exhibit that during the development of the Medical Center, and prior to its inception as such, thought must be given to the expansion of facilities to permit training of professional and semi-professional personnel in a number equal to the task of staffing and furnishing replacement for the staffs of all the hospitals in the area.

EXHIBIT V1

TRAINING FACILITIES AVAILABLE

Number in Training - Hospitals

Type Of Training	General												Other					
	GOOSEC	HEIGHTS	HERMANN	HOUNEG	JEFFD	LILLIEDU	MEMORIAL	METH	PARKV	PASADENA	ST JO	SUB TOTAL	GREENSAN	HOUTB	KEIGHTLEY	SOUPAC	SUB TOTAL	TOTAL
Interns			13		24							37					0	37
Residents			12		15		4	5		6		42				4	4	46
Fellows			2				8					10					0	10
Student Nurses			110		120		173	150		168		721					0	721
Nursing Specialties												0					0	0
Student Dietitians												0					0	0
Laboratory Technicians					8					2		10					0	10
Intern Pharmacists												0					0	0
Record Librarians												0					0	0
X-Ray Technicians			4		1			2		2		9					0	9
Physical Therapy Tech.												0					0	0
Anesthetists												0					0	0
TOTAL	0	0	141	0	168	0	185	157	0 0	178	829		0	0	0	4	4	833

8 - Patient Days, Discharges, and Length of Stay

Exhibit V11 reflects the all-important "use" of the hospitals of the area and brings out several important criteria.

Population in the Area in 1945 was estimated at 642,000 and as shown on the exhibit there were 591,766 Patient Days recorded in General Hospitals - a ratio of .92 patient days per year per person. All substantially directed Blue Cross plans are based on the "incident of hospitalization" of 1.00 Patient Days per year per person and it is apparent that with the additional patient census in the hospitals not studied the .92 would begin to approach the 1.00.

This is important in that it suggests the Area is nearly "standard" in its use of, hence viewpoint toward hospitalization and that no particular formula need be devised for measuring particular needs. In the following exhibit the Patient Day - Hospital Death ratio is discussed and in general points out another "normalcy."

The 521,011 adult patient days cared for in general hospitals indicates an average of 2.22 occupied beds per 1000 population while the available beds (1790) registers 2.78 beds per thousand, the difference being accounted for by the occupancy figure of 79.7% reflected in Exhibit IX.

The "Length of Stay" figures reflected in the Exhibit tend to have rhyme but no reason. We find, without exception that the smaller hospitals have substantially the shorter lengths of stay and oddly enough the lowest occupancies. In other words we question the reasoning behind a length of stay of 4.6 days at Heights while the occupancy only registered 52.8%

It is believed that the adult length of stay at Hermann and Jefferson Davis are slightly longer than necessary, giving due consideration to the program being advanced and accepted in "ambulation" techniques.

EXHIBIT V11

PATIENT DAYS, DISCHARGES, AND LENGTH OF STAY

Hospital		Patient Days	Patient Discharges	Average Length of Stay
General				
Goose Creek	- Adult	12,045	2138	5.1
	- Newborn	2,514	502	5
Heights	- Adult	14,260	3070	4.6
	- Newborn	1,850	581	3
Hermann	- Adult	76,917	7026	10.9
	- Newborn	6,053	837	7
Hou. Negro	- Adult	14,568	2530	5.7
	- Newborn	2,181	727	3
Jeff. Davis	- Adult	115,551	10297	11.2
	- Newborn	8,053	1162	6.5
Lillie & D.	- Adult	5,170	1016	5
	- Newborn	880	174	5
Memorial	- Adult	94,467	10314	9.2
	- Newborn	9,080	1907	5
Methodist	- Adult	42,742	4566	9.3
	- Newborn	4,508	690	6.5
Park View	- Adult	5,110	1062	4.8
	- Newborn	1,104	240	4.5
Pasadena	- Adult	9,490	2582	3.6
	- Newborn	2,696	647	4
St.Joseph's	- Adult	130,691	17786	7.3
	- Newborn	31,836	4879	6.5
SUB-TOTAL	-Adult	521,011	62387	8
	-Newborn	70,755	12346	5.5
	-Total	591,766	74733	7.8
Other				
Greenwood's	- Adult	9,490	130	73
Houston T.B.	- Adult	54,042	235	229
Keightley	- Adult	9,125	102	88
Sou. Pac.	- Adult	31,063	2419	12
SUB-TOTAL	-Adult	103,720	2886	35.9
GRAND TOTAL	- Adult	624,731	65273	9.5
	- Newborn	70,755	12346	5.5
	- Total	695,486	77619	8.9

9 - Patient Births, Deaths and Autopsies

Earlier in the survey, under the section on Vital Statistics, we show 12,909 Births in Hospitals and 2,580 Deaths in Hospitals and the difference between those figures and the 12,492 births and 2,263 deaths on Exhibit 8 presumably took place in hospitals not included in our survey, as listed under section "Hospitals of the Survey Area".

It is of interest to note that groups making careful and extensive study nationally of hospital and vital statistics show that, for the country as a whole, the public uses about 250 days of general hospital care for each hospital death. If we multiply the 2,366 deaths shown on the exhibit by the suggested 250 days, the resultant 591,500 General Patient Days compares almost identically with the 591,766 days shown on Exhibit 7 for the survey Area.

Both the Birth and Death figures shown are used indirectly in later sections where the bed-birth and bed-death ratios are developed to measure the needs for acute hospital facilities.

The statistics on autopsies and on the ratio of autopsies to deaths have been added to give still another insight into the interest of the medical profession in this important phase of clinical and teaching responsibility.

It can be seen that no hospital actually "measures up", but Memorial, Jefferson Davis, and Methodist seem to exert only slight effort in this direction, and of these three Jefferson Davis with by far the largest training program is the worst offender.

EXHIBIT V111

PATIENT BIRTHS, DEATHS & AUTOPSIES

	Births*	Deaths*	Autopsies*	Autopsy Rate
General				
Goose Creek	502	32	0	0
Heights	581	77	0	0
Hermann	834	254	134	52
Houston Negro	740	106	0	0
Jeff. Davis	1182	898	186	20
Lillie & Duke	176	20	0	0
Memorial	1929	269	31	11
Methodist	690	129	47	36
Park View	243	34	0	0
Pasadena	649	70	0	0
St. Joseph's	4966	374	172	45
SUB TOTAL	12492	2263	570	25
Other				
Greenwood's	0	8	0	0
Houston T. B.	0	53	0	0
Keightley	0	10	0	0
Sou. Pac.	0	32	16	50
SUB TOTAL	0	103	16	15.5
GRAND TOTAL	12492	2366	586	25

*Excluding Stillborn

10 - Actual and Optimum Patient Days and Occupancy Rates

It is to be remembered that the figures reflected in Exhibit IX are those for the year 1945, and that occupancy in 1946 is known to be somewhat higher. This condition was checked, where possible and known to be fact.

An optimum occupancy rate has been assigned each hospital based upon studies conducted by national groups which proved that occupancy ratios vary inversely with the number of beds up to a capacity of 600,at which point the optimum rate of occupancy reverses itself. We have used such formula in considering over-all bed requirements.

Of the 6 hospitals with 50 or less beds we find only Goose Creek reflecting an excessive rate of occupancy, and as mentioned in the sketch it was quite apparent from our observation that more than a safe load was being carried.

It might have been expected that Houston Negro's occupancy would exceed 61%; however, it would seem better to regard this as a factor of safety quite desirable in view of conditions at the hospital.

The patient load at Hermann and Jefferson Davis would appear lower than "optimum", while at Memorial, Methodist and St. Joseph's occupancy definitely exceeds the rate under which adequate to good care can continuously be rendered.

Of course, these rates fail to reflect peak loads met during the year, and it is known that certain hospitals actually exceeded 100% occupancy at times. Also the rates fail to show the important discrimination by "Medical Service" which might reflect 100% occupancy on one service and 50% on another. However, we encountered considerable "interchangeability" of bed allotment between medical services, which factor would reduce in importance the "occupancy" by type of medical service.

EXHIBIT 1X

ACTUAL AND OPTIMUM PATIENT DAYS AND OCCUPANCY RATES

Hospital	Adult Beds	Actual: Adult Patient Days	Actual: Occupancy Rate	Optimum: Occupancy Rate	Optimum: Adult Patient Days
General					
Goose Creek	40	12,045	82.4	60	8,770
Heights	74	14,260	52.8	66	17,825
Hermann	294	76,917	71.6	81	87,015
Houston Negro	64	14,568	61.0	65	15,523
Jefferson Davis	422	115,551	75.0	84	129,417
Lillie & Duke	30	5,170	47.0	53	5,830
Memorial	270	94,467	95.7	80	78,969
Methodist	136	42,742	86.1	74	36,735
Park View	35	5,110	40.0	54	6,898
Pasadena	48	9,490	54.1	61	10,700
St. Joseph's	377	130,691	95.1	83	114,062
Sub Total	1790	521,011	79.7	78.3	511,744
Other					
Greenwood	40	9,490	65.0	60	8,760
Houston T. B.	174	54,042	85.1	76	48,263
Keightley	50	9,125	50	63	11,498
Sou. Pac.	129	31,063	66	73	34,357
SUB TOTAL	393	103,720	72.3	71.7	102,878
GRAND TOTAL	2183	624,731	78.4	77.1	614,622

11 - Hospital Income, Expense and Per Diem Costs

Exhibit X attempts to draw together the more important financial information relating to operation of the hospitals.

Again it was necessary to estimate, as in the instance of "investment", in six of the smaller hospitals. We have first estimated the per diem cost and from that figure calculated total expense. Income was then established to reflect a small but reasonable profit which the observer is confident is being made in the six hospitals in question.

Patient days are shown as "Adult" and as "Total", the latter of course including newborn, so that under Per Diem Cost we can see the cost without consideration of newborn and cost considering newborn days equivalent to adult days, or at 100%.

Attention is directed to the Per Diem Cost resulting from Patient Days and the Operating Expense as it appears on the Auditor's Report for Park View. This is after the figure was questioned and reduced $15,000.00 representing payments to the partners. It is of course still inflated by some item or items of expense but the time could not be spent in a detailed analysis of their accounting system, which admittedly is not designed for hospital use.

No other particularly unusual condition was noted except that Per Diem Cost at St. Joseph's Infirmary is lower by reason of the Sisters' contribution and it is pointed out that in areas where a sincere effort is made toward standardization of financial and statistical information, values have been worked out that can be applied to Catholic Organizations to eliminate this discrepancy.

EXHIBIT X

HOSPITAL INCOME, EXPENSE AND PER DIEM COST

	Patient Income	Operating Expense	Adult Patient Days	Total Patient Cost	--Per Diem Cost-- Newborn 0%	Newborn 100%
General						
Goose Creek	$122,500*	$116,464**	12,045	14,559	$9.67**	$8.00*
Heights	203,995	166,842	14,260	16,110	11.70	10.33
Hermann	442,578	674,665	76,917	82,970	8.77	8.13
Houston Negro	92,409	107,132	14,568	16,749	7.35	6.39
Jefferson Davis	187,648	690,357	115,551	123,604	5.97	5.58
Lillie & Duke	57,500*	51,425**	5,170	6,050	9.94**	8.50*
Memorial	1,081,115	1,037,421	94,467	103,547	10.98	10.01
Methodist	438,600	468,234	42,742	47,250	10.95	9.90
Park View	105,700	88,900	5,110	6, 214	17.39	14.30
Pasadena	102,000*	97,488**	9,490	12,186	10.27**	8.00*
St. Joseph's	706,371	557,896	130,691	162,527	4.26	3.42
SUB TOTAL	$3,540,416	$3,956,824	521,011	591,766	$7.59	$6.68
Other						
Greenwoods'	47,500*	37,960**	9,490	9,490	4.00**	4.00*
Houston T. B.	0	105,986	54,042	54,042	1.96	1.96
Keightley	60,000*	54,750**	9,125	9,125	6.00**	6.00*
Sou. Pac.	205,000*	201,909**	31,063	31,063	6.50**	6.50*
SUB TOTAL	$312,500	$400,605	$103,720	103,720	$3.86	$3.86
GRAND TOTAL	$3,852,916	$4,457,429	624,731	695,486	$7.13	$6.41

*Estimated

**Calculated

12 - Out-Patient Facilities

Out-Patient care is provided to the medically indigent of the survey area by the Out Patient Departments of Hermann Hospital and Jefferson Davis, with prenatal clinic work only being done at St. Joseph's. In addition there are clinics operated by the Bureau of Mental Hygiene, by the Mexican Clinic and by the city and county. We have not herein reproduced the "Schedules of Visits" appearing in other sections of the report but merely summarized the volume and other related and pertinent information.

Hermann Hospital

Out-Patient Visits		
1943	1944	1945
15,310	17,134	20,235

In 1945 the expense of operating the clinic with a volume of 20,235 visits totaled $8,213 or $.405 per visit. There was some income from this source but the net amount could not be determined. It was learned that the expense reflects only direct charges, that when expenses of X-Ray, Laboratory, etc. are prorated on the basis of In-Patient, Out-Patient usage the clinic cost approximated $1.90, per visit.

The type of clinic operated is representative of the major in-patient services and of the approved specialties. Only in the care of Venereal Disease might a weakness be apparent. It is believed that the arrangement and quantity of diagnostic facilities is not conducive to their optimum use and that benefit to the teaching program and to the patient's care would accrue from regular and increased attendance in the clinics by the "Attending Staff".

Out-Patient Facilities (Continued)

Jefferson Davis Hospital

Out-Patient Visits		
1943	1944	1945
54,383	50,221	51,774

In 1945 the expense of operating the clinic with a volume of 51,774 visits is shown to be $8,786 or $.17 per visit. Income amounted to $982. As in the case of Hermann, this expense figure is known to reflect only direct charges and hence an unfair measurement of "use" or "practice".

The type of clinics operated is representative of the major in-patient services and of the approved specialties but it is to be mentioned that nomenclature used does not follow established practices and certain minor advantages would ensue from the adoption of a standard nomenclature.

Both of these hospitals are approved for interne and resident training and this implies approval of Out-Patient adequacy as well as of in-patient.

St. Joseph's Infirmary

Out-patient visits totalled 1978 for 1945 divided 1800 pre-natal and balance post-natal.

M. D. Anderson Cancer Clinic

Out-Patient visits to this newly established clinic are averaging about 150 per month. The unit is well equipped with diagnostic facilities and with radium and X-ray therapy.

Mexican Clinic

At present the clinic is being reorganized and it is impossible to judge its future participation in the community out-patient program.

Out-Patient Facilities (Continued)

Bureau of Mental Hygiene

Visits to this clinic in 1945 approximated 1000 representing adults and children. This clinic is inadequate in regard to all facilities necessary for medical diagnosis, which so frequently must be correlated with psychiatric diagnosis.

Anti-Tuberculosis Clinic

Visits to this clinic operated by the Houston Anti-Tuberculosis League numbered 7,864 in 1945 and although operated under physical handicaps, the facilities, shared with city and county in part are deemed adequate for the services to which it confines itself.

City Health Department

The city operated a venereal disease clinic to which there were 70,466 visits in 1945.

County Health Department

The county operated two small Venereal Disease Clinics to which there were 4,956 visits in 1945.

Note - Well baby conferences frequently including immunization programs are conducted by the Visiting Nurse Association in the Mexican Clinic by City Health Department and at Old Jefferson Davis by City Health Department.

It is known that in 1945 in the United States there were 203.3 visits per 1000 population to Out-patient departments of general hospitals. If we consider Hermann, Jefferson Davis, St. Joseph's, and M. D. Anderson Cancer Hospital, the ratio of 117.5 visits per 1000 population is reflected.

K - Recommendations

1. That the citizens of Houston realize that its available general hospital beds per thousand of population are far below those available in other large metropolitan cities.

2. That despite the present apparent limit to the drawing power of Survey Area hospitals upon neighboring counties, the medical and hospital needs of these counties not be overlooked in future planning. That recognition be made of their inevitable education in "use" as well as the correlated "recognition" of Houston as a medical center.

3. That hospital and health facilities be planned in an amount to meet the needs of the Survey Area; which is void of any natural barriers to uninterrupted expansion and growth; and whose population which is rapidly increasing in size is estimated to reach 695,500 in the year 1950,1,017,500 by 1960 and 1,474,500 by 1970.

4. That rapid growth in the past has been responsible for the existence of certain environmental conditions hazardous to good health practices and that these levels in some sections must be raised to eliminate conditions conducive to contamination and contagion.

5. That, in general, the Area be considered as of an economic level that permits, in fact, demands first class hospital and health facilities.

6. That the health statistics of the Area be considered as indicative of normal nationwide rates or trends except for an excessively high birth rate and for an excessive variable between the white and colored races in statistics relating to Stillbirths, Maternal Deaths, and Infant Deaths.

7. That the high percentage of non-accredited hospitals, 9 of the 15 studied, be given every assistance and stimulation to raise their standards

of operation to a level at which they could receive approval by the American College of Surgeons as meeting its minimum requirements.

8. That the larger hospitals of the community not meeting the standards for interne training prescribed by the Council on Medical Education and Hospitals of the American Medical Association make a concerted effort to gain such accreditation.

9. That the number as well as the diversity of residencies and fellowships be increased to meet the demands of a coordinated undergraduate-graduate training program at a level proposed by the Baylor University College of Medicine.

10. That, with the exception of Jefferson Davis and Greenwood Sanitarium, none of the present hospitals be considered as capable of expansion within present sites, but to the contrary their physical plants should be considered unduly congested to the point of uneconomical operation.

11. That in future planning, consideration be given to the fact that low initial investments coupled with obsolescence and general depreciation have reduced many of the 15 hospitals, either wholly or in part, to a physical status under first-class hospital standards.

12. That in future planning, the present auxiliary departments of the larger hospitals be considered inadequate to carry an added teaching and research program of any sizeable scope.

13. That the more complete usage be made of the teaching material and facilities available for the instruction of skilled hospital personnel other than medical and nursing groups.

14. That as many hospitals as possible introduce tuberculosis case finding routines on all patient admissions.

15. That designated hospitals assume responsibility for the rapid treatment of venereal disease to obviate the necessity of sending such cases out of the Area.

16. That all hospitals institute employee health services with pre-employment examinations and immunizations and that there be periodic physical examinations, chest x-rays and blood tests at least yearly following employment.

17. That the number of autopsies performed should be more nearly doubled for the general hospitals, and that the large teaching hospitals should strive to perform autopsies on 80% of all deaths in their hospitals.

18. That in future planning, allowance be made for a greater percentage of single and two-bed accommodations than now reflected and that these two types might safely approach 75% of all general hospital accommodations.

SECTION II - THE COMMUNITY PROGRAM

INTRODUCTION

In the preceding section we have given consideration to the Survey Area's growth, characteristics, and vital statistics, and to the hospital and health facilities now available.

The detail of these findings, as well as the conclusions and recommendations made, is the basis for a planned community program that will evaluate present plans for expansion and give just consideration to the development of the Texas Medical Center.

It is believed that the program should be developed in well organized stages, each preceded by a careful review of the variable factors which have guided us in basic recommendations. To aid in making these periodic reviews, we have shown the estimated "bed requirements" each decade, and have given sufficient explanation so that the "common denominator", used in the majority of estimates, may be projected against known conditions at any stage of Harris County growth.

In this section we proceed to set forth the future "bed requirements", developing each general type of "hospital care" separately, and then more fully by the medical specialties thereunder.

We give consideration in a generalized manner to the location of future facilities and deal with other specifications which we feel must be weighed if the community is to receive the full value of the program.

We deal with teaching and research programs as important, in fact, essential counterparts of good medical and hospital care. These too must undergo continuous surveillance to assure that they keep pace with over-all growth, remain flexible enough to absorb each proven advancement, and coordinate in a manner that will stimulate growth and leadership.

Finally, we point out certain steps which, if taken, would ordinarily lead to a strengthened position in the community and which would seem to add to the guarantee of success of this whole program.

Several important aspects of this section preclude knowledge in some detail of the plans now being formulated, their scope, financing and potentiality. Before entering into discussion of the Community Program, we pause to record facts about certain of these plans that have been developed to the point where they can be treated as eventualities.

Hermann Hospital:

The Board of Trustees of Hermann Hospital have plans now in the process of development which call for construction of a seven story hospital building located adjacent to the present hospital. Although subject to change, these plans reflect a bed capacity of 370; fifty beds to be reserved for obstetric care and 320 beds for medical and surgical care, with the possible use of eighty of these for psychiatric care. However, the Board has actually approved the use of only twenty-eight beds for psychiatric work at the present writing.

Plans reflect construction of a complete general hospital with a 370 bed capacity and all ancillary departments and facilities.

Hermann Hospital has plans for the erection of a professional building fourteen stories in height that is to be equipped to house 125 doctors' offices, examining rooms, and necessary complementary areas at an approximate cost of $1,965,000. It is estimated that there will be an annual net revenue of $225,000 and plans are to be made for repayment to capital funds over a period of forty years of the amount borrowed from the Estate for this building purpose.

Other additions proposed by the Trustees of Hermann Hospital include:

A - Addition to the present interne quarters, which would add a necessary forty beds to the present twenty-seven, and although there are no plans drawn for this addition, it is estimated that such a structure would cost $100,000.

B - The construction of 100 bed addition to the present nurses dormitory, bringing to 250 the number of facilities available. These plans are in sketches only, and it is estimated that the cost will approximate $500,000.

C - A new power plant building which would be equipped to furnish facilities to all Hermann owned buildings. No plans or sketches have been made on this project.

To recapitulate the above building programs:

1.	New Hospital Building	$4,000,000
2.	Professional Building	1,956,000
3.	Interne's Quarters	100,000
4.	Nurses' Dormitory	500,000
5.	Power Plant (included in Hospital Cost)	
	Total:	$6,556,000

It has been learned that Hermann Hospital has available for construction approximately $5,000,000, which includes a recent promise from the Anderson Foundation of $500,000. It is hoped that the balance can be secured through a public drive for a $2,000,000 building fund.

Upon completion of building programs as outlined above, it is intended that the present hospital building be remodeled for use by free and part-pay teaching patients, and it is estimated that this remodeling can be accomplished at a cost of $250,000.

Methodist Hospital:

The new Methodist Hospital to be constructed in the Texas Medical Center on an eight acre site which has been conveyed to the Trustees of Methodist Hospital by the Texas Medical Center is to be a 300 to 350 bed general hospital, excluding provisions for bassinets. It is to be eight stories, air-conditioned throughout, and include all facilities necessary to the operation of a general hospital, as well as accommodations for 22 internes and residents.

It is to be mentioned that the Anderson Foundation has agreed to give to the hospital fifty cents for each dollar its fund raising campaign secured.

St. Luke's Episcopal Hospital:

Plans have carried through the primary drawing stages which will result in a five story building plus a two story tower and will accommodate 250 patients; beds arranged in such a manner that expansion to 300 may be quite easily executed. All facilities necessary to the operation of a large general hospital have been included.

It is estimated the cost of construction will approximate $3,000,000, and it is learned that there is now available for building $1,200,000. A committee has been organized for the purpose of raising the necessary finances, and this committee will set $1,000,000 as its goal and per agreement with the Anderson Foundation this will automatically be matched with $500,000 from the Foundation on the basis of 50¢ for each dollar raised.

San Jacinto Memorial Hospital:

The San Jacinto Memorial Hospital is to be located in the Tri-Cities area comprising the incorporated cities of Pelly and Goose Creek and the unincorporated village of Baytown.

The hospital is to be a general hospital of 100 beds with provisions made to add an additional floor of 50 beds. It is to be fully air-conditioned above the basement level. Construction will begin this month under guidance of a non-profit association with trustees representing the three communities and the Humble Oil Company, and this organization has received a total of $1,250,000 in gifts from the Humble Oil Company to finance building construction.

It is expected that a certain amount of indigent care will be given to alleviate the necessity of sending such cases to Jefferson Davis Hospital, and support will be expected from the County for its fair share. The site chosen and purchased by general subscription money lies at the intersection of Texas Avenue and Decker Drive easily accessible to the three communities and approximately equi-distant from each.

St. Elizabeth's Negro Hospital:

This hospital is in the process of being constructed in the center of the colored district of the old Fifth Ward at 4500 Lyons Avenue and is to be owned and operated by the Missionary Sisters of the Immaculate Conception. The building will require approximately four months work to complete, and will accommodate 60 patients, but has been constructed so that an additional floor may be added as well as wings to accommodate an additional 90 beds. Facilities such as kitchens, laboratory, et cetera have been built to a size that will allow for the contemplated expansion.

The cost of the present structure is estimated at $335,000 exclusive of the equipment which for the most part is already purchased and is in storage in Houston. The hospital is to serve Negro patients exclusively, and it is to be staffed by colored nurses to supplement the limited number of Sisters available for supervisory work. It is contemplated that both Negro and white physicians will be in attendance.

No funds are available to off-set future operating expenses and income must come for patient service, which will be geared to admit pay, part-pay and free patients. It is to be opened as a general hospital accepting medical, surgical, obstetric, and pediatric cases, and there is a small emergency unit provided in the present structure. Expansion to 150 beds and provision of facilities for out-patient care will not be undertaken until sufficient proof is in hand as to the need and ability to support these additional facilities.

City Tuberculosis Hospital:

In 1941 a Bond Issue in the amount of $650,000 was voted by the City of Houston with the intention of expanding facilities and developing surgical areas at the present Houston Tuberculosis Hospital.

Between the approval of the Issue and the time for the expenditure of the funds, plans for the Texas Medical Center came under discussion with the net result that no building program as intended was undertaken. In 1946 another Bond Issue in the amount of $1,150,000 was approved, bringing to $1,800,000 the total now available. The Texas Medical Center has proposed location of the new hospital in the Center, and this has met with general approval by City Officials to the end that a site has been determined, but as yet not deeded to the City. It is understood that the Anderson Foundation has suggested that $350,000 would be available if the total amount of the bond issues fell short of the cost of erecting a 250 bed hospital. It is apparent that the County intends to make no capital investment in this hospital and that its method for payment for County patients will parallel that now used in the agreement existing in the City-County Hospitals whereby the County pays a flat annual sum or a percent of costs with an established maximum.

Discussions are under way as to proper disposition of the present Houston Tuberculosis Hospital, and at this writing it has reached the point where it has been determined that $5\frac{1}{2}$ acres of the present property, as well as the Autrey Memorial School in the center of this site will be retained and continue to function as a preventorium under City Management.

M. D. Anderson Hospital For Cancer Research:

The M. D. Anderson Hospital for Cancer Research to be located in the Texas Medical Center is planned for 200 beds, to be available to indigent, part-pay and pay patients in need of care for cancer. The program of the Hospital will be carried out in cooperation with the Medical College of the University of Texas, the Dental School, and other units of the Texas Medical Center.

The Anderson Foundation has given $500,000 to start the building fund of this hospital, and the State of Texas has appropriated $215,000. A substantial part of the balance necessary for the construction of the Hospital is to be provided from a drive being conducted by the University of Texas. $4,000,000 of the $6,250,000 goal has been subscribed, and it is understood and one third is designated for the Cancer Research unit. Recently, the University of Texas received from the Rosalie Hite Will approximately $500,000 which will be used in the erection of a Hite Laboratory Building connected with the M.D. Anderson Hospital.

The M. D. Anderson Hospital for Cancer Research is the 14th hospital to be built in the United States for the exclusive purpose of cancer study. Major emphasis of the entire program is upon basic scientific

medical research in cancer, the second-rank disease in causes of death in the United States.

An institution so highly specialized in character will draw its patients from throughout the State and in fact, the region. For this reason the bed facilities of the Hospital will not influence the calculation of additional beds required for the Houston Hospital Area.

The benefits to be drawn from such an institution will be even more far-reaching than the area from which its patients come,as its opportunities for significant contributions to the cancer problem are unlimited.

Primary emphasis is upon causes and possibilities for cure. Experience with research departments isolated from the care of patients has proved that far better results may be expected through a combining of research with clinical practice. The size of the Hospital assures a sufficient volume of material to provide adequate clinical material for research on treatment as well as upon causes. Clinical research within the institution may be enhanced through interchange of information with general hospitals and other hospitals devoting their energies to this special disease, and this study of results in the various cancer hospitals is simplified through a uniform record system developed by the American College of surgeons.

A program of education for the entire State is another significant part of the Hospital's program. Already the Foundation has made a valuable contribution to the doctors of the State by the publishing of a scientific and clinical review of the significant findings from intensive study of cancer over a period of years.

One of the greatest educational values of the institution lies in its availability for exposure of medical students to the cancer problem, to the extent that they may be conscious of the need for special study of cancer if they are to cope with its problems in their future practice. Likewise the internes and residents assigned to the Cancer Hospital for a part of their service may be oriented to the approach on cancer care in a more intensive way than is possible in the average general hospital, and they too may be impressed with the need for further study in this field.

In addition to the post-graduate study available to pathologists, radiologists and other specialists, short "refresher" periods may be planned for doctors in the area.

Future planning might also include assistance in clinics over the state in the diagnosing of cancer, and the coordination of efforts with other clinics in the follow-up of cancer patients, which is very significant in effective treatment. Assistance may also be given in the care of cancer patients in the general hospitals in the area, as well as in the Center itself.

A - Patient Bed Facilities - By Medical Type

1- Acute General Hospital Care

a -Needs

Until recently an estimate of the mumber of acute general hospital beds needed in a community such as this would have required that we multiply an "accepted" ratio, such as 5 beds per 1,000 population, by the population expressed in 1,000's. The "accepted" ratio would, of course, have been the controversial point and whatever the logic of our "degree of departure" it would still have been from a controversial point.

Fortunately, we now have in hand a formula, currently proposed but well founded in fact, advanced jointly by the American Hospital Association and by the Commission on Hospital Care with which to check our estimations and judgments.

We first proceeded to weigh the various local conditions and establish an estimate of the "degree of departure" from five beds per thousand population. The detail of this procedure is not reproduced herein, but summarized it led to the conclusion that Houston should have hospital facilities in an amount approximating 5.25 acute general beds per thousand population; that 50% of the Area's remaining population could be served by four beds per thousand, and the balance by two beds per thousand. Hence, accounting for a population of 642,167, a ratio of 4.65 beds per thousand seemed indicated.

The above mentioned formula is based upon the fact that the need for general hospital beds can be related to the crude

birth and death rates modified by bed-births and bed-death ratios. Detailed application of this formula is not shown herein, but summarized led to the conclusion that in Harris County, with its crude death rate of 7.9, its crude birth rate of 24.6, deaths in hospitals will increase from a present 48% to 60%, and births in hospitals will increase from a present 89% to 95%. We further agreed that the obstetric length of stay will approximate 9 days or .0246 of a bed year, and that the national average of 250 days of general hospital care for each hospital death, or a bed-death ratio of .70 applies to the Area.

These factors, used in the formula, reflected a ratio of 4.67 beds per thousand as necessary to Harris County and gave credibility to the ratio of 4.65 arrived at through a distinctly different method.

There follows a table that gives consideration to the increasing population as determined earlier in the report, and to the factors of increased overall "use" and increased "use" by non-residents of Harris County.

Non-Harris Residents in 1945 occupied approximately 6% of available facilities (estimated from analysis of Admissions), and we have allotted the same proportion in 1950. In 1960 we have made an arbitrary allowance of 5% of "required beds" and in 1970, looking toward the greater drawing power of the Texas Medical Center made an allowance of 7% of "Required Beds".

We have gradually increased the ratio of beds per 1000 population from the present 4.65 to 5.00 in 1950 to 5.10 in

1960 and to 5.2 in 1970. This is indeed conservative but the factors relating to the increased use of hospitals for births and deaths has already been accounted for in the formula as explained in items 5 and 6 of the bed-birth-death discussion. What we are showing here is the result of gradual educational processes resulting in familiarity and greater "use" of hospital facilities.

	1945	1950	1960	1970
Total Population	642,000	695,505	1,017,461	1,474,456
General Beds Per 1000 Population	4.65	5.0	5.1	5.2
Beds Required Harris Residents	2,985	3,477	5,189	7,667
Bed Allowance Non-Harris Residents	114	172	259	537
TOTAL ACUTE BEDS REQUIRED	3,099	3,649	5,448	8,204

There remains the problem of dividing the total into the requirement of each component medical service represented by the ratios of 4.65 to 5.2 acute general beds per thousand population. Rather than complicate this procedure unduly, we have used 5 beds/1000 for the four periods but retained the actual total beds. The error in so doing is too slight to warrant the more complicated procedure.

Obstetric Bed Requirements

The Commission on Hospital Care states that all available statistics point to use of one bed an obstetric case for every 7 beds available in general hospitals and therefore we use 14.3 per cent of the total acute bed requirement as follows:

	1945	1950	1960	1970
Total Bed Requirement	3099	3649	5448	8204
Obstetric Factor	.143	.143	.143	.143
Obstetric Bed Requirement	443	522	779	1173

Pediatric Bed Requirement

It is frequently suggested that .5 beds per 1000 population, when that population does not exceed 25% (See Population Characteristics 23.4%) in the Age Group under 15, allows for the minimum number of pediatric beds. For our purpose, the .5 beds reflects 10% of all acute beds and therefore is shown as follows:

	1945	1950	1960	1970
Total Bed Requirement	3099	3649	5448	8204
Pediatric Factor	.10	.10	.10	. 10
Pediatric Bed Requirement	310	365	545	820

Specialty Bed Requirement

Using as a guide, work being done in New York City under auspices of the United Hospital Fund, we have shown in the following schedule estimates of the beds required to meet the need of eight of the Medical Specialties, representing in total 1.5 acute general beds per population of 1000.

Specialty	Beds/1000	Specialty	Beds/1000
Orthopedics & Fractures	.40	Urology	.14
Gynecology	.24	Dermatology	.13
Otorhinolaryngology	.22	Neurosurgery	.11
Neurology	.16	Ophthalmology	.10

The 1.5 acute specialty beds per 1000 population represent 30% of all bed requirements and expressed in individual percentages of the total required beds appear in the following:

Specialty	Beds/1000	% of 5 Acute Beds Per 1000	Calculated Specialty Beds Necessary 1945	1950	1960	1970
Orthopedics & Fractures	.40	.080	257	276	427	634
Gynecology	.24	.048	154	165	256	380
Otorhinology	.22	.045	144	155	240	357
Neurology	.16	.032	103	110	171	254
Urology	.14	.028	90	107	149	222
Dermatology	.13	.026	83	97	139	206
Neurosurgery	.11	.022	71	76	117	174
Ophthalmology	.10	.020	64	69	107	158
TOTAL	1.50	.301	966	1055	1606	2385

General Service Requirement

Having assigned estimated bed requirement to Obstetrics, Pediatric, and eight Specialties, the balance of the required acute general beds may assume to be necessary for general medical and surgical cases. We plan to consider the concentration of cancer beds as relating to research while any cancer case falling outside that

category would be included under general services. The following therefore reflects the assignment to General Services and at the same time recapitulates the Acute Bed Requirement. It is suggested that a degree of interchangeability be allowed in the planning of Medical and Surgical Assignments but that a pattern of approximately two Surgical Beds for each Medical Bed be followed.

Service	% Of 5 Beds Per 1000	Acute Beds Per 1000	Estimated Beds Required 1945	1950	1960	1970
1. Obstetrics	.143	.715	443	522	779	1173
2. Pediatrics	.100	.500	310	365	545	820
3. Specialties	.301	1.50	966	1055	1606	2385
A. Orth. & Fract.	.080	.40	257	276	427	634
B. Gynecology	.048	.24	154	165	256	380
C. Otorhin	.045	.22	144	155	240	357
D. Neurology	.032	.16	103	110	171	254
E. Urology	.028	.14	90	107	149	222
F. Dermatology	.026	.13	83	97	139	206
G. Neurosurgery	.022	.11	71	76	117	174
H. Ophthal	.020	.10	64	69	107	156
4. Gen. Med. & Surg.	.456	2.285	1380	1707	2518	3826
TOTAL	100.0%	5.0	3099	3649	5448	8204

b - Present And Proposed Facilities

In general hospitals studied there are a total of 1790 beds but the following number should be deducted to preserve comparability withthe type beds set forth above: 57 contagious beds at Jefferson Davis;

10 contagious beds at St. Joseph's and 19 psychiatric beds at Memorial. This reflects a net acute bed figure of 1705.

In hospitals not studied there are 168 after deduction of 35 psychiatric beds at Montrose Hospital.

In hospitals being planned there are to be acute beds added in the following approximate amounts:

1.	Hermann Hospital (370-28 psychiatric)	342
2.	Methodist Hospital (300-136 in old hospital)	164
3.	St. Luke's Hospital	250
4.	San Jacinto Memorial Hospital	100
5.	St. Elizabeth's Negro Hospital	60
		916

These factors establish a net figure of 2,789 acute general beds available after completion of the building programs now defintely known to exist.

c - Summary

At present then, and after completion of building programs, which are evaluated in the 1950 consideration of "needs" and "shortages", we may conclude the following:

	1945	1950	1960	1970
Acute Bed Requirement	3099	3649	5448	8204
Acute Beds "Available"	1873	2789	2789	2789
Acute Bed "Shortage"	1226	860	2659	5415

2 - Hospital Care Of Tuberculosis

a - Needs

The Committee on Sanatorium Standard of the National

Tuberculosis Association recommend as a minimum requirement that there should be 2.5 beds per annual tuberculosis death. In the section on Vital Statistics under the discussion on Deaths from Principal Causes, we pointed out that more complete trends were accessible on a state-wide basis than for the county and here in calculating tuberculosis bed requirements we refer to State rates showing an almost uninterrupted decline in tuberculosis deaths per 100,000 population since 1931.

	Rate		Rate		Rate
1931	77.0	1936	70.6	1941	56.0
1932	72.4	1937	68.6	1942	53.1
1933	71.6	1938	65.5	1943	47.1
1934	66.4	1939	61.5	1944	44.1
1935	68.6	1940	59.1	1945	43.1

There is every reason to believe that the rate of decrease will continue, and we might expect that in 1950 the rate would be 39.0; in 1960, 30.0; and in 1970 possibly a rate of 20.0 tuberculosis deaths per 100,000 population.

If this condition materializes the bed requirement can be shown as follows:

	1945	1950	1960	1970
Total Population	642,000	695,505	1,017,461	1,474,456
Tuberculosis Deaths Per 100,000 Population	43.1	39.0	30.0	20.0
Total Tuberculosis	277*	271	305	295
Proposed Beds Per Annual Tuberculosis Death	2.5	2.5	2.5	2.5
Beds Required	692	677	762	737

*There were actually 223 deaths in Harris County (See Vital Statistics Deaths from Principle Causes) which reflects a lower death rate than the one used. However, it will serve as a factor of safety against the possibility of not making the progress estimated in reducing deaths.

b - Present And Proposed Facilities

Although in hospitals studied a total of 174 tuberculosis beds are listed as available, the 50 such beds in the Autry Memorial unit of the Houston Tuberculosis Hospital are of a "preventorium" nature and have not been considered in this calculation. Therefore, the area would appear to have 124 tuberculosis beds at present and prospect of a 250 bed hospital to be erected by the city in the Medical Center. However, this results in a net increase of only 126 beds in that the present tuberculosis hospital most certainly will be closed coincidental with the opening of the new hospital.

c - Summary

From the above it may be judged that there is an immediate shortage of 568 tuberculosis beds, reduced to 427 in 1950 through construction of the new City tuberculosis hospital. In 1960 the shortage of beds will amount to 512, and in 1970 the shortage will drop to 487 as the decrease in tuberculosis death rates exceed the rate of increase in population.

Many general hospitals of the Survey Area refuse admission to tuberculosis patients and many insist upon the removal of patients

whenever diagnostic study discloses the presence of this disease, yet advances made in the treatment of tuberculosis, particularly through surgical procedures make it possible for the general hospital to admit many such patients, particularly in certain phases of the illness, without undue concern. This does not imply that tuberculosis sanatoria will not be needed, but only that general hospitals could materially assist in care and in the campaign for the further reduction of tuberculosis. Routine x-ray examinations of all patients upon admission, now being done by only one hospital in the Survey Area, would greatly assist in "case finding" practices. Many of these patients would require only short periods of hospitalization which could readily be provided by the general hospital.

Although there is apparent need for additional beds in the Survey Area for the care of tuberculosis patients, the marked decrease in the incident and death rate from tuberculosis does not seem to justify the construction of additional tuberculosis hospitals inrural areas or away from general hospital facilities. Experience has shown that sanatoria located at considerable distances from cities operate at great inconvenience to patients and visitors. They often encounter difficulty in securing employees and frequently cannot provide the consultant service for non-tuberculosis conditions which are often required.

3 - Hospital Care of Communicable Diseases

a - Need

A standard, frequently applied to the calculation of the contagious beds necessary in a community is .2 beds per 1,000 population, or expressed in terms of needs in the Survey Area 128 beds

in 1945; 139 in 1950; 222 in 1960; and 295 contagious beds required by 1970.

b - Present and Proposed Facilities

In the Survey Area there would seem to be only 57 contagious beds at Jefferson Davis and 10 at St. Joseph's although almost all the hospitals occasionally find themselves coping with a contagious case, but under the most adverse conditions.

This suggests an immediate shortage of 61 beds for this type of care; a shortage of 72 beds by 1950, inasmuch as no presently considered building programs have specifically allotted beds for this purpose; a shortage of 155 by 1960; and a shortage of 228 contagious beds by 1970.

c - Summary

In the past, the care of contagious disease has most frequently been relegated to special institutions. However, with improved control of the contributing illnesses combined with declining morbidity rates we find less demand for, in fact idle facilities in many such institutions.

In the light of improved nursing techniques and present knowledge of methods for the control of cross infections in hospitals, there seems little reason why such diseases cannot be cared for in the general hospital. Certain special facilities would be required, but material benefit would accrue to patients and personnel alike if the techniques practiced in the care of communicable diseases were followed in general hospital service.

The problems arising relate to the traditions built up in the general hospitals, to administrative procedures, and to attitudes of the general public.

Nursing costs may be expected to increase slightly in view of the additional burden of isolation techniques, but the increased cost would be far less than represented by the maintenance of special institutions.

Special facilities and equipment in limited amounts are necessary for proper isolation of communicable disease in a general hospital. Accommodations for such patients should be arranged so as to provide readily for segregation and for prompt conversion to the type of accommodation that can be utilized for general acute illnesses.

Educational programs should be instituted if general hospitals accept the care of communicable disease. We must reassure the general public that proper techniques were being maintained to prevent cross infection, and that it is a logical step in full accord with the advance in medical science and nursing service.

4. - Hospital Care of Nervous and Mental Diseases

a - Needs

No general rule of particular merit is known to exist by which the total Psychiatric bed requirement can be divided between State responsibility and voluntary enterprise. We do know that Texas has 2.7 beds per 1000 population for the care of this disease and is the 35th. lowest among all states, with New York having the highest ratio of 7.1. We also know that nationally, 84% of all psychiatric

patients are in state institutions and from these facts we make the following estimates, based upon:

1. An increasing ratio to raise the present 2.7 beds per 1000 population to more nearly U.S. average or 5.0 beds per thousand in 1970.
2. The conviction that state responsibility should continue to meet is responsibility in proportion to the growth in population and maintain 84% of all psychiatric beds.
3. That the balance of the needs must be met by general "voluntary" and "proprietary" hospitals.

Interpreting these factors into Survey Area needs can best be expressed in the following table:

	1945	1950	1960	1970
Total Population	642,000	695,505	1,017,461	1,474,456
Psychiatric Beds Per 1000 Pop.	2.7	3.0	4.0	5.0
Total Bed Requirement	1,733	2,087	4,070	7,370
State Responsibility	1,456	1,753	3,419	6,191
Beds Required (Voluntary, Proprietary Hos.)	227	334	651	1,179

b - Present And Proposed Facilities

In the hospitals studied there are 108 psychiatric beds available, eighteen in Memorial, 40 in Greenwood's Sanatorium, and 50 in the Keightly Hospital. There are 35 beds in "approved" hospitals

not studied, and in present building programs Hermann Hospital has indicated assignment of 28 beds for the care of this type of patient.

c -Summary

The present number of beds available (143) reflects an immediate shortage of 84 beds and a 1950 shortage, after completion of the presently proposed building program of 163. By 1960 the shortage will amount to 480, and by 1970, with overall "need" increased to five beds per thousand population, a shortage of 1,008 beds for psychiatric care.

We repeat that this is the "need" to be met by voluntary and proprietary hospitals representing only 16% of the total community need. The remaining 84% will, it is hoped, be met by County and State programs.

Several general hospitals of the Survey Area now make no provision for the admission or care of the psychiatric patient. However, there are many forms of mental illness which can be and will be better cared for in the general hospital than in an institution which devotes its service only to the care of nervous and mental diseases. It is true that some special facilities are required and that other functions now performed for non-psychiatric cases must be better developed, but these provisions can readily be made and should not deter the general hospital in developing this service.

The custodial care and long-term care required for many patients with mental diseases is primarily the responsibility

of the State government.

However, if the citizens of the area are to receive adequate service in mental diseases, and if the community is to be saved unnecessary expense, more opportunities must be made available for the practice of preventive medicine in mental diseases. Early diagnosis and treatment in this illness as in all other illnesses are of great importance. Many psychiatric conditions become chronic and disabling because of belated diagnosis and treatment. Complete diagnosis and the prompt administration of therapy would materially reduce the number of patients that it would be necessary to admit to state mental institutions.

Many individuals in need of medical assistance of a psychiatric nature do not receive it because of the stigma attached to being committed to a specialized psychiatric institution. A far greater percentage of the population would receive adequate mental therapy if it were more readily available in general hospitals. There are many "borderline" cases that are of short duration and can be cared for better in the general hospital. Transient mental aberrations of the toxic, post-operative and traumatic patients as well as the psychiatric could be cared for in the general hospital mental facilities.

There is general recognition that much can be done for the patient in the very early stages of mental illness; that there is an interrelationship between mental and organic illness; and that a need exists for psychiatric consultation in many instances in which

symptoms of organic illness appear to be of paramount importance. Similarly, diagnostic facilities are needed for patients with symptoms of mental disturbances.

5 - Hospital Care of Chronic Diseases

a - Needs

The generally accepted figure of two beds per thousand population is probably a reliable index to the number of beds needed for long term care of chronically ill patients. Applying this figure to the estimated population of Harris County we have an immediate "Bed Requirement" of 1,290 increased to 1,400 by 1950, to 2,000 by 1960, and to 3,000 by 1970.

b - Present And Proposed Facilities

There are in Harris County two governmentally operated institutions for the care of patients suffering from long term illness, the convalescent home operated by the Houston-Harris County Board of Public Welfare on the top floor of the old Jefferson Davis Hospital, with a capacity of 45 patients, and the Harris County Home for the Aged, with a capacity of 100, which is located approximately 12 miles out of the City of Houston.

There are four institutional homes in the community operated on a not-for-profit basis and offering some degree of care for disabled people. They include St. Anthony's Home for the Aged with 54 beds, The Maria Boswell Flake Home with 9 beds, the Home for Aged Sons and Daughters of Israel with 15 beds, and the Sheltering Arms with 10 beds.

The tendency of small proprietary nursing homes to spring up over night and vanish almost as rapidly makes it difficult to determine exactly how many such homes there are in the community. The number seems to fall somewhere between 30 and 35, with a total bed capacity of, roughly, 800. A few of the homes, not more than 20 or 30 per cent of the total, offer care which is good from the point of view of pleasant surroundings, cleanliness, and adequate physical attention.

This represents a total of approximately 1,030 beds, but a large number of the 800 mentioned should in the opinion of the observer be improved or replaced. For the purpose of our tabulations we have calculated shortages based upon a present 600 beds. This suggests an immediate shortage of 690; a shortage of 800 by 1950, inasmuch as there would seem to be no consideration of immediate building programs; a shortage of 1,400 by 1960; and a shortage of 2,400 chronic beds by 1970.

c - Summary

It is strongly to be hoped that successful efforts will be made to counteract the persistently upward trend in the amount of chronic illness and invalidism. There are two chief factors which explain this upward trend: (1) the increasing age of the population plus the higher incidence of the chronic diseases in the upper age groups; and (2) the steadily increasing rates of illness and death from heart disease, other circulatory disorders, cancer, and crippling arthritis. Little can be done directly to change the first of these.

The hope for control of the problem must, therefore, lie in efforts to prevent and control the specific disease. How much can - and will-be accomplished in this direction in the immediate future is problematical. It may be that during the next 25 years, much will be accomplished. It is to be hoped that between now and 1970 there will be at least enough progress in control of these diseases to counteract the other factors which tend to increase the amount of chronic illness and invalidism. Assuming that this occurs and the incidence of invalidism remains approximately at its present level, Harris County may still anticipate marked increases in the number of invalids needing care. The rapid increase in population of the county will bring increasing numbers of invalids.

There is urgent need for more and better facilities in Houston and Harris County to help families care for invalids in their own homes. The Houston Visiting Nurses Association is providing excellent service. It is obvious, however, that their services are touching only a very small number of all the patients needing care. The Visiting Nurse Association reports a total of 600 visits during 1945 to 60 chronically ill patients. Although the Association is prepared to serve all economic groups, there is some question as to whether its facilities are being used to any considerable extent by families which are financially independent and able to pay the full costs of the service. The excellent quality of care given would seem to justify a considerably larger service than is now in use. There are, of course,

many reasons why more service was not given in 1945. One of them undoubtedly was limitations on available personnel to staff the Association for a larger program. There is a need in the community for a great expansion of this service, however, and it is to be hoped that the Visiting Nurse Association services to chronically ill patients in their homes will expand markedly in the near future.

6 - Recapitulation Of Bed Requirements And Shortages

We have in the preceeding pages dealt in turn with the Survey Area's "requirement" and "shortage" of Acute, Contagious, Tuberculosis, Psychiatric and Chronic hospital beds, and in the following tables have summarized these factors but made no attempt to reflect bed "shortages" in the specialty fields under Acute Hospital Care.

Accurate statistics on current assignment of beds to these specialties could not be obtained because of the practice of interchanging facilities to meet daily needs of incoming patients. However, we have shown estimated bed "requirements" for each of eight major specialties, not with the thought of suggesting inflexible units of a given size, but to serve as a guide to the "need" as well as expected "use" of specialty facilities.

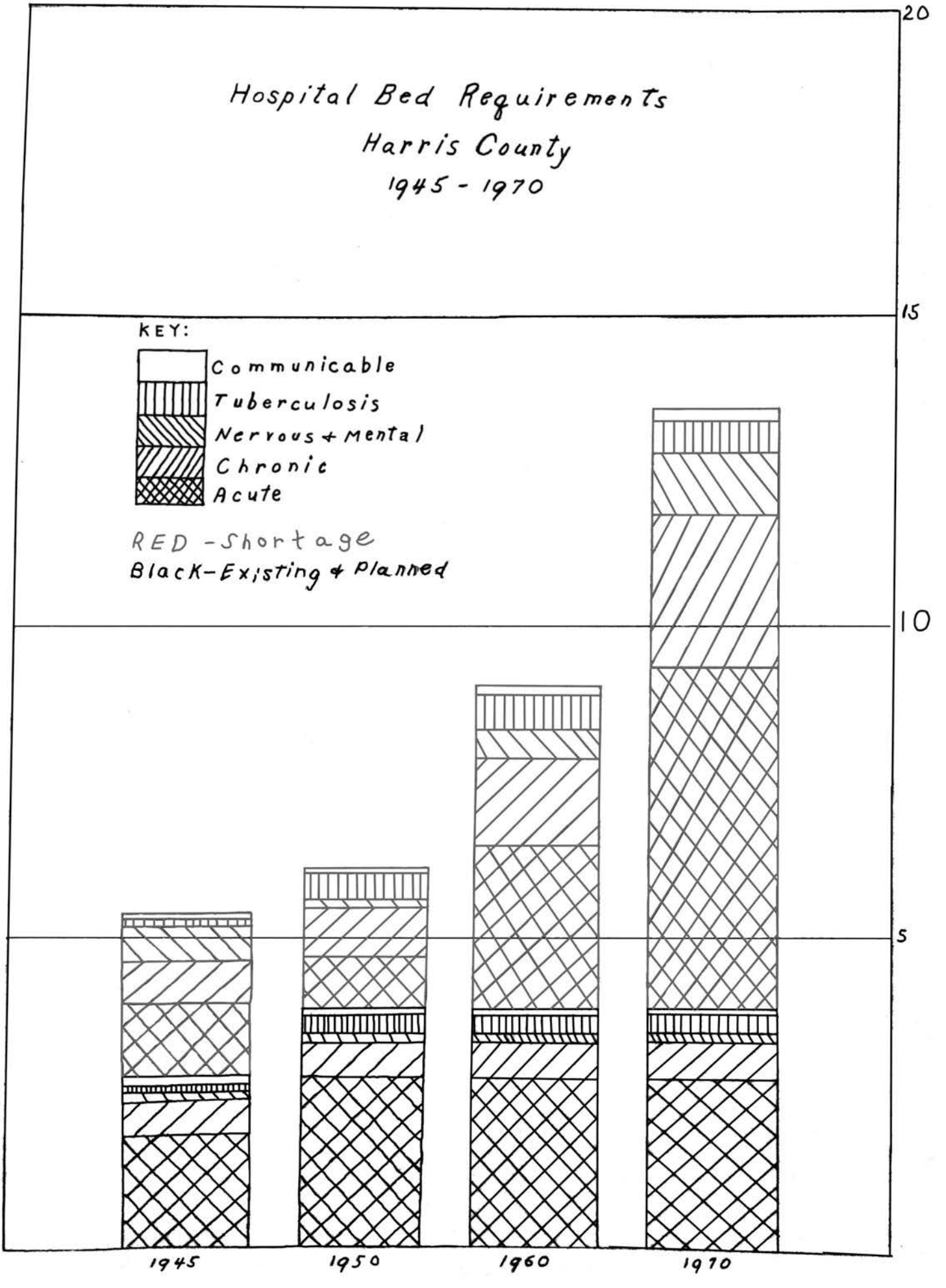
The estimates indicate that certain specialties have a limited "incident" of hospitalization and, therefore, supply only limited teaching and research material. It may prove desirable to protect this supply by concentrating it in one or two hospitals so that what is available may be used to the fullest possible extent in the conduct of undergraduate and graduate teaching.

ESTIMATED BED REQUIREMENT

	Estimated Beds Required			
A. "Acute" Diseases:	1945	1950	1960	1970
1. Obstetrics	443	522	779	1173
2. Pediatrics	310	365	545	820
3. Specialties	966	1055	1306	2385
a. Orthopedics and Fractures	257	276	427	634
b. Gynecology	154	165	256	380
c. Otorhinolaryngology	144	155	240	357
d. Neurology	103	110	171	254
e. Urology	90	107	149	222
f. Dermatology	83	97	139	206
g. Neurosurgery	71	76	117	174
h. Ophthalmology	64	69	107	158
4. Gen. Medicine & Surgery	1380	1707	2518	3826
Total "Acute" Bed Requirement:	3099	3649	5448	8204
B. Tuberculosis:	692	677	762	737
C. Communicable Diseases:	128	139	222	295
D. Nervous and Mental Diseases:	227	334	651	1179
E. Chronic Diseases:	1290	1400	2000	3000
Grand Total Bed Requirement:	5436	6199	9083	13415

ESTIMATED BED SHORTAGE

	1945	1950	1960	1970
"Acute" Diseases	1226	860	2659	5415
Tuberculosis	568	427	512	487
Communicable Diseases	61	72	155	228
Nervous and Mental Diseases	84	163	480	1008
Chronic Diseases	690	800	1400	2400
Grand Total Bed Shortage:	2629	2322	5206	9538


Hospital Bed Requirements
Harris County
1945 - 1970
KEY:
Communicable
Tuberculosis
Nervous + Mental
Chronic
Acute
RED - Shortage
Black - Existing + Planned
20
15
10
5
1945
1950
1960
1970

B - Patient Bed Facilities by Type and Distribution

Plans for an integrated hospital-health program for the community must of necessity give consideration to a distribution of facilities that will best meet the characteristics of the Area, the population growth, and the contemplated growth of the Texas Medical Center; they must consider concentration of patients for medical education and the adequacy of facilities for specialized research; and lastly, they must consider the coordination of physician activity to the end that the entire plan may be implemented.

In the table that follows we show the 1970 bed requirement for the county divided proportionately on the basis of population between metropolitan Houston and the balance of the county. It is realized that certain factors apply that would tend to render "use" of facilities in the latter case less than proportionate. On the other hand, smaller rural hospitals and health centers, lacking the physical ability to adapt to each changing condition, are known to require a "stand-by" protection in beds which is so frequently reflected in their low occupancy rates.

With these considerations in mind we hesitate to inject another complicating ratio even though it might correct the slight error likely to occur from use of the above proportionment.

Instead, we accept the population estimate for the metropolitan area as developed in an earlier section of the report, determine that it represents 87.7% of the county population, and relegate the remaining 12.3% of the population and of the beds to the non-metropolitan area.

TOTAL BED REQUIREMENT

--- 1970 ---

	Total County	Metropolitan Houston Medical Center	Metropolitan Houston Other Locations	Non-Metropolitan Area
Population	1,474,456 (100%)	1,293,383 (87.7%)		181,073 (12.3%)
Bed Requirement				
Acute General	8,204	3,700	3,494	1,010
Contagious	295	100	159	36
Tuberculosis	737	400	247	90
Psychiatric	1,179	300	734	145
Chronic	3,000	500	2,130	370
Total:	13,415	5,000	6,764	1,651

1 - The Non-Metropolitan Area

It is not considered a premise of this survey to attempt actually to locate and describe in detail the type and size of individual facilities as there will undoubtedly be migrations and centralizations of population that cannot now be foreseen.

In general, however, we visualize the probable need for two types of hospitals in the non-metropolitan area; namely, a Community Hospital and a Public Health and Medical Service Center type.

The Community Hospital would be of 50 or possibly more beds serving at least 15,000 to 20,000 persons who otherwise would be required to travel in excess of 20 miles to a good hospital. Such hospitals should not be expected to provide more than 50 to 70% of the hospital service needed within the community service inasmuch as certain patients will invariably go to the larger centers for hospital care.

The Health Center would be expected to give the necessary coverage to the balance of the county population residing in areas in which the density does not justify construction and operation of even a small hospital. It would have the functions of providing services normally furnished by the public health agency and by the hospitals. It is believed that a community as small as 500 if located 20 to 25 miles from a hospital would need a service center such as we describe.

We believe it would logically carry out all of the following activities:

1. Such centers would serve as the focal point about which public and voluntary agencies could coordinate their efforts in carrying on effective educational activities in matters pertaining to the general health of the area.

2. Such centers could serve as the headquarters for the official public health agency with offices for health officer, sanitarian, and public health nurses, carrying out their programs in immunization, early diagnosis of tuberculosis, control and treatment of venereal diseases, maternal and infant care activities, etc.

3. Provisions could be made for the conduct of routine clinical laboratory tests and for x-ray services of the type which every physician should be able to perform. The physician himself or a nurse trained in the techniques of the more commonly used diagnostic tests and examinations could operate these facilities. However, it would be economically impractical to supply the full complement of diagnostic facilities found in large hospitals.

4. Offices and examining rooms might be provided for the physician who could be available at appointed hours or upon call, and this might be provided for the one or more physicians who were resident in the community and who could utilize the center's diagnostic and other facilities.

5. The provision of proper sterilization and delivery room facilities and a few beds for the care of normal obstetrical cases would be highly desirable. Prenatal examinations and attention for the expectant mother, as well as post-natal service to mother and infant could be provided.

6. These centers would provide temporary facilities for treating emergency cases until suitable arrangements could be made for transfer of the patient to a general hospital. A definite affiliation should be developed with a conveniently located general hospital.

7. A regional ambulance service should be established for the transportation of patients from these centers to the affiliated general hospital, and the ambulances should be dispersed and located centrally.

These two types of facilities, judiciously located and properly affiliated could be expected to care for a large proportion of the less complicated medical and surgical needs of the non-metropolitan population of Harris County. They could be expected to "feed" into the large general and special hospitals of the Medical Center and of Houston valuable clinical and teaching material, and yet in that process tend to "screen" out the routine case for prompt and near-home treatment.

We have shown need for a total of 1,651 beds of all types to serve the non-metropolitan area of an estimated 181,000 population, and we believe it desirable to incorporate within general community hospitals and in Public Health and Medical Service Centers, as described, the entire needs except for the 370 chronic beds.

Furthermore, we believe that the larger of the community type hospitals should plan for a sufficient concentration of general medicine, general surgery, pediatrics, and maternity beds so that a training program can be carried out if desired.

We feel that both types of hospitals defined herein should be affiliated with hospitals of the Medical Center or with large hospitals near them, and that this affiliation should provide for administrative and professional assistance. The medical staffs of the large hospitals should provide consulting, diagnostic, and supervisory services, and formulate systems by which the staff of outlying hospitals may benefit from exchange of ideas and experiences through conferences, clinics, and staff meetings.

Conversely, medical interns and residents from the larger hospitals will benefit by an organized field experience in small hospitals where varied types of "organization of service" may be studied.

2 - Metropolitan Houston

A preceding tabulation reflected a 1970 bed requirement of 11,764 for the metropolitan area, and we have indicated that of this number at least 5,000 should be located in the Medical Center. As mentioned elsewhere, we have treated the capacity of the proposed M. D. Anderson Hospital for Cancer Research as separate from overall bed requirements, and in this instance its proposed 200 beds would be in addition to the above 5,000.

We believe this number reflects a concentration of facilities that will permit unhampered training of undergraduates in the desired number and adjoining the medical school. In addition, it should provide a cross section of patients with average abnormalities and unusual medical conditions that would assure a nucleus for graduate training which could then be supplemented by affiliation with Area hospitals.

This would require the Houston metropolitan area, other than the Medical Center, to be equipped with 6,764 hospital beds of all types by 1970. We reiterate that metropolitan Houston, as considered in this survey, includes the incorporated areas of West University Place, Pasadena, Galena Park, Bellaire, Southside Place and South Houston, as well as the non-incorporated areas of Garden Oaks, Lindale, Oakwood, Kashmere Gardens, Clinton Park, Meadowbrook, Garden Villas, Brookhaven, and Shady Acres.

This necessary and substantial increase in facilities will not be accomplished without inroads by privately owned profit-making organizations.

We now find an unusually large number of privately-owned small hospitals operating for profit, seven among those studies, five more in hospitals registered but not studied, and at least seven small institutions offering bed care from an unapproved level. Additionally, we find some 35 homes caring for chronic patients on the same unapproved, profit-making plans.

From our experience in the community we believe that a fair proportion of these organizations have sprung from a genuine need for hospital facilities and that physicians have banded together to assure themselves that facilities would be available when needed, but that actual operation of a hospital has neither appeal nor profit.

It would seem desirable to take all possible action to keep the number of such institutions at a minimum.

We cannot delineate with exactness the size of hospitals which should be constructed to meet this deficit in hospital beds. Certainly there will be no need of the Public Health and Community Service Center type, and the small community hospital of a 50 to 75 bed capacity should receive endorsement only in limited instances. In general, hospitals of 250 to 500 beds, prepared to accept any patients responsive to curative measures and not rightfully the charge of the government would seem the most economical units in operation and the best adapted to teaching programs.

During the years of rapid population growth culminating in the 1970 estimate of "Bed Requirements", the City and County will be faced with expansion of their currently adequate general hospital facilities. This may be accomplished through building programs or through contracts with non-profit hospital organizations, and we believe the latter method preferable if capital funds can be made available.

It would be expected that affiliations leading to close integration of service and teaching between hospitals, medical and dental schools and research units of the Texas Medical Center and the hospitals and public health units of the metropolitan area be devised and carried forward through each phase of expansion.

C - Special Patient Services

1 - Negro Hospital Facilities

At present there are 238 general hospital beds in Harris County available for the care of approximately 112,350 colored persons, or a ratio of beds per thousand population of 2.11. The number of available beds is 13.3% of total beds, while the colored population is approximately 17.5% of total population.

From discussions on Vital Statistics and Population Characteristics of the report, we choose the following comparisons to reflect the weight of this problem on the community:

1. The colored death rate is 11.8 per 1,000, or 4.8 per 1,000 higher than the white death rate.

2. The colored stillbirths rate is 51.9 per thousand as compared to 16.7 per thousand for whites.

3. Maternal deaths among colored amounted to 2.8 per thousand while among white 1.8 per thousand.

4. Deaths of infants under 1 year of age amounted to 73.9 per 1,000 live births as against 27.9 per thousand among white infants.

This is an alarming picture, despite the progress which has been made and is reflected in the various exhibits used in this report. However, we are not recommending that special formulas of "beds needed" be evolved for the colored population, but we strongly recommend that they share in the overall development and expansion in proportion to their numerical strength in the community.

In future planning it must be considered that the white population has grown proportionately far more rapidly than the negro population, and that while in 1870 the colored represented 39.3% of the total Harris County population, in 1940 it represented only 26.8%. It has continued decreasing through 1940 and through the war years so that by 1945 the colored population is estimated as representing 17.5% of the total population.

We feel that population growth in the colored group will continue to lose proportionately, but not in such substantial amounts as in the past,

and in the following table we show this moderate percentage decline through 1970:

	1945	1950	1960	1970
Total Population	642,000	695,505	1,017,461	1,474,456
Per cent Negro	17.5	17.0	16.0	15.0
Negro Population	112,350	118,236	162,794	221,168

We are not setting down a table of each actual "need", but simple application of above percentages to tables appearing elsewhere will supply the detail.

We are not proposing that this need be thought of as "negro hospital" facilities, but that wherever expedient, facilities on an interracial basis be considered. Other things being equal, this philosophy should tend to raise as well as assure the standard of care given the colored.

We recommend that in addition to due consideration of facilities as to medical type and quantity that a fair proportion be of a private and semi-private type rooms that would enable, in fact encourage, the negro who is able to pay for his choice of accommodation, to do so.

Plans are now being conceived for the expansion of the Houston Negro Hospital, with the possibility of a City Health Unit operated in conjunction with it, and the whole, coupled with expanded medical and dental educational programs under joint auspices of the University of Texas and the Medical School of Baylor University.

Members of the Medical School faculty through their consultation work are in effect offering valuable post-graduate teaching to the negro staff members. The picture is encouraging, and in large part success rests with the negroes' continued interest, enthusiasm and support.

2 - Dental Care

This area, like most areas in the United States, has been slow to recognize the full contribution which a well organized hospital Dental Service can make in the care of the sick. Moreover, it is relatively an expensive service; therefore, it is not surprising to find that none of the general hospitals in this area have an organized dental service for its constituent patients. In recent years as the general hospital has become accepted as the Health Center of the community and as these units have become more universally used for diagnostic purposes, it is apparent that a real physical examination cannot be complete without a careful study of all conditions. Most large metropolitan general hospitals now have an organized service. There is a growing recognition of the far reaching effects of dental conditions as they relate to infections, functions and appearance, so that it is rapidly becoming obligatory for a modern, first-class hospital to have an effective dental department, not only to treat the sick, but to assist in the prevention of disease.

a - General Hospital

The kind of service in general hospitals naturally differs between hospitals. In general, it is limited to the diagnosis and treatment of dental diseases and injuries of the mouth and adjacent parts which include acute and chronic infection, removal of teeth and tumors, fractures of jaws and facial bones, and consultation with other divisions of the Medical Staff. No strictly dental work such as fillings or restorations is ordinarily done. Naturally, relief ofpain is afforded, but service is also rendered to the sick whose oral condition is such as to be a contributing factor in systemic disease, or whose masticatory function or whose appearance is

such as to hinder him from becoming a healthful and economically independent member of Society. As additional effects, it brings the medical and dental professions closer together for the benefit of the patients. It lowers the cost of dental care to the community and its logical channel whereby low cost dental service of a high standard can be made available to the public. It shortens the period of hospitalization and convalescence. Of prime importance is the Prenatal and Postnatal service, both in examination and care of expectant mothers' dentition and in prevention by education as to the care and importance of preserving the child's primary dentition. It affords an opportunity for the training of medical, dental and nursing students as well as medical and dental research which could not be secured otherwise (see dental education). Therefore, it is recommended that a dental service, not including fillings or restorative work, be established in cooperation with the University of Texas Dental School, in all the hospital and out-patient units of the area. Dental examinations should be made of all patients admitted to the hospitals except when the physician in charge pronounces the procedure unnecessary or impractical. These examinations should be directed toward the discovery and diagnosis of dental and oral infections which may be related to systemic disease.

Professional Staff

The additions of dentists to the Medical Staffs of hospitals creates organizational problems; therefore, it is suggested that such organizational plans meet the basic standards of the American Dental Association and assistance be secured in such planning from the Dental School. The Dental Staff

should be a distinct section of the Medical Staff; either functioning as a separate division or as a section of the Surgical Division admitting some patients directly to the Dental Service, treating some patients jointly with other members of the Medical Staff and acting as consultants for oral conditions. It is recommended that the Dental Staff be organized as a distinct section of the Medical Staff (either as a separate division or as a section of the surgical division) in accordance with the basic standards of the American Dental Association. The Dental Service should be organized and controlled so that only members of the staff who are of proven competency would be permitted to perform surgical procedures.

b - Small Hospitals and Health Centers

The small hospitals and the health centers located in the outlying sections of the area would not be able to afford a complete dental service as described above; however, the organization of part-time dentists assisted by dental students from the Dental School would be able to furnish to the small community a periodic and low cost service which can be secured now only by traveling many miles. Such experience would be of especial value to the student in learning the associated environment and the significance of prevention as well as restoration. It is recommended that arrangements be made with the Dental School and the metropolitan hospitals whereby a part-time dental service may be maintained in a small hospital and public health center.

c - City Clinics

Dental service in the five city clinics should be furnished for the indigent in cooperation with the Dental School. Such service should be complete in all phases of dentistry both for children and adults.

d - Special Hospitals

Because the majority of the patients in the special hospitals will be long stay cases, the dental service should be more complete including fillings and restorative work. Such service would require also at least one full-time dentist and assistance should be secured by the rotation of dental internes from the general hospitals. It is recommended that a complete dental service including fillings and restorative work in charge of a full time dentist be established in each of the long-stay special hospitals.

3 - Veterans' Care

The Veteran's Administration has recently announced approval of the construction of a 1,000 bed hospital to be built in Houston near the site of the present Naval Hospital. It is expected that work will be started by June 1, 1947, and although originally planned as a Neuro-Psychiatric Hospital, it has been decided that about 400 of the total beds will be set aside for general medical and surgical services.

For the purpose of our survey of general hospital bed requirements, consideration has been given to the extent to which veteran residents of Harris County will seek hospital care at government expense in this hospital. While under existing law, eligibility for care in this hospital for non-service disability is presumed to be based upon the veteran's ability to pay, this criteria is so liberally interpreted by the Veteran's Administration that very few if any applicants are likely to be denied admission for that reason.

On a national basis, it is estimated that veterans represent approximately 15% of the population, but a number of well-known counter-acting influences will probably tend to lessen the demand for use of such facilities

by veteran residents. At best we believe that the erection of this hospital will not afford any major relief of acute hospital bed shortage in the County.

4 - Convalescent Care and Rehabilitation

There has been general acknowledgment of the need for broader consideration of the problems, medical and social, that accompany a patient's period of convalescence from an acute illness.

Frequently "convalescent care" has been confused with "chronic care" and this in turn has suggested long-stay patients of nominal clinical value and even less income value to the general hospitals. Possibly this has deterred the field from developing an interest and enthusiasm which would have fostered the necessary study and analysis.

It has been the progress and accomplishments of the medical staffs of the military services using techniques in early ambulation coupled with organized rehabilitation programs that has focused attention on the need for this type facility.

The advocates of early patient ambulation and rehabilitation are now returning to staff positions in the hospitals of the community and there is every reason to believe their training will find its expression in changed hospital routines and demands for facilities that will meed their requirements.

Considerably more emphasis should be placed on these needs and possibilities by this community and its hospitals. There are some evidences that interest in the subject is growing. The recent developments under which the Anti-Tuberculosis League has employed a staff member to do "rehabilitation service among tuberculous patients" is a step in the right direction.

Some activities are being carried on through the Harris County Association for the Blind. Work is provided in the Light House maintained by the Association and this is undoubtedly of value. It is probably true here also, however, that the possibilities of a really constructive rehabilitation program have not been fully grasped, or at least have not been fully translated into the practice of the agency.

The special classes for handicapped children in the public schools perform a valuable service in teaching these children to live intelligently with their handicaps. The services of the State Board of Rehabilitation also have value, as do those of the State Commission for the Blind, Houston Training School for the Blind, the Goodwill Industries, and the privately operated school for spastic children.

However, the Baruch Committee on Physical Medicine, studying the rehabilitation need indicated that here as elsewhere the efforts must be doubled and trebled to stay abreast of the need. The Committee attempts the transition from war-associated rehabilitation to peace-time need and points out that while there were 17,000 amputations in the Army during the war there were 120,000 major amputations from disease and accidents in our civilian population in the same period; that while there were 11,000 soldiers wounded during the first 10 days after "D-Day" there were twice that number of civilian automobile casualties in the same ten days; that when demobilization is completed and the disabled veterans are returned to their communities we must think in terms of approximately eight million males of working age

who are disabled to the point of requiring physical or vocational rehabilitation. This represents one person in 16 in our general population, and one in seven in our male working population. Applied to the Survey Area, there would be at least 43,000 persons needing this service in 1950; 63,000 persons by 1960 and 92,000 persons by 1970.

Surely the need is here and what has been done by the military can be done by the combined efforts of hospitals and community agencies. The Office of Vocational Rehabilitation demonstrated the benefits when, with 44,000 persons whose average annual wage was only $148.00, they were able through rehabilitation to increase this amount to $1768.00 per year. The cost of this program averaged $300 per case and was non-recurring while the annual cost to the taxpayer in general public assistance had been between $300 and $500 per case.

The Baruch Committee is continuing its work by drafting ideas rather than standards of physical requirements, personnel organizations, and equipment schedules for rehabilitation centers and urging that these be integrated with existing facilities and altered to fit local conditions.

We are suggesting that consideration be given to such a community Rehabilitation Service and Center and that the Texas Medical Center should prove an ideal location, possibly integrated with the central out-patient clinic, or with the proposed chronic hospital. It is estimated that the building would cost $275,000 and the equipment about $15,000.

With a load of 1500 patients per year and an average treatment period of two months, the unit cost for physical therapy, occupational therapy, vocational testing, guidance and retraining, and psycho-social evaluation and treatment would approximate $125 per patient. However, it is believed that such a unit could be made self-supporting after the initial capital investment had been made. There would be referrals of full or part fee patients by industry of compensation cases, referrals by insurance companies of liability cases and additional fee patients from the state vocational rehabilitation service and the Veterans' Administration.

Couple this with good administration and the backing of the medical profession and the project should successfully fill a real community need.

The potential value of such a service is especially great in Houston because of its extensive industrial development.

We recommend:

That a community Rehabilitation Center and Service, in accordance with standards of the Baruch Committee on Physical Medicine be integrated with the Texas Medical Center in connection with the Chronic Hospital Unit and the Central Out-Patient Unit.

5 - Chronic Care

Special study on chronic care appears in Section IV.

6 - Children's Hospital Facilities

In the conduct of the Survey we met with frequent

reference to the need of a children's hospital or center for Harris County. The first planned program was introduced by the Shrine organization in their drive for financial support of the Arabia Temple Crippled Children's Hospital. This was in the amount of $500,000, and the drive met with unqualified success. However, it was never the intention of the Shriners to build and operate a unit solely for the care of crippled children and so consideration was given to plans for correlating their efforts and resources with those of an operating hospital first to acquire experienced management, and second, to avoid the expensive duplication of numerous supporting facilities.

For the present these plans are being held in abeyance, thereby affording us an opportunity of drawing from the experiences gained during the Survey. In the State of Texas in 1940, there were 12,497 deaths of children under 15 years of age, and regardless of population, births, trends, or ratios, deaths in this amount warrant our most constructive consideration.

First, we estimate a 1950 pediatric bed requirement of 365 growing to 820 by 1970, and in an earlier exhibit of estimated beds assigned by medical service we show 195 pediatric beds scattered in 9 of the 11 general hospitals studied. Giving full value to every bed assigned, there would seem to be an immediate shortage of 170 beds, and a 1970 shortage of 650 beds for the care of all types of children's diseases. This would be rendered somewhat lower by virture of inclusion in present building plans of an

undetermined but limited number of pediatric beds.

Strong arguments can be advanced on both sides of the problem as to whether or not pediatrics, including psychiatric, contagious and orthopedic care of children should be integrated with general adult services. There are working examples indicating that it can be done successfully either way, but there would seem to be a corollary between size, either outright or proportionate, of the undertaking and its success. For instance, although there are 195 beds in the area now available, they are scattered in such a manner that in each of the five of the nine contributing hospitals there are less than 15 pediatric beds.

In view of the tremendously high death rate for children in Texas, we believe unusual emphasis should be placed upon the development of medical and hospital service for patients under the age of 15 years. Elsewhere in this abstract we recommend the establishment in the Texas Medical Center of a Children's Center, including at the start at least 200 beds, combining the services of child guidance, general pediatrics, orthopedic, contagious and psychiatric care of well, sick and handicapped children. Herein should be conducted undergraduate and postgraduate teaching programs and research in metabolism, in the growth and development of children, in child behavior and in preventative medicine.

Such a development need in no way to interfere with the normal development of pediatric units in the other general hospitals in the Area, both in the Medical Center and elsewhere. Moreover, for the good of the community as a whole, the efforts of the various

community agencies, which have so splendidly recognized this acute problem, should be coordinated toward this mutual objective which will do more to help solve the child problem than anything else.

It is believed that financial support of such a hospital, which in function would parallel a children's center, might be forthcoming from groups that have already shown interest. If such groups could be led to finance pediatric-medical units and certain research developments, while the Shriners would sponsor an orthopedic unit combining therein all necessary surgical units, a nucleus would be assured.

If, in addition, the bulk of the work carried by the Bureau of Mental Hygiene, as well as its financial support by the Community Chest, could be transferred to the Children's Hospital, a start toward a Neuro-Psychiatric unit would be achieved and the evident inadequacies of the Bureau alleviated.

The initial size and scope of this centralization are in large part contingent upon the financial support available, but it is hoped that a minimum of 200 beds would be planned for and constructed in a manner making possible increase to 400 beds as the need presents itself. This would meet the 1950 shortage of beds in this field and give promise of a more coordinated service to patients and teaching programs. Furthermore, a location in the Medical Center, if available, would have any number of apparent advantages.

community agencies, which have so splendidly recognized this acute problem, should be coordinated toward this mutual objective which will do more to help solve the child problem than anything else.

It is believed that financial support of such a hospital, which in function would parallel a children's center, might be forthcoming from groups that have already shown interest. If such groups could be led to finance pediatric-medical units and certain research developments, while the Shriners would sponsor an orthopedic unit combining therein all necessary surgical units, a nucleus would be assured.

If, in addition, the bulk of the work carried by the Bureau of Mental Hygiene, as well as its financial support by the Community Chest, could be transferred to the Children's Hospital, a start toward a Neuro-Psychiatric unit would be achieved and the evident inadequacies of the Bureau alleviated.

The initial size and scope of this centralization are in large part contingent upon the financial support available, but it is hoped that a minimum of 200 beds would be planned for and constructed in a manner making possible increase to 400 beds as the need presents itself. This would meet the 1950 shortage of beds in this field and give promise of a more coordinated service to patients and teaching programs. Furthermore, a location in the Medical Center, if available, would have any number of apparent advantages.

7 - Health Education

Most of the active health education for adults in the community seems to be done by the Houston Anti-Tuberculosis League. Its regular and special radio broadcasts on health have given an excellent community service. The health education activities of the City Health Department also have had value but have been less extensive than should be true in a community of this size.

With the exception of those in the field of tuberculosis the community has had very few health education activities directed toward early diagnosis and competent treatment of particular chronic diseases. With the establishment of the Texas Division of The American Cancer Society, much more work of this kind in the field of cancer is in prospect.

It is proposed that the suggested Health Department establish a full time division of health education which can be a highly effective weapon to save community health expense. The efforts of the other existing agencies in this regard should be augmented and coordinated with the above unit and the proposed School of Public Health can become the spearhead in the development of this vitally needed community effort.

D - Professional Education

1 -Medical Education

Undergraduates

The responsibility for undergraduate training of medical students in the Area rests formally with the Medical

various fields of medicine as follows:

General Medicine	250
General Surgery	250
Obstetrics	100
Pediatrics	100
Specialties	225
Neuro-Psychiatry	75
	1,000

We believe that the undergraduate training program could be carried most satisfactorily were it confined to the physical limits of the Texas Medical Center thereby limiting problems of travel and guaranteeing at the same time a maximum uniformity in teaching techniques and standards. Drawing from tabulations of the estimated number of beds by medical service within the Medical Center, we reflect the degree of 1970 sufficiency as follows:

		-----Medical Center-----	
	Teaching Requirement (Beds)	Total Number Beds	Teaching Requirement (%)
General Medicine	250	600	41.6
General Surgery	250	1,200	20.8
Obstetrics	100	400	25.0
Pediatrics	100	500	20.0
Specialties	225	1,000	22.5
Neuro-Psychiatry	75	300	25.0
Contagious	0	100	0
Tuberculosis	0	400	0
Chronic	0	500	0
Total	1,000	5,000	20.0

From this we can see that the original estimated allocation of beds to the Medical Center would carry the undergraduate program if the hospitals would assign a maximum

average of 25% of all patients to meet the needs of the training program. Exception to this is in general medicine, but here the 41.6% would be materially reduced if the medical patients in the 1,000 beds representing contagion, tuberculosis, and chronic were in part used for teaching.

In general, we feel the undergraduate program can be assured of the necessary clinical material without depending upon hospitals outside the center, and we point out that the percentages shown are not necessarily synonomous with equal percentages of "free" or even "ward" patients. It is entirely possible and in keeping with current trends to develop teaching programs in the private and semi-private units of the hospital. The success of such an effort will be in direct proportion to the hospital's success in public relations and education coupled with careful indoctrination of the student and full-time medical staff.

The Medical School of Baylor University has indicated that the training of these one hundred students of third and fourth year levels requires out-patient experience, and believes that this would be adequately furnished in a clinic providing for the care of 200 patients per day. The operation as well as organization of the central out-patient department is dealt with indetail in the following section of the report. Suffice to indicate at this point that our recommendations suggest facilities in an amount that will permit of a much greater volume.

Post Graduate

If the physicians of this Area are to complete their

education for eligibility to the Medical Specialty Boards and are to keep up with modern medical practice, it will be necessary to establish continuation courses of a review or refresher nature. These educational endeavors could primarily be undertaken by the University of Texas Post-Graduate Medical School Unit on the site of the Texas Medical Center.

The facilities will be available in the Center for systematic instruction as provided by the medical, other educational institutions, and medical laboratories. Some courses of post-graduate study could be offered by lectures, demonstrations, clinics, ward-rounds, symposiums and conferences in the associated hospitals located at the Center. The length of these courses would vary from a short review course of five or more days to intensive courses extending over one year and, in some instances, two years. The subject matter offered would undoubtedly include basic sciences and selected clinical fields contained within the provinces of the 15 Medical Specialty Boards and their many more numerous sub-specialties. The specific selections would depend greatly upon the needs and the interests of the personnel within the Area as well as the special skills and interests of the available instructors.

Undoubtedly the Medical Center and its associated units would offer also excellent opportunities for the conduct of periodic clinical conferences, symposiums, or graduate assemblies in various specialties covered by available clinical material, opportunity for practical work and for scientific exhibits.

Medical research, especially in those diseases particularly

prevalent within the Area, would be necessary for and stimulated by the conduct of this special post-graduate study.

Internes

With the exception of an isolated few instances in which the medical internship is in fact the fifth year of the medical school curriculum, this most important phase of educational development of the potential physician becomes the responsibility of hospital attending staffs and administrators.

At present there are but three hospitals in the Area approved by the Council on Medical Education and Hospitals of The American Medical Association for interne training; namely, Hermann Hospital, Jefferson Davis, and Methodist. This limited number argues strongly for an honest evaluation of procedure and practice in the unapproved hospitals to determine their insufficiencies and to develop programs to correct, expand, and improve their function.

Primarily such approvals, including that of "minimum standards" by the American College of Surgeons, deal with staff organization, including the frequency and content of staff conferences, and the ethical standards of staff members. It measures the adequacy and completeness of medical records, and the adequacy and usage of diagnostic facilities. Interne and resident training additionally requires measure of the quantity of service rendered and the proportion available for teaching purposes. The percentage

of autopsies performed is reviewed as are other "yardsticks" of clinical interest.

It can readily be seen that these factors are basic to a good hospital, not refinements which would be "nice to acquire". Again, we suggest internal appraisal by administrators and medical staffs which might start with study of individual patients and medical records, proceeding through review of causes of death, institutional infections, wrong diagnoses, and errors in dosages, treatments, et cetera. The appraisal should include study and recording of the qualifications of attending physicians and surgeons and, finally, the establishment of effective means for maintaining high quality medical care.

Unfortunately, these various approvals do not guarantee good internships. It is quite possible for a hospital to bring about conditions meeting approval and yet fail completely to perceive its responsibility in the field of medical education.

It is important that hospitals assume responsibility, not principally, for housing and feeding internes, but for conceiving and organizing the internship to stimulate, to strengthen through disciplined thinking, and to afford unrestricted opportunities for observation and conferences without the excessive burden of repetitive procedures. Afford the opportunity of contact with good clinicians who enjoy teaching, and these factors will add up to assurance of good educational experience.

Residents And Fellows

Much the same criteria of hospital ratings apply for those wishing to assume responsibility for graduate training of residents and fellows. Actually the hospital assumes less responsibility for guidance and formative procedure, and more responsibility for making available good facilities and opportunities; first, to pursue scientific study, and second, to perfect clinical skill.

Five hospitals of the Area are approved by the Council of Medical Education and Hospitals of the American Medical Association, and although these represent only 33-1/3% of hospitals studied, actual conditions and attitudes lead us to conclude that with the possible exceptions of Memorial and Houston Negro Hospitals none of the other would prove fertile fields for the resident or fellow.

At present there are 42 residents and two fellows training under approved conditions in the Area, and it is apparent that the hospitals could do a great deal toward extension of programs. This is increasingly important in view of trends toward specialist training and examination which would appear destined to include large proportions of the younger physicians.

2 - Dental Education

The organization of the undergraduate and the graduate training of dental students in the Area will be conducted formally by the Dental Branch of the University of Texas and informally by the practicing physicians, dentists, and hospitals in Harris County.

It has been determined to provide facilities in the Texas Medical Center for a Dental School of 240-300 dental students, a post-graduate and graduate school of Dentistry and Stomatology of 100-150 physicians and dentists; a College of Dental Nursing of 100-150 students, and an Institute of Orthodontics for Research in jaw and facial deformities. It is not our province in this study to duplicate the effort of these decisions, but rather, to suggest ways of integration with the hospital facilities of the area. Reference should be made to Section II, C 1, Dental Care, for the purposes, functions, and organizations of the dental service in the community.

Professional Staff Of Dental Services

Aid should be given by the Dental Branch of the University of Texas to the hospitals and the out-patient units of metropolitan Houston in the organization and appointment of dentists to the respective professional staffs for dental service. In all units to be used for teaching, the Dental School should grant clinical faculty appointments to the men conducting such service. This procedure should result in the maintenance of an excellent standard of service to the patients, and a uniformity to the quality of clinical teaching

a - Undergraduate Teaching

All hospitals and out-patient units that establish divisions of dental service which meet the minimum basic standards of the American Dental Association should arrange for clinical

teaching of any undergraduate students in accordance with the standards of, and under the supervision of, the Faculty of the Dental Branch. The size of student bodies contemplated above should require the clinical work of the patients available in all of the Dental Services which could be established within the Area. It is important that some of this undergraduate teaching occur in the specialized hospitals of the Medical Center so as to afford the dental student with opportunities for viewing conditions not usually common in the Dental School Clinics. Therein, a broadened knowledge of oral and systemic relations in Health and Disease may be attained and emphasis may be appreciated of the significance of dentistry in the field of public health. Particularly is this important in the psychiatric, communicable disease, cancer research and chronic hospitals where an understanding may be gained of the relation of mouth diseases and irregularities of teeth to mental disturbances, invalidism, and deficiency diseases as well as early recognition of communicable maladies.

b - Interneships and Residencies

Dental interneships should be established in all metropolitan hospitals of the area where the minimum requirements in hospital census and an oral surgical service are maintained. Arrangements should be made whereby these internes are rotated for appropriate periods of time from general hospitals through the dental services of the out-patient unit and the special hospitals

of the Texas Medical Center as well as the dental services of the City Dental Clinics, and as well as the Health Centers and small community hospitals established throughout the County. Dental residencies (second year interneships) should be established in all metropolitan hospitals where the minimum requirements in hospital census and an oral surgical service is maintained. Arrangements should be made whereby some period of the service must occur in the hospital of long stay patients.

c - Research

No profession fulfills its obligation to Society unless it advances the knowledge of its science as the result of research. All teaching programs are greatly enhanced by association with progressive research programs. No field offers more opportunity for research than does dentistry. Therefore, it would seem wise to develop a research program in connection with the Dental School focused particularly in the Medical Center. However, it should not be confined to jaw and facial deformities solely. We suggest that research efforts be developed as well in facial infections in relation to medicine and surgery, acute infection of dental origin, fractures of maxilla and mandible, and oral manifestations of all disease.

d -The Postgraduate School of Dentistry And Stomatology

It is recognized that one of the chief obligations of a Medical Center is the education of those individuals who are

practicing one of the health service professions. The Postgraduate School of Dentistry and Stomatology should provide these services to physicians and dentists in the area. The important aspects of postgraduate education are those which will provide continuous education and intensive short course education for the practicing dentists. These courses should be planned so that they will not interfere to too great an extent with the practice of the individual dentist, so that it will be possible for the majority of them to avail themselves of this type of teaching without discontinuing their practice. For those who are prepared for graduate education in the specialties, the school should provide facilities through the graduate School of the University of Texas whereby graduate degrees may be granted in the specialties such as orthodontics, oral surgery, pedodontics, prosthetics, periodontics, and so forth. It is expected that there will be more and more diplomate boards established in the specialty areas and that they will require that one has a graduate degree in the specialty. The Graduate School in connection with the Institute of Orthodontics should establish fellowships for research which will do much to enhance the value of the Postgraduate School. The facilities of the Postgraduate School should be available to all graduate students whether in medicine or dentistry for recognition courses at least for those who may be taking special graduate studies in the Medical School in pediatrics,

orthopedics and kindred courses. Also, the Graduate students that are attending the graduate school in dentistry and stomatology should have the opportunity to avail themselves of all the facilities in the Center.

e - The College of Dental Nursing

If the needed service in this area is to be adequately met it cannot be done by dentists solely. The volume of service required is too great to be mastered; therefore, it will be necessary to delegate to personnel of less skill and knowledge the performance of many of the functions now imposed upon the professional dentists. We presume to call this person a dental nurse. She would be trained to perform the functions of the dental hygienist and some routine now performed by the dentist.

In general, her functions would be to relieve the dentist of the routine duties by the making of dental casts, the setting up of teeth for artificial dentures, the curing and finishing of acrylic dentures, the waxing and casting of partial dentures, the giving of prophylactic treatments, the closing of a cavity after it has been completed by the dentist, performing the technical functions of dental x-ray, the casting of the dental patterns and polishing of inlays. Such a specialist would be in considerable demand not only in the offices of practicing dentists, but also in School Dental Service, Public Health Departments and out-patient clinics.

A present graduate professional nurses' training is not sufficient; therefore, it is proposed that the School of Dental Nursing be established in the University of Texas with ultimately

a four year course culminating in a Bachelor of Science Degree in dental nursing, requiring a high school diploma for entrance. The student would undertake two years of cultural and basic subjects in Austin to be followed by two years in the Dental School in Houston. The small amount of instruction required in the general nursing field could be secured during the last two years from the proposed College of Nursing to be located in the Medical Center. Clinical instruction can be conducted in the Dental School, in the hospitals and out-patient service of the Medical Center, in the public Health Centers of the City, and in the Public Health Centers of the Area. It would be advisable to secure concurrently the passage of a state licensing law for the examination and registration of dental nurses to insure a sufficient minimum standard and regulation to protect the public users of this service. Moreover, it would seem advisable to start with a small student body, gradually enlarging it to 100-150 students in accordance with the evidenced demand for its graduates.

3 - School Of Public Health

The special study on School of Public Health appears in Section IV.

4 - School of Nursing

The special study on the School of Nursing appears in Section IV.

5 - School Of Hospital Administration

Hospitals as a group constitute today one of the major

enterprises of America. The increased utilization of hospital service, the multiplication of facilities and personnel for providing that service, and the growing complexity of the service itself make administration of hospitals one of the most exacting responsibilities in the modern world.

The demand for competent and experienced hospital administrators far exceeds the available supply. There is no likelihood that the supply will be adequate for many years, especially in view of the increasing demand occasioned by the Federal program of financial assistance in hospital construction. No section of the country will experience a greater growth than the South and Southwest sections.

Many of the larger institutions have relied on administrators who have learned on an apprentice basis, but the number so trained is grossly below the number of positions available. The result has been that many administrators have come to their duties with inadequate background, which means inefficiency with resultant waste of public money during the "training-on-the-job" period through which the untrained administrator must inevitably pass.

An active need exists for additional courses in hospital administration at the university level. Experience in other administrative fields, notably business, has shown the value of formal academic training at the graduate level preparatory to an administrative career. While many persons have advanced and will continue

to advance to positions of major responsibility without formal training, many administrative fields recognize the value of formal training and advance such graduates to positions of responsibility faster than they advance those without such training.

Similarly, universities have recognized that administrative training may be given at the graduate level and that such advanced preparation merits recognition by the awarding of a suitable Master's Degree. Five universities now offer such special curricula in hospital administration: University of Chicago, Columbia University, University of Minnesota, Northwestern University and Washington University. Two other courses are to begin next fall: one at Yale University and one at Toronto, Canada.

The particular department of the university to which the course in hospital administration is assigned varies with universities. The current emphasis is to establish the course in a school of public health. There are very significant advantages to having the course located within a university which has schools of business, medicine, public health and nursing, as well as readily accessible hospital facilities. Cooperation from the heads of the various schools and colleges with the director of the hospital administration course is very essential to the development of a curriculum which will accomplish the full purpose of the course and thus offer the best preparation possible to the student of hospital administration.

The seminar method of teaching has been found most

effective for this graduate work. Because of the varieties of background of this type of students, large classes are ineffective. Best results are obtained from classes of about twenty maximum enrollment.

At the present time the number of well qualified applicants is many times the number that can be accepted in existing courses. With ideal locations for schools of hospital administration as limited as is the number of universities operating all the various schools mentioned, it is not likely that the courses now available and likely to be established will be able to meet the demands for this type training within the near future.

There are no graduate degree courses now available in the South or Southwest, and there are very few graduates of hospital administration courses located in hospitals in this section of the country. Some advantage from this point of view would result from a course in the Southwest, as it seems reasonable that a larger per cent of students trained in the section would choose to remain in the area. This has been the experience in other sections of the country.

Twenty-one months of training has been established as the minimum time for adequate preparation, nine months to be devoted to academic study and twelve months to an administrative residency in a hospital approved by the university. A degree is conferred following the year's residency.

The additional faculty required for such a course may

be limited to one professor and an associate professor. As the comment on location of training suggests, faculty members from allied fields are utilized in the orientation of students to the general health field and to the various professions with which he will work in the hospital. Although we have not listed as essential to the hospital administration course the other allied courses for the training of dietitians, pharmacists, x-ray, clinical laboratory, occupational therapy and physical therapy technicians, and medical record librarians--nevertheless, each such training course is beneficial to the student of hospital administration. The more extensive the teaching of professions within the university, the richer the field of learning will be for the hospital administration student. Likewise, each of the other training courses is improved by the interchanging of lecturers among the various professional groups.

The use of lecturers from other courses and from among the outstanding persons in hospital administration over the country brings a broadened point of view to the student in hospital administration and further enhances the value of his training. Although such outside lecturers are not considered a part of the faculty, an established honorarium and travelling expenses should be paid such guests; and the title of "Lecturer" is sometimes conferred upon those making distinct contributions to the course.

The cost of a course in hospital administration such as described here for fifteen to twenty students would be approximately $20,000 for the nine months of academic training plus the university

supervision of the administrative residency period. Three of the courses now existing have been started under the financial sponsorship of the W. K. Kellog Foundation, which has underwritten the financing of each course for a three year period, with the understanding that the university will continue the course and assume the financial responsibility at the end of that time.

Within the Texas Medical Center there will be concentrated a wealth of clinical and "field" material for students in hospital administration--general and special hospitals of varying sizes and types of control; medical, dental, nursing and public health education, and special courses in various other allied professions. The Center will provide a unique setting for the training of hospital administrators for the Southwest's hospitals of tomorrow. Moreover, its location affords an opportunity for students from Latin-America.

We accordingly recommend that such a graduate course be established in the School of Public Health located in the Texas Medical Center; that the course be of twenty-one months' duration, and that the Degree of Master of Hospital Administration be conferred upon completion of the full course.

6 - School for Clinical Laboratory Technicians

At the present time two hospitals of the Area operate schools for the training of clinical laboratory technicians, Jefferson Davis with an enrollment of eight and St. Joseph's with two students. Both courses are approved by the Council of Medical Education and

Hospitals of the American Medical Association; the first for the training of a maximum of 12 students, and the latter for 7 students.

Jefferson Davis' course is affiliated with the University of Houston, and its graduates are, therefore, more likely to satisfy the minimum requirements of the Registry of Technologists of The American Society of Clinical Pathologists which is the source of examination and registration.

Both courses require a minimum prerequisite of two years of college, but the credit received by the student at Jefferson Davis through affiliation with the University of Houston, if acceptable to the parent college, is the difference between compliance and non-compliance with minimum standards for registration.

Many hospitals operating such a course and having university affiliation require two years of college education, if the college will give the students credit for the years spent in technician's training. Otherwise, they require an A.B. or B.S. Degree as an entrance prerequisite.

If both existing schools operated to capacity incurring only the normal number of separations from the course, we might expect from 15 to 18 graduates per year. From this number a few will take positions as technicians in physician's offices. Others may leave the Area, and on the basis of these surmises we recommend that at least one, and preferably two additional hospitals consider courses of training of clinical laboratory technicians. If two 300 bed hospitals were to assume this responsibility, we suggest, of course, accreditation

plus consideration of an affiliation patterned after the Jefferson Davis course, but designed to guarantee eligibility for registration to the successful graduating students.

These hospitals might do well to limit their enrollment to six students per year until the demand becomes apparent. They should plan with the university's guidance a rotation of students through Clinical Bacteriology, Serology, Histological Techniques, Clinical Pathology and Physiological Chemistry.

7 - School for Hospital Dietitians

At present no hospitals of the Survey Area conduct a course for the training of student dietitians, and we feel that this condition should be studied with a view to establishing at least one such course in a large general hospital.

It is understood that Hermann Hospital has given the matter considerable thought, and it is our opinion that a course could be established and with benefit to the Area hospitals and to Hermann Hospital. The hospital is of sufficient size, is approved by the American College of Surgeons as an accredited training school for nurses, and has the nucleus of a dietary staff, all of which are essential to approval by the American Dietetic Association.

However, the interest shown by this one hospital does not obviate consideration by others, and there would seem to be four general hospitals eligible on basic points at least to apply for this approval which we believe should be considered a necessity.

Courses have been designed around groups of hospitals wherein selection of students, planning of seminars, lectures, etc. have been undertaken by a representative group. This could be undertaken in the

Medical Center, but we are inclined to recommend that no particular benefit would accrue to student or hospital, and that if the parent organization needs supplementary teaching material, this might better come from properly arranged affiliation.

It is not deemed necessary to cite the essential instruction and experience that must be afforded the student. These are easily obtained, and although flexible to a degree still indicate clear-cut lines to be followed. However, we wish to suggest that certain educational stimulus might be brought into being for these graduate students if the University of Houston will evaluate the 12 months' hospital experience and apply such evaluation toward a Masters Degree in Home Economics.

8 - School for X-Ray Technicians

Four hospitals in the Survey Area train x-ray technicians and at present there are nine students. Only the course at St. Joseph's infirmary is approved by the Council on Medical Education and Hospitals of the A.M.A. St. Joseph's has only 2 students at present although approved for four and their admission requirements allow entrance of high school graduates. The course is designed for 24 months; hence graduates are eligible for registration examination at its conclusion in accordance with approved criteria which indicates two years of training and experience for registration with the American Registry of X-Ray Technicians.

The other three hospitals, Hermann, Methodist and Jefferson Davis, give instruction to seven students and should make an earnest bid for Council approval. It is suggested that the Medical Center

constituents give consideration to a central school, thereby guaranteeing a maximum diversity of patient material, and the benefits of training under more than one staff.

9 - School of Pharmacy

Elsewhere in the survey report we recommend the consideration of a central Pharmaceutical Manufacturing Unit for the Texas Medical Center and for such other non-profit hospitals of the area as wish to participate.

We have indicated certain potentialities and advantages not the least of which is its use as a training ground for student pharmacists and more particularly for the student interested in the pharmacology of hospitals and of all public health activities.

The educational facilities in this field, now extended by the University of Texas, at Austin, would seem of sufficient scope and size to meet the greater part of the general needs for which the course was designed. Our interest, however, is in designing methods by which the already small segment of the student body interested in hospital work becomes no smaller and, if possible, grows to meet the expanding area need.

Certain benefits would accrue from careful indoctrination of students and from association with the stimulating environment of a Medical Center. Additionally, there would be benefit from establishing ways and means of promptly capitalizing upon whatever results from the drawing-power the Center exerts.

These indicate the need of a close working relationship with the University of Texas School of Pharmacy and consideration of a

branch of the School being located in the Medical Center. If such an undertaking could be accomplished and the manufacturing laboratory placed under the auspices of the University of Texas with a Pharmacologist from their faculty as head of the unit, the benefits above mentioned could be realized.

It is not intended that this branch of the School be prepared to give the basic undergraduate courses but only those advanced courses in manufacturing and in hospital pharmacy work and it would be hoped that these facilities would furnish many research topics for graduate students as well.

For the student vitally interested in hospital pharmacy work an interneship in one of the general hospitals of the Center should be available, and certain of the pharmacists be on the faculty of the School. This would bring about a desirable integration of practice and teaching to the end that the student receives a well-rounded education and indoctrination under approved conditions.

10 - School for Physical Therapy Technicians

At present no hospital in the Survey Area conducts a school for the training of physical therapy technicians, in fact the overall attention to this service, represented by the numbers of trained personnel and the inadequacy of equipment, suggests the need for considerable study.

It is believed that the demands for this service and hence for well-trained personnel will increase in the near future as more attention is focused upon patient rehabilitation, and it is suggested that a school be established by the Baylor University School of Medicine

in connection with the proposed Out-Patient Unit and Rehabilitation Center at the Medical Center, and that such school conform to the standards for approval by the Council on education and hospitals.

The output of the course conducted by the University of Texas School of Medicine at Galveston is limited to 6 every 9 months but with the proposed expansion of facilities the number available to this area might well be insufficient.

The course should be established in accordance with standards promulgated by the Council on Medical Education and Hospitals of the American Medical Association. It suggests that the minimum length of the course should be 36 weeks but most hospitals and universities find difficulty in establishing a curriculum that will accomplish the required and desirable training in less than 12 months. This includes courses in Anatomy, Pathology, Physiology and Psychology as well as all the practice in procedures in electrotherapy, hydrotherapy, massage and therapeutic exercise necessary to medical, surgical, orthopedic and neurological patients.

The majority of present day schools, not considering those still existing from an emergency war-time program, have requirements for admission calling for graduation from an accredited school of nursing or of physical education or two years of approved college training with satisfactory science courses.

The course should be under the direction of a physician qualified in physical therapy and must have, to gain accreditation, at least one full time qualified physical therapy technician for six students enrolled.

11 - School of Medical Social Workers

It is our opinion shared by many that medical social work in hospitals, in clinics and in the related health agencies is becoming increasingly important to the complete and economic care of patients.

We know that many social elements play an important role in the incidence and control of disease and physicians have come to recognize the value of the social worker's interpretation of his patients' environment, obligations, problems and ability to understand and cooperate in a plan of medical treatment. It has added another dimension to the physician's work and brought "individuals" rather than "patients" under his surveillance.

Medical social work has developed in hospitals as a service to patients, physicians and administrators and we believe its value in public relations and public education is beyond estimation.

We realize that graduates of a good school of social work have many opportunities, outlets and interests beyond that of medical social work which at the moment is our major concern but, similarly, we realize that the development of the School must precede the development of ways and means of strengthening the hospital field to guarantee a sufficiency of trained workers.

Present demands far exceed the number of qualified applicants as can be attested to by hospitals and social agencies. The 32 schools approved by the American Association of Schools of Social Work fall far short of graduating the required number and in 1945 a national shortage of between 80,000 and 100,000 trained workers was reported.

The situation in the Survey Area is made additionally acute by reason of the fact that Tulane University School of Social Work alone represents the facilities of the entire area south of St. Louis, Missouri, excepting California. The proposed hospital program will need greatly augmented Medical Social Service staffs. It would be desirable if such staffs were appreciative and sensitive to the social factors inherent in southern communities.

We understand that the Southeast Texas Chapter of the American Association of Social Workers has recommended that a school be located in Houston under the auspices of a University. We are strongly in accord with the need and with the manner of affiliation as guaranteeing educational standards as well as financial support.

Many existing schools have had to operate under curtailed programs because of the lack of sufficient field work of approved quality for their students. Certainly, this would present no problem in Houston with its well organized Council of Social Agencies, Settlement Association, Family Service Bureau, offices of the State Department of Public Welfare, its City-County Welfare Department, and now the proposed Texas Medical Center.

Field work is here in abundance and from the contacts we have made, we judge them to be staffed in a manner acceptable to any such training program. In fact there are many individuals experienced in teaching of social work on the staffs and these might become valued adjuncts to the full-time University teaching staff.

Such a course should cover two years of academic work on a graduate level. It should conform to standards promulgated by the

American Association of Schools of Social Work and develop curricula meeting at the same time the standards of the American Association of Medical Social Workers.

It should consider enrollment of men as well as women and the degree granted should not be peculiar to social work but rather a Master of Science or Master of Arts degree.

Briefly, and suggested merely as a guide, the first year of the full-time course would consist of about 10 hours of class work and two days of supervised field work per week. In the second year more time would be devoted to field work and to intensive preparation for work in a specialized aspect of social work.

The training of a professional social worker is an integral process. It cannot be accomplished by simple exposure to any amount of unrelated class or field experience, but rather must have a distinctive factor of leadership and guidance.

The student bodies of the existing schools range from 200 to 500 full-time and part-time students. However, the first few years should not contemplate such enrollment.

The physical plant requirements of a large school for offices, class rooms and library would require a large investment. However, a small school in its beginning probably could be integrated into existing University plants.

The operating budget would also be determined primarily by the number of students. A small school could operate with three full-time teachers and the additional faculty members secured from existing community agencies and other departments of a University. The annual budget with such a staff would be approximately $30,000.

12 - School for Medical Record Librarians

It is generally realized that trained medical record librarians are too few in number to fill the required need, and that existing schools are so limited in capacity that only slight help on a national level can be expected from them.

These facts, coupled with the plans for expansion and overall scope of this Area's community program, lead to consideration of whether or not a School for Medical Record Librarians is justified or necessary. Certainly there is no dirth of teaching material and within the proposed function of the Medical Center there will be a wealth and variety of material exceeding that available to students in any presently operated school. It has been contended that a medical record librarian's training should encompass the public health field, and have a working knowledge of all allied health and social agencies of a community so that in her hands the medical record interpreted becomes a useful guide to intelligent medico-social work.

There are, generally, two basic methods of training medical record librarians. The method prevailing throughout the country is that which establishes a nine to 12 month course of study within the hospital. It is a course which includes instruction on analysis of medical records, duties and responsibilities of the medical record librarian, principles of filing and cross indexing, and general nomenclature of diseases and operations. It is a study which can adequately combine theoretical and practical instruction in a manner acceptable to the Educational Board of the American Association of Medical Record Librarians, which in turn has advisory assistance from the American Medical Association, The American College of Surgeons, and the American Hospital Association.

The student, upon completion of the course, is entitled to take the registration examination which, if satisfactory, leads to membership in the American Association of Medical Record Librarians.

The second method of training is that offered by a hospital affiliated with a university which grants a B.S. degree at the completion of a four-year program.

It is evident that this method offers far deeper study into the field of Medical Record Librarian Science than the first method, with the resulting fuller more complete academic and practical experience.

This course is usually constructed to give the student three years at the university in study of the arts and sciences necessary to comply with the B.S. degree, while the fourth year is devoted to a combination of theory and practice in Medical Record Librarian science. The student is subjected to the routine and methods of the Medical Record Department in the hospital and learns to apply his theoretical teaching. Also, in the senior year the student studies medical ethics, medical terminology, operating room dictation, theory of history taking, and the other relevant subjects. At the completion of this course the student is qualified to receive a B.S. degree.

Here again the approval of the American Association of Medical Record Librarians is possible through following the basic courses outlined by their Educational Board.

It is suggested that consideration of such a training program be given by the University of Houston in connection with the Out-Patient Department of the Medical Center, with the thought that the resulting advantages to the University, to the Medical Center, and to the whole southwest would far overwhelm the operational difficulties.

E - Medical Library

The Academy of Medicine is planning to erect a library building in the Center to house the combined libraries of the Academy, the Baylor University College of Medicine, The Texas University College of Dentistry, and the M. D. Anderson Hospital for Cancer Research. A museum of clinical exhibits is to be included in the program. The Library is giving consideration to the operation of a school for graduate librarians.

This venture should not only affect the medical science in the Area but will have a significant influence on the medical development of Texas.

It would seem feasible that the libraries in other units of the Medical Center might desire to place in the Library's custody numerous of their reference books, retaining standard texts and current literature for daily use.

F - The Texas Medical Center

A major aspect of the coordinated Community "hospital-health" Program for Harris County is the contemplated development of The Texas Medical Center. Details of this huge undertaking are dealt with in a separate section of the report because of its complexing structure and the importance of its scope.

We visualize the Medical Center with its large general and special hospitals; its medical, dental, public health, nursing and other schools; and its numerous facilities and affiliations for research and study as the hub of this community program.

As its component units develop they can be expected to assist or direct, in almost unlimited spheres, the activity and progress of outlying organizations seeking improved standards. Within their fields they

can mold public opinion and direct public education of benefit to all agencies and all organizations working for the improved health standards of the Area.

Facilities, coupled with a spirit of education, research, and high purpose, will draw trained specialists seeking outlets for their experience and study. Others will follow recognizing these scientists and teachers as additional assets, and so on down the line until an over-all infectious atmosphere prevails which more than anything else designates the "medical center" of today and creates real lasting benefits to the health of the communities it serves. Its influence can never be truly evaluated and undoubtedly it will not be confined to the Area, Texas, or even the Southwest.

G - Group Community Action

1 -Hospital Council of Houston

The general and governmental hospitals of the area must, of course, carry the bulk of the burden and responsibility incidental to co-ordination and expansion of facilities, and we believe they are eager to do so and that in larger part they are aware of their shortcomings. This has been evident in meetings and in appointment of study groups within the community and within institutions.

We believe that these hospitals, particularly in view of the multitudinous problems apparent in the next few years, would benefit from a closer working relationship, exchange of ideas and conformity in group action, often made possible through the medium of a strong Hospital Council.

With this in mind we urge that consideration be given to the

abandonment of the present council, and the organization of a Houston Hospital Council with a full time director and a plan of organization and purposes which are briefly outlined below:

Membership to the Council might consist of:

A. Member Hospitals - which we would suggest be limited to non-profit hospitals of the Metropolitan Houston Area.

B. Corresponding Member Hospitals - which might include any non-profit hospital located outside the Metropolitan Houston Area.

C. Personal Members - which might include the presiding officer of the Board of Trustees or the Chairman of the Advisory Board of each member hospital.

D. Other Memberships - which might be approved by the Trustees of the Council giving representation to agencies or individuals that may be directly interested in the health of the community.

In general, the purposes of such a council might briefly be outlined as follows:

1. To arrange for meetings for discussion of hospital problems.

2. To assist in the development of uniform procedure for hospitals.

3. To act as a medium for information on subjects pertaining to hospitals including the compilation and collection of reports, statistics, and such other information as from time to time might be deemed desirable.

4. To negotiate and cooperate with the Council of Social Agencies, with the Health Committee of the Chamber of Commerce and with City and County Health Officials in an effort to protect and/or further the interests of Member Hospitals.

5. To operate a central purchasing service.

6. To operate a central collection and investigation service.

These are but a few of the fields available for constructive enterprise by a council aggressively eager to provide themselves with group services and the benefits therefrom, and we suggest that there are several successful hospital councils in large cities of the country from which the pattern of organization and procedure might be copied.

Specifically, the hospital council discussed above might well have given consideration to the support or lack of support by the Houston Community Chest for free and part-pay work carried by member hospitals over the years.

We have reviewed most carefully the work recently completed by C. W. Pheiffer and Associates for the Community Chest and Council of Social Agencies, and we wish to record an aspect of that study upon which we place more and basically different emphasis.

The following excerpts are taken from the above mentioned survey:

Page 16

TABLE V

PER CENT OF HOUSTON CHEST LOCAL APPROPRIATIONS
BY TYPE OF SERVICE 1940-1946

	1946	1944	1942	1940
Appropriation	$1,110,450	$948,588	$781,079	$715,844
Care of the Aged	3.1	3.0	3.4	3.6
Care of Children	28.6	29.8	28.6	27.5
Family Service and General Dependency	23.8	17.2	24.3	22.2
Hospital Care	1.1	2.2	1.3	2.4
Health, Other Than Hospitals	10.0	10.8	12.7	14.0
Leisure Time	33.4	37.0	29.7	30.3
Total:	100.0	100.0	100.0	100.0

TABLE VI

CHEST APPROPRIATIONS TO LOCAL AGENCIES
PER CENT OF TOTAL GOING TO EACH TYPE OF SERVICE
89 Chests, 1945

Type of Service	Grand Total 89 Chests Including Hospitals	Grand Total 89 Chests Without Hospitals	13 Chests Raising $1,000,000 and Over* Including Hospitals	13 Chests Raising $1,000,000 and Over* Without Hospitals
No. of Chests	48	41	11	2
Appropriation	$28,503,835	$9,543,270	$18,895,779	$1,938,407
Care of Aged	1.8	1.1	2.1	2.1
Care of Children	18.4	17.5	19.2	13.2
Family Service and General Dependency	20.8	25.2	22.2	28.2
Hospital Care	13.2	-	13.5	-
Health Other Than Hospital	9.3	11.0	9.4	9.5
Leisure Time	34.4	43.3	31.5	45.9
Miscellaneous	2.1	1.9	2.1	1.1
Total:	100.0	100.0	100.0	100.0

* Chests classified according to amount raised in campaigns for 1945, excluding National War Appeals.

In commenting on the allocation of Houston Chest money as compared to proportionate allocations in other cities, the Pfeiffer Report deals with the entire matter in the following paragraph:

"Health, Aside from Hospitals, Has Normal Allocation

"Appropriations for hospital care are not comparable for the reason that excepting for the maintenance of the Negro Hospital, no chest money is used for this purpose. The percentage of total funds devoted to health services, other than hospital, follows very closely the national averages. As noted in Chapter II, some Chest money is now being used to finance activities which are the responsibility of the City Health Department. Any money that may be saved by such transfer will be needed to expand other appropriate health activities of Chest agencies."

The first sentence of the above paragraph would not seem to give proof of "lack of comparability", but rather to raise the question as to why only 1.1% of the total appropriation is made to hospitals. Inasmuch as the percentage allocated to "Health Other Than Hospitals" is only a fraction higher than the same allotment reflected in the average of 89 chests and again the average of 13 larger chests, it would indicate no juxtaposition of funds within the overall health field, but merely a much lower percentage than common practice denotes.

We have shown here Community Chest Allocations to hospitals in various cities with which we are somewhat familiar:

City	% of Total Allocated to Hospitals
Washington, D. C.	15.12
New York, New York	30.0
Rochester, New York	19.0
Cleveland, Ohio	13.5
Boston, Massachusetts	28.0
Philadelphia, Pennsylvania	23.0
Average	21.4

It would seem from the above that thought should also be given by the hospitals carrying medically indigent work and by the Community Chest, to revising the presently used formula of allocating funds. In this connection, it is pointed out that there is a growing tendency to arrive at "per Diem" and "per out-patient visit" rates of reimbursement for Free and Part-Pay Cases. This method is gradually replacing the practice of alloting a flat annual sum, as is now being done in the case of the Houston Negro Hospital, the only hospital

receiving Community Chest support.

In Dayton, Ohio, the Community Chest has an arrangement with the hospitals whereby it appropriates a large sum of money each year which is kept in a reserve to pay the hospitals for each Free and Part-Pay case admitted to their hospital during the year. Because these are prosperous times and the number and amount involved in such free work is not very large, there is an unused balance. This balance is kept in permanent reserve for the time when the volume of such work will increase and when the Community Chest appropriation might not be sufficient to meet all needs. The share of Community Chest Funds going for such work is thereby stabilized and with the funds in reserve, may be adequate to meet the changing volume required by the hospitals.

It is believed that through increased emphasis on outright hospital care of the medically indigent, the Community Chest may actually strengthen its position in the eyes of the Community.

2 -Integration of Public Health Units

The sub-committee on Health of the Houston Chamber of Commerce has recently decided to take the action necessary to bring about the integration of City, County and Public School health units.

This action requires legislation that will permit creation of such a governmental unit on a county-wide basis and allow a special health tax to give it support.

We find the premises upon which the proposal is based to be sound and wish merely to recommend that further thought be given to the possibilities inherent in a close tie-up between the proposed county-wide

unit and present City-County hospitals.

Both the hospitals and public health unit have need of laboratory facilities, x-ray equipment, etc. Both operate out-patient departments. Their programs dealing with maternity patients, infants, tuberculosis and venereal disease patients overlap, as do their programs of health education, preventive medicine, visiting nurse service, and social service.

It can readily be seen that by locating the health department in or adjacent to a City of County general hospital, a program of continous care would result which for instance might start in a prenatal period, continue through delivery, through the well baby clinic stage into the school health programs of immunization and examination.

It may be seen that through joint operation of an out-patient department the hospital benefits through extension in the quantity of work, hence in the clinical material supplied, while the public health unit benefits through the use of more adequate facilities than are usually furnished and through the interest of physicians trained in diversified specialties.

3 -An Inclusive Rate System For Hospitals

The majority of well-versed hospital administrators need no introduction to the benefits of inclusive rate systems as used in many hospitals throughout the country. To the uninitiated, however, we must explain that this is not a discussion of an abstract accounting technique but rather of a "theory of operation" rooted in the premise that "service" must be the keynote of the general eleemosynary institution.

We recommend that consideration be given to introducing systems

of inclusive rates in Survey Area hospitals, pointing out that the present system of "day rate plus charges for special services" does in effect penalize the paying patient inasmuch as the physician, thinking of the cost to the patient, often hesitates to order needed special services that he would freely order for the non-paying patient.

An inclusive rate system enables the physician to discuss exact costs with the patient before hospitalization and enables him to obtain all essential special service without further concern over his patient's ability to pay, and we are convinced that the medical profession and the public, after a brief introduction, will prefer to think in terms of a single charge for a given type of service in a particular accommodation for a given length of time.

We believe that hospitals should offer a completely integrated service rather than a room and a group of disconnected, unrelated services, and suggest that inclusive rates be established after careful study and analysis of presently operating plans; that unnecessary variety of rates be eliminated; and that there be a minimum of variables in the rates which cannot be controlled by patients and their physicians. Such inclusive rate plans can be introduced while present plans remain in effect, and patients can be allowed to select, after proper explanation, the plan of their choice. When a safe period of indoctrination has been passed, the single system may be invoked.

4-Group Hospital Service Plan

The State of Texas is credited with authorizing the first group

hospital service plan on a non-profit level, and although we cannot herein give the background and justification for the splendid potentiality of the idea, we can in our limited time raise a few questions in the hope of fostering subsequent discussion.

In various metropolitan areas where similar group hospital service plans, referred to as Blue Cross Plans when approved by the American Hospital Association, are in existence enrollments have reached 50% and in a few instances 80% of total population. Such growth has not been made without meeting problems and suffering set backs, but the ultimate value to subscribers and to participating hospitals has been proved many times over.

Enrollment in the State of Texas in June of this year amounted to slightly less than 3% of the population, and in the Houston Area slightly less than 4%. There is, of course, a history to the development of the plan in Texas. Suffice to say, however, that it is spotted with changes in policy, retraction of contracts, and losses in "good-will". These are still felt by current administrators of the plan although genuine progress is just now being realized.

Our immediate concern is with the role of Area hospitals now participating in the plan only to the extent of accepting subscribers. We feel that this is a plan of and for the hospital; that complete support entails use of the plan within hospital organizations, and the conduct of educational programs outside the organization.

At the moment no hospital in Houston has personnel coverage under the plan, primarily because they must guarantee 100% enrollment,

by reason of a purportedly high incidence of illness among hospital employees. This unusual requirement is not completely offset by the application of a formula for refund of the unused subscription costs.

The fact that participating hospitals themselves do not subscribe to the plan creates an unfavorable impression on other potential groups, and indirectly the hospitals continue to suffer from low enrollment percentages.

We suggest that participating hospitals or representatives therefrom meet with directors of the plan in an effort to remedy this situation. This is suggested with full knowledge of the fact that two Houston hospital superintendents are members of the Board of Directors of the Plan.

The question of the need for 100% enrollment of hospital employees should again be raised and experience in other areas introduced to prove that hospital employees are not the "bad risks" they are contended to be.

What ever proves to be the final decision, we urge the hospitals to consider the long-range benefits accruing through greatly increased coverage of the Area population, and to remove all obstacles to this progress.

5 - Ambulance Service In The Area

During our work in the hospitals of the Area it was made evident that certain aspects of the emergency ambulance service as operated in Houston and environs left much to be desired. This might be expected in view of the lack of concerted action by the voluntary

hospitals to bring regulations and procedures to bear upon the privately operated ambulance service.

Memorial Hospital in its downtown location has been the butt evidently of unwarranted usage and has been placed in the unfortunate position of having to refuse what it considers to be the unfair proportion.

In a very rapidly growing industrial and business area such as this, the number of accidents and emergency treatments in a twenty-four hour period are likely to become quite staggering and we are recommending that a committee of hospital executives prepare and propose a plan that will meet these exigencies based upon consideration of the following discussion.

We would not contend that the operator of a private ambulance service has no place in the scheme of things but we do believe that the primary responsibility should rest with the Police Department of the City, under the immediate supervision of the Police Surgeon with the ambulance units manned by officers well-trained in first aid located at strategic hospital locations throughout the City.

It is also possible, and has proved workable in other large cities, that the Police Department could have charge of the service but in turn delegate the responsibility to operate and man the units to carefully chosen hospitals in order to guarantee the utmost "immediate coverage". In New York City, for instance, the delegation of this responsibility is accompanied by a yearly endowment of each vehicle, amounting to $7,000 for one located in a hospital of the downtown area. It is known that this

amount does not always pay for the investment, maintenance, chauffeur, and attendant but the hospital recovers somewhat from the charges for care rendered in the accident ward and frequently on the in-patient services.

We believe that the City of Houston's theory of non-payment for indigent care as long as ample city-owned facilities are available, should not be projected into discussions of emergency service. Such services should be paid for by the City whenever rendered, if the patient is unable to pay.

All emergency calls for ambulance service should be cleared through the Police Department and their ambulance headquarters could logically be located at Jefferson Davis hospital.

If an accident occurred beyond the boundaries predetermined to be those of the area to be served by the Jefferson Davis unit, the call should be referred to the hospital serving that particular area.

As a suggestion, but of course subject to detailed study of vehicular and industrial accidents, units in Jefferson Davis Hospital, in the Texas Medical Center, in Park View Hospital and in the new St. Elizabeth's Hospital would circle the dangerously congested area.

We recommend:

That the Houston Police Department organize, operate and financially support an emergency ambulance service with units located at Jefferson Davis Hospital, in the Texas Medical Center, in Park View Hospital and in the new St. Elizabeth's Hospital.

H - Recommendations

19. That by 1950 the acute general hospital bed requirement of the Survey Area be accepted as 3,649 beds and that, assuming completion of building programs now considered by Hermann, Methodist, St. Luke's, San Jacinto and St. Elizabeth's, a shortage of 860 beds be recognized.

20. An acute general hospital bed requirement of 5,448 by 1960 and a bed requirement of 8,204 by 1970 after consideration of increased population and with allowance made for the increased drawing power of the Medical Center upon out-of-area population, as well as increase in the rate of use of hospitals which by then should be apparent through the educational measures inherent in the development of the Medical Center.

21. Recognition of a shortage by 1960 of 2,659 acute general hospital beds and of 5,415 beds by 1970, after completion of the building programs now definitely known to exist.

22. That 14.3% of the total acute bed requirement be allotted for obstetric care, reflecting a bed requirement of 522 by 1950, increasing to 1,173 by 1970.

23. That 10% of the total acute bed requirement be allotted for pediatric care, reflecting a bed requirement of 365 by 1950, increasing to 820 by 1970.

24. That 30% of the total acute bed requirement be reserved for the requirement of the eight medical specialties studied, reflecting a bed requirement of 1,055 by 1950, increasing to 2,385 by 1970.

25. That the balance of acute general bed requirements be assigned for general medical and surgical patient cases (following a pattern of

approximately two surgical beds for each medical bed), reflecting a bed requirement of 1,707 by 1950, increasing to 3,826 by 1970.

26. That in addition to the above allowance for acute medical care, contagious beds required are in the amount of 139 by 1950, with the requirement increasing to 295 by 1970 in proportion to the growth in population.

27. That the shortage of contagious beds, 72 by 1950, increasing to 228 by 1970, be alleviated not by new specialized beds but by location in acute general hospital beds, with consideration to the possible inroads that medical science will surely make in the field of contagious diseases.

28. That educational programs be instituted to reassure personnel, public and patients of the logic and safety of the plan for contagious cases, and that it is in full accord with the advances in medical science and nursing techniques.

29. That, at present, 692 tuberculosis beds are required for the Area, and that this need will increase to 737 by 1970 following the pattern of increasing population, but with full consideration of a decreasing death rate resulting from the advancement of medical science and the increase in preventive controls. However, this requirement will reflect only a shortage of 427 in 1950 after completion of the proposed City Tuberculosis Hospital, and by 1970 the shortage will be 487 as the decrease in tuberculosis death rates exceeds the rate of increase in the population.

30. That acute general hospitals provide facilities for the care of

private tuberculosis patients and in addition seek methods whereby governmental agencies now providing care would subsidize in general hospitals the care that represents future needs, rather than build additional sanatoria.

31. That failing to agree upon a contractual relationship, governmental agencies should be encouraged to locate their tuberculosis sanatoria near large general hospitals where they may readily be adapted to other use as the need for tuberculosis care diminishes.

32. That the psychiatric bed requirements of local responsibility be considered 334 by 1950, increasing to 1,179 by 1970. These estimates give consideration to the increased population and assume that the State and County will increase their beds for custodial care so that this area may more nearly approach the United States average in furnishing facilities for this type patient.

33. That inasmuch as the local responsibility of voluntary and proprietary hospitals for mental cases should represent only 14% of the total need, effort should be made to stimulate County and State governments into accepting their responsibility.

34. That the acute general hospitals provide facilities for the diagnosis and treatment of short-stay mental patients not in need of long-term institutional care.

35. That by 1950 there will be a minimum requirement of 1,400 beds for the care of the chronically ill patients, increasing to 2,000 by 1960 and to 3,000 by 1970.

36. That of the maximum 1,030 beds now available for the chronically ill in present institutions and nursing homes, at least 430 beds should be replaced or markedly improved.

37. That the bed shortage for the chronically ill should be met by the development of units as integral parts of general hospitals, but specialized units could operate effectively provided close working relationships were maintained with general hospitals.

38. That there is need for a Community Rehabilitation Center closely correlated with out-patient services and with the facilities for the long-term care of chronically ill patients.

39. That present agencies expand their programs or new agencies be created to emphasize preventive measures in the field of geriatrics through increased medical research, social and economic research, professional education, and general public health education.

40. That the proposed consolidated Public Health Department not only keep pertinent vital statistics of chronic diseases, but that aggressive licensing procedures be invoked to improve rapidly the physical facilities and the quality of care in units furnishing service to the chronically ill.

41. That, as a means of retarding the chronic problem, community services be developed on a visiting basis to families caring for invalids in their homes, in the following specialties: housekeeping aides, nutrition advisors, diet therapists, occupational therapists, and recreational workers.

42. That a coordinating agency be created to promote the above activities for the chronically ill in the community.

43. That an immediate effort be made to bring about the removal of the State Constitution limit on the amount of public assistance which may be paid to needy individuals so as to permit the chronically ill to receive adequate medical and hospital care.

44. That a total hospital bed requirement, including Acute, Contagious, Tuberculosis, Psychiatric and Chronic Diseases, of 13,400 be accepted as the 1970 community goal, and that it be recognized that this requirement will reflect a community shortage of approximately 9,500 beds when all the presently proposed hospitals are constructed.

45. That the community plan to meet this need by locating 5,000 beds in The Texas Medical Center, 6,800 in the Metropolitan Area other than in the Medical Center, and 1,600 beds in the Non-Metropolitan Area. This distribution considers population growth, characteristics, and concentration of patients for purposes of medical education and research.

46. That the bed capacity of the M. D. Anderson Hospital for Cancer Research be considered as additional to the above allocation of beds to the Texas Medical Center.

47. That all undergraduate medical students of Baylor University College of Medicine be trained by 1970 in the hospitals located in The Texas Medical Center.

48. That the inevitable need for more City-County hospital care should be met by contracting with non-profit hospitals for the care of the indigent instead of by construction of more governmental facilities.

49. That the bed requirement in non-metropolitan areas be met by the construction of "Community Hospitals" of 50 or more beds, serving populations of at least 15,000.

50. That the bed requirement in non-metropolitan areas, in communities

as small as 500 population, be met by the establishment of "Public Health and Medical Service Centers" prepared to furnish, in a limited manner, combined public health and hospital care.

51. That of the total hospital facilities a portion be reserved for the care of the Negro so as to equal 17% in 1950, 16% in 1960, and 15% in 1970.

52. That the number of separate Negro hospitals be kept to a minimum, and that wherever feasible such Negro facilities be established in the same institutions as the white facilities, even though segregated.

53. That when establishing Negro facilities, a fair proportion be of a private and semi-private type accommodation, allowing and encouraging the Negro to pay for and receive his choice.

54. That general hospitals and out-patient units should establish, in cooperation with the University of Texas Dental School, a dental service, not including fillings or restorative work.

55. That small hospitals and health centers, located in the outlying sections of the Area, should arrange with the Dental School and the metropolitan hospitals a part-time dental service.

56. That city clinics should furnish the indigent patients in cooperation with the Dental School, a complete service in all phases of dentistry both for children and adults.

57. That special hospitals with long-stay patients should establish a complete dental service, including fillings and restorative work, in charge of a full time dentist, assisted by the dental internes from the general hospitals.

58. That the proximity of the Veteran's Hospital should not be depended upon to afford any major relief to the acute hospital bed shortage of the Areas.

59. That consideration should be given to the establishment of convalescent units in or adjacent to the larger general hospitals, restricted in use to short-term convalescent patients, and integrated with the activities of the Community Rehabilitation Center.

60. That a Children's Hospital and Research Institute of at least 200 beds to be located in The Texas Medical Center be established to offer child guidance, general pediatric, orthopedic, contagious and psychiatric care of children.

61. That every effort be made to correlate the interests and resources of the Arabia Temple Crippled Children's Organization and the Bureau of Mental Hygiene, as well as other local groups having interest in supporting pediatric care and research.

62. That the proposed Public Health Department, in cooperation with the proposed School of Public Health, conduct a continuous, greatly expanded, program of Health Education.

63. That as a means of raising the level of medical care received, hospitals be encouraged to establish teaching programs among private and semi-private patients, after proper indoctrination of the students and the respective medical staffs.

64. That a complete program of post-graduate training in medicine and dentistry be developed at The Texas Medical Center.

65. That interne and residency in medicine training now carried by

three hospitals of the Area be expanded as rapidly as possible, both in the number of approved internships and in the number of hospitals approved for internship.

66. That dental internships and residencies be established, in cooperation with the University of Texas Dental Branch, in all metropolitan hospitals where minimum requirements can be met.

67. That a College of Dental Nursing be established at the Medical Center.

68. That a School of Public Health be established at the Medical Center.

69. That an undergraduate course in public health nursing be established in the School of Public Health.

70. That certain functions of the proposed Public Health Department, one of the City District Health Centers and certain non-official community health agencies should be located in the Medical Center.

71. That one or two vocational schools of nursing should be established in the community.

72. That a state licensing law should be enacted for the regulation of vocational or practical nurses.

73. That at least two of the existing professional schools of nursing should join with a university to become a College of Nursing, offering a four-year program leading to a Baccalaureate Degree.

74. That endowment be sought to maintain the College of Nursing in order to provide this education to young women at a reasonable tuition charge.

75. That advanced programs of study in public health nursing, nursing education, and special clinical fields, all leading toward an advanced degree, be established as a part of a university and located at the Medical Center.

76. That a school be established for Negro student nurses in a college or university and using clinical facilities in existing hospitals and units in proposed hospitals, clinics, and health units at the Medical Center.

77. That all possible use be made of educational facilities of the Medical Center for preparation of practical nurses, professional nurses on both basic and advanced levels to the end that fine nursing services be available for the Medical Center and that the Medical Center fulfill its educational obligations in the Southwest.

78. That the following schools be established as part of the respective programs of available universities, and that these schools be located at The Texas Medical Center: School of Hospital Administration, School for Clinical Laboratory Technicians, School for Hospital Dietitians, School for X-Ray Technicians, School for Hospital Pharmacists, School for Physical Therapy Technicians, School for Medical Social Workers, School for Medical Record Librarians.

79. That consideration be given to adoption by the various hospitals of an inclusive rate plan of hospital charges that would eliminate the majority of special service charges to patients and permit physicians the use of facilities as required rather than on the basis of the patient's ability to pay.

80. That the present Houston Hospital Council be reorganized, incorporated and placed under the guidance of a full time executive director.

81. That the Hospital Council embody a central purchasing service for member hospitals, and that at an appropriate time it consider group service in the field of collection and investigation of hospital accounts.

82. That the Hospital Council be an autonomous body with primary representation by hospitals acting for them, but in cooperation with existing groups in the Council of Social Agencies and in the Chamber of Commerce.

83. That a hospital committee be appointed from the non-profit institutions to study, with the Community Chest organization and the health unit of the Council of Social Agencies, the present absence of financial support to the hospitals caring for the medically needy and to make recommendations for securing adequate annual financial assistance. Hospitals should be paid on a service rendered basis, but the plan should permit the Community Chest to establish a reserve for the unusual load which occurs during economic depressions.

84. That the study of consolidating the City and County and the School District Health units be pursued by the Chamber of Commerce Health Committee and the consolidation be brought about.

85. That the Chamber of Commerce Health Committee also consider for recommendations the added advantages of a close alliance between the

proposed Health Department and the Jefferson Davis Hospital to further programs of economy through effective use of the hospital's out-patient facilities and staff.

86. That hospitals in the Area, now participating in the voluntary Blue Cross Plan for hospitalization only to the extent of accepting subscribers, consider more carefully the long-range advantages to supporting the Plan without reservation in an endeavor to enroll a larger proportion of the population.

87. That a special committee of the proposed Hospital Council prepare and propose a plan for a consolidated emergency ambulance service operated by the Houston Police Department in cooperation with the hospitals.

SECTION III - THE TEXAS MEDICAL CENTER

In the past two decades the term "medical center" has come to indicate an endeavor on the part of individuals of common purpose and interest to pool resources, share facilities, and exchange ideas toward the better care of the physically and mentally ill. The medical center has come to mean an all-inclusive pattern of care, designed to carry forward when normal procedures fail, to reduce the exigencies to routine and the unusual to commonplace. It has come to signify the meeting place of students, the optimum field for research, and the sounding-board for universal hospital practices. Above all, it represents a strong prescription to be taken only by a vigorous community.

For the most part, established centers are to be found in the large metropolitan areas where they tend to serve the routine needs of a large sector of population and the specialized needs of an unlimited migrant group. However, there are a sufficient number of centers located in small communities, particularly in the midwest, to belie the essentiality of a metropolitan area. The latter have well-conceived ambulatory services covering in one instance at least, a state-wide area.

Organization patterns vary, usually following the conception of the originators. Some stem from a single, narrowly controlled organization, others are comprised of several, independent and otherwise unrelated organizations. There would seem no hard and fast form of organization or development, but all would seem to agree that the keynote is the opportunity of greater community service through cooperative effort.

Weaknesses, somewhat correlated to their size and scope, have become apparent through the years. From administrative viewpoints the scope and weight of such a large undertaking in some instances has proved too great for a single administrative unit, not entirely by size, but most particularly because of the "human element". On the other hand in some centers this important "human element" consideration has been waived because of its complex nature and the administrative standards have become inflexible in an attempt to create a factory-like precision and economy.

These are but a few of the factors from which we may draw experience, factors that in general indicate that there are no set of rules to which we need conform, and that the best possible organization of a medical center may yet be forthcoming.

Without doubt, it was with the basic values of a "center" in mind that brought prominent Houstonians into early discussions and meetings. It was understanding of these basic values that finally developed a sincerity and singleness of purpose that led to the inception of The Texas Medical Center. On November 1, 1945 it was incorporated under the laws of Texas exclusively for benevolent, charitable, and educational purposes, and to achieve any of the following purposes:

"To promote and provide for or assist in the establishment, support and maintenance of facilities for medical, dental and nursing education and other phases of health and medical education, for hospitalization and treatment of the sick and afflicted, and for research in the field of health and science of medicine and dentistry.

"To promote and provide for or assist in the establishment, support and maintenance of medical schools, dental schools, schools of public health and nursing, hospitals and clinics; and to provide facilities and financing for housing of students, faculty members and employees of all and any of such institutions.

"To promote, provide for or assist in the establishment, support and maintenance of a general health program for the State of Texas, as well as special health programs for the State of Texas.

"To join and assist other institutions organized and operated exclusively for any one or more of the purposes herein stated.

"To make awards, give prizes, grant scholarships, publish reports and engage in research.

"To accept and administer gifts, donations and bequests, whether of money, personal property, or real estate, and otherwise to accumulate, administer and disburse funds to advance or achieve any of the above stated purposes.

The Board of Trustees of The Texas Medical Center, with E. W. Bertner, M.D., as President, have done much to pave the way toward this development. They have studied the needs of the community and of the Southwest. They developed interest and support that will be of lasting value; they have been understanding of individual differences; and finally, they have envisioned a Center in all its ramifications, which promises to become the most outstanding agency for health occurring in the Southwest within a generation. This endeavor may well become a pattern for other communities to approximate.

A. TOTAL BED FACILITIES

1. Requirements:

In dealing with the community program we were able to estimate bed requirements from factors relating to population and population growth, tangible bases even though subject to many vagaries. Properly applied these factors and ratios establish an overall area "need", and even a reasonably accurate need of an isolated segment of the population such as the rural element.

The bed requirement of the Community is but one yardstick by which the physical scope of the Medical Center can be determined. Allocations must be based also upon the desirable concentration of patients for community service as well as for teaching and research; on practical problems of capital finance; to some extent upon existing Medical Center patterns; and upon evaluation of the newer opportunities which will arise during the years of growth.

In an earlier section of the report we indicated that the Texas Medical Center by 1970 should have a bed capacity of 5,000. This was planned so as to fulfill the proportionate obligation to community service in kind and volume and to meet the entire undergraduate teaching program of the various professional schools without an undue proportion of in-patients on any one service being required for this purpose. In addition the total of 5,000 beds assured the Center a sufficiently large cross section of patients so that graduate training and research in such specialties as dermatology, neuro-surgery and ophthalmology

could be undertaken successfully. This may be explained with more clarity by stating that of one hundred patients admitted to a general hospital, usually only two will become patients on the eye service. Consequently, the number of admissions, hence bed facilities, necessary to guarantee a program of training in that specialty must be estimated accordingly. This type of ratio, therefore, was given consideration in our determination of beds for the Center.

Naturally, these estimates in all of the various specialties do not in each instance reflect the same proportion to total acute beds as the formula in the overall community would dictate. The reason for this apparent "liberty" is to be found in the theory of a planned program wherein it is unnecessary that each general hospital fit the overall pattern, or that a group of hospitals fit the proportionate share of total needs--but rather, it is necessary that the grand total should conform.

Services such as contagious, tuberculosis and chronic are not now considered as entities in the medical education program, but we feel that provisions should be made for them in the Center, and that they can become a valuable source of clinical teaching material.

The Medical Center will in all likelihood draw a concentration of certain phases of work, as for example pediatric care. The Children's Hospital which we have recommended should be located there if possible. This would automatically reduce the need for pediatric care in other hospitals, yet not eliminate it; nor would it produce excessive facilities if the whole program is properly balanced.

Therefore, pediatric patients might be concentrated within the special unit and the hospitals within the Center, while the less complicated non-teaching obstetric cases might be directed away from the Center. In such manner, adequate clinical teaching material for each service is assured, and the overall bed proportion is maintained.

To do this, for the benefit of the community, will require continuous, alert policy control and emphasis upon public education.

Such has been the theory behind our planning, and we believe it is important that it be weighed during the periodic reconsideration of these plans. We show in the following Table the proposed allocation of beds to the Texas Medical Center for the years 1950, 1960 and 1970, indicating growth from 2,500 to 5,000 beds during that period. The totals shown for the non-metropolitan area are representative of proportionate population, being 18 per cent in 1950, 15.25 per cent in 1960 and 12.3 per cent in 1970.

TEXAS MEDICAL CENTER BED REQUIREMENT

		1950	1960	1970
1.	Acute			
	General Medicine	300	500	600
	General Surgery	600	1,000	1,200
	Obstetrics	200	300	400
	Pediatrics	250	375	500
	Orthopedics and Fractures	130	200	275
	Gynecology	80	120	160
	Otorhinolaryngology	75	110	150
	Neurology	50	75	100
	Urology	47	70	90
	Dermatology	43	65	80
	Neuro-Surgery	40	60	75
	Ophthalmology	35	50	70
2.	Contagious	50	75	100
3.	Tuberculosis	250	400	400
4.	Psychiatric	100	200	300
5.	Chronic	250	400	500
	Total Medical Center:	2,500	4,000	5,000
	Balance of Metropolitan Area:	2,583	3,698	6,764
	Non-Metropolitan Area:	1,116	1,385	1,651
	Total Survey Area:	6,199	9,083	13,415

The specialty bed figures may be checked readily with those of the Community Program by applying the percentage distribution of total acute bed figures used earlier in the report and shown here for reference:

	%		%
General Medicine & Surgery	.456	Neurology	.032
Obstetrics	.143	Urology	.028
Pediatrics	.100	Dermatology	.026
Orthopedics & Fractures	.080	Neuro-Surgery	.022
Gynecology	.048	Ophthalmology	.020
Otorhinolaryngology	.045		
		Total	100.000

2. Planned Facilities:

Present planning indicates inclusion of three General Hospitals, a Tuberculosis Hospital and a Cancer Research Hospital in the Medical Center. Details of organization and financing are dealt with elsewhere in the report, but there remains the problem of measuring and integrating these facilities in relation to patient need.

Hermann Hospital has plans that will result in a new hospital of 370 beds to be reserved for private and semi-private patients. They also have plans calling for remodeling of the present hospital for exclusive use of free and part-pay patients with a bed capacity at least equal to the present 294.

Methodist Hospital plans a capacity of at least 300 beds, while St. Luke's Episcopal Hospital plans call for general beds in the amount of 250. Both are well grounded in understanding of their responsibility and rights in the conduct of teaching and research programs, and it is believed that the allotment of 20% of total beds for teaching purposes as originally proposed

by the Trustees of the Texas Medical Center will certainly be met if not exceeded.

The Tuberculosis Hospital, to be owned and operated by the City of Houston, will represent a minimum of 250 beds, all or any necessary part of which may be used for teaching within that specialty. We believe, that if necessary, teaching of certain undergraduate clinical subjects could be carried out here.

The M. D. Anderson Hospital for Cancer Research represents 200 beds, which irrespective of the pay status of patients, will be entirely available for teaching and research. Again, we believe that this may be considered a source of teaching not limited to graduate work, but of value also as clinical material for undergraduate teaching.

In the following table we have taken the capacities of the few services known to be quite definitely assigned on current plans, realizing however, that at this stage they are still very tentative. The table serves, however, to recapitulate the total beds:

BED CAPACITY OF PLANNED HOSPITALS

By Hospital and Services		Tentatively Assigned	Unassigned	Total
Hermann	Psychiatric	28		28
	Obstetrics	50		50
	General		586	586
		78	586	664
St. Luke's	Obstetrics	42		42
	Pediatrics	26		26
	General		182	182
		68	182	250
Methodist	Obstetrics	47		47
	General		253	253
		47	253	300
M. D. Anderson	Cancer	200		200
Tuberculosis	Tuberculosis	250		250
	Total	643	1,021	1,664

Totals by Services

Psychiatric	28		28
Obstetrics	139		139
Pediatrics	26		26
Cancer	200		200
Tuberculosis	250		250
General		1,021	1,021
Total:	643	1,021	1,664
Less Cancer Beds:	443	1,021	1,464

If these assignments are carried forth, we will find a substantial shortage from the 2,500 beds in 1950 that we have indicated as the desirable quota. It must be mentioned again that the 5,000 bed requirement for 1970 and comparable totals in any prior period are exclusive of the 200 beds in the M. D. Anderson Cancer Hospital. This theory has prevailed throughout the report based upon the fact that the patients to the Cancer Hospital will not come from the immediate area principally. Hence, the 200 beds are not in the strict sense "available" to the Area. This theory is confined to measurements of patient bed needs while in discussions on clinical material available for teaching the capacity of 200 patients is considered. In the following, the 1950 shortage of beds is reflected:

TEXAS MEDICAL CENTER BED REQUIREMENT AND SHORTAGE

	1950 Requirement	1950 Planned	1950 Shortage
Tuberculosis	250	250	0
Psychiatric	100	28	72
Contagious	50	0	50
Chronic	250	0	250
Acute-Obstetrics	200	139	61
Pediatrics	250	26	224
Other	1,400	1,021	379
Totals:	2,500	1,464	1,036

3. Conclusions

From the above we can judge a deficit of 1,036 beds existing after present building plans are carried to completion. Shortages exist in all phases of care except tuberculosis, with major shortages in chronic, pediatric, and acute care other than obstetrics.

Even in the face of what must appear to the interested spectator to be generous expansion programs, we are recommending that consideration be given to increasing effort toward expansion. First, the three general hospital plans are still in a formative stage. We urge that each consider more than contemplated expansion, preferably to a total of 500 beds each. We appreciate the problems incident to acceptance of this recommendation, but on the other hand there is in each of these three instances a set of machinery in operation, a nucleus of a supporting and operating organization, as well as a plan for the basic hospital services which need not undergo proportionate increase in cost.

If this is not feasible, one or two additional general hospitals should be sought to locate in the Center.

In another section of the report we dealt with a proposal for inclusion in the Medical Center, if possible, a children's hospital. This was to combine into a sub-center the orthopedic, psychiatric, contagious and pediatric medical care of children in a unit of at least 200 beds upon inception.

If Methodist, St. Luke's and Hermann could each build for 500 patients, and the Children's Hospital as well as the unit for chronic care, could become a reality, the overall patient

needs would be met. This, of course, gives consideration to the capacities of the present Hermann Hospital and the City Tuberculosis Hospital.

The previous table indicates need of 250 beds in the Center for selective chronic cases. It is realized that much initiative and effort will be necessary in bringing this about. Certainly, everyone is in agreement as to the overall need and most of us agree upon the value of teaching material in such a group. There remains but to stimulate an interest in financing such an endeavor and allocating an area, preferably adjacent to a parent general hospital.

Before leaving the subject of bed requirements and shortages, we wish to point out a factor which may already have become apparent: that the acute bed shortage in the Center in 1950 based on facilities now planned, totals 664, while the shortage in the total community amounts to only 860. This stems from having set the goal at 2,500 beds for 1950; and although the shortage seems disproportionate, we believe major emphasis and impetus should be given to the Center upon its inception.

B. BED REQUIREMENTS FOR EDUCATIONAL PURPOSES

Baylor University is to operate the College of Medicine in which an extensive medical program is to be carried out. The Medical School located in the Center is now being constructed, and it is expected that during 1947 it will be completed. It has six laboratory departments teaching the first two years of the medical curriculum, and it is planned that the last two years will be almost entirely clinical and bedside teaching to be carried out in the out-patient department and in the hospitals of the Center and the City. In addition to the

needs would be met. This, of course, gives consideration to the capacities of the present Hermann Hospital and the City Tuberculosis Hospital.

The previous table indicates need of 250 beds in the Center for selective chronic cases. It is realized that much initiative and effort will be necessary in bringing this about. Certainly, everyone is in agreement as to the overall need and most of us agree upon the value of teaching material in such a group. There remains but to stimulate an interest in financing such an endeavor and allocating an area, preferably adjacent to a parent general hospital.

Before leaving the subject of bed requirements and shortages, we wish to point out a factor which may already have become apparent: that the acute bed shortage in the Center in 1950 based on facilities now planned, totals 664, while the shortage in the total community amounts to only 860. This stems from having set the goal at 2,500 beds for 1950; and although the shortage seems disproportionate, we believe major emphasis and impetus should be given to the Center upon its inception.

B. BED REQUIREMENTS FOR EDUCATIONAL PURPOSES

Baylor University is to operate the College of Medicine in which an extensive medical program is to be carried out. The Medical School located in the Center is now being constructed, and it is expected that during 1947 it will be completed. It has six laboratory departments teaching the first two years of the medical curriculum, and it is planned that the last two years will be almost entirely clinical and bedside teaching to be carried out in the out-patient department and in the hospitals of the Center and the City. In addition to the

Medical College, Baylor University plans an Institute of Biological and Pathological Research.

In our section on Community Program we dealt at some length on the undergraduate training program in the University and recommended that the clinical training of undergraduates could be most satisfactorily carried out if confined to the physical limits of the Center, thereby eliminating problems of travel and guaranteeing a maximum uniformity in teaching techniques and standards.

From this we dealt with the analysis of the teaching bed requirement as of 1970. Based upon the thousand bed requirement established by the faculty of the Medical School we concluded that if the general hospitals in the Center assign between 20 and 25% of the facilities which we estimate is the total needed by 1970, the program can be carried with ease. In fact, we calculated that the 1,200 beds representing contagious, tuberculosis, cancer and chronic patients would be in excess of the actual teaching need, and would offer a source from which to draw an unlimited amount of supplementary training material.

The program could be further assured, we feel, through adoption of recommendations that teaching of medical students be carried on among pay patients following a period of indoctrination of medical student and staff, coupled with an active public relations program.

This would seem the picture toward which the program should be pointed, but we realize that some time will elapse before all of these facilities are available and before the above mentioned teaching practice can be of measured value. In the interim, the amount of available teaching beds must be known. As

stressed the frequent interchange of beds between services is practice common among all the hospitals and renders impotent any figures reflecting beds by "medical services". We must be satisfied, therefore, with knowledge of the total numbers available and depend in large part upon the cooperation of the hospitals in making assignments that will fit the teaching need.

In the table that follows we have attempted to outline the 1950 probable and possible source of teaching material, first in the Medical Center, and secondly in the City of Houston:

UNDERGRADUATE TEACHING MATERIAL

1950	BEDS		
Probable Sources:	Undergraduate Teaching	Non-Teaching	Total
Hermann	294	370	664
Methodist	60	240	300
St. Luke's	50	200	250
Total:	404	810	1,214
Possible Sources:			
Children's Hospital	100	100	200
Chronic Hospital	50	200	250
Cancer Hospital	200	-	200
Tuberculosis	50	200	250
Expansion Programs	116	464	580
Total:	516	964	1,480
Grand Total:	920	1,774	2,694

We have applied a ratio of 20% of total beds available in Methodist and St. Luke's, the total capacity of the present Hermann Hospital which together reflects about 404 undergraduate teaching beds. Under "Possible Sources" we have shown 50% of the recommended 200 bed Children's Hospital and made an allowance of 50 beds from a recommended 250 bed chronic hospital. We have shown the full allocation of the M. D. Anderson Cancer Hospital beds, and 20% of the proposed City Tuberculosis Hospital beds. We have added 116 beds which would accrue through acceptance of recommended expansion of St. Luke's, Methodist, and the new Hermann Hospital to 500 beds each at a rate of 20% teaching.

With the full realization of all these probable and possible developments the beds available for undergraduate teaching would amount to 920. It is quite possible that this number should be reduced somewhat in view of the questionable utilization of, for instance, 200 cancer beds, 50 tuberculosis beds, and 50 chronic beds in an undergraduate teaching program.

From this it is apparent that the undergraduate training program of the Baylor University must continue for the next few years to be performed in part in the hospitals of the City. As at present the general clinical material at Jefferson Davis, the obstetrical material available at St. Joseph's, and the additional material to be offered through Memorial Hospital's participation with the Medical Center would seem adequate to meet all needs. However, some adjustment of professional staff organizations in these hospitals will be necessary, particularly at Jefferson Davis.

C. CENTRALIZATIONS

The most basic concept of a Medical Center calls for cooperative effort among all participants in the solution of their mutual problems, in the advancement of their mutual aims, and in the coordination of their activities one with the other. The close alignment of potential strength in a Center presents endless opportunities if the participants reach a common ground of understanding, first of each other's problems, and secondly of their combined power.

In The Texas Medical Center the hospitals are additionally fortunate in having an active Center group to abet their planning and give financial assistance to joint enterprises which are of benefit to the group and, hence, to the Medical Center itself.

We have analyzed the advantages and disadvantages of a number of specific joint enterprises, or centralizations as we have termed them. From these we have selected those below as worthy of immediate consideration. Fundamentally, the advantages stem from improved service and possible economies. The financial savings accrue from savings in total capital investment, or by releasing areas in hospitals for more valuable revenue producing activities or by savings in operating expense.

The question most frequently asked in dealing with group action toward centralization is - "Are we losing our autonomy and our right to individualism?" It poses a problem to answer concisely, because what one hospital group would care to preserve under a flag of "individualism", another hospital group might condemn as a flagrant misuse of entrusted funds. A centralization, properly conceived and administered is representative of the constituent's theories of operation. Although it may be unable to absorb numerous individualistic ideas in fairness to other

constituents, a satisfactory cooperative method can usually be determined if the desire to do so is present. The centralizations that follow are not intended as completed "working" procedures, but only as recommendations for continued study, discussion and throught by the participating hospitals and interested groups.

We list the following centralizations as worthy of further study while the plans for the proposed units are being developed, and that decisions may be reached as to ownership, control and support, so that the participants may be assured that the common functions will be available prior to their need.

1. Central Out-Patient

An Out-Patient Department, including complete clinics and a central medical record department for statistical analyses, should be established in the Medical Center. Such a central unit is highly essential to a well integrated teaching program. It would give assurance that the maximum quantity of clinical material available in the area, especially in connection with the teaching of the specialties, would be put to the best possible use.

This point is made in view of the fact that in even more populated areas, teaching material in neurology, urology, dermatology, and ophthalmology frequently fulfills only minimum teaching requirements, and if the total amount available in Houston is divided between two, three, or four clinics, the time might come when no one clinic would have available a good cross-section of teaching material.

The faculty of Baylor Medical School has indicated that out-patient clinic experience could best be conducted in a clinic averaging 200 visits per day for a clinical undergraduate body of the size they propose. This too would be grounds for advocating

a central clinic in that it is unlikely that any one hospital would be prepared to meet such demands.

Professional control should be vested in the Baylor University College of Medicine and the University of Texas Dental School.

Consideration has been given to the dangers that might arise from a lack of correlation between out-patient and in-patient activities, and although this becomes a possibility in a plan such as proposed, joint interest and responsibility by the clinic and hospital, possibly through the medium of an out-patient department central committee with ample in-patient representation can successfully establish safeguards.

In the development of the professional staff by the schools mentioned above, we would suggest that the chief of the in-patient service from one of the general hospitals be appointed as chief of the corresponding out-patient clinic. These appointments could be arranged so that the hospital carrying the bulk of an in-patient specialty would likewise have the corresponding out-patient specialty, and this formula might be extended to include responsibility for the proper supervision by attending physicians.

Problems, of course, present themselves when considering the allocation of out-patients to in-patient services, when the latter services are distributed in several distinct hospitals.

It could be the responsibility of a previously mentioned central committee to study the problems in connection with referring out-patients in need of hospitalization with a view to observing proper and previously agreed upon proportions. In this connection it might be necessary to establish patient day quotas for participating hospitals so that their fair share of medically indigent work flows to them through the out-patient's admitting section. In the

referral of all such patients, it is believed that the central clinic must be held responsible for the final determination of indigency and of the need for hospitalization, relieving the individual hospital of both responsibilities.

When this clinic comes into being, there may be certain problems which must be met in developing lines of demarcation between it and Jefferson Davis Out-Patient Department and other clinics which may spring from the plans of the City Health Department.

We urge that the out-patient department be sub-divided into clinics representative of all in-patient services of a complete general hospital, including venereal disease, now a weakness of the present clinics, and psychiatry, now a very minor consideration of these clinics. Furthermore, it is urged that consideration be given to establishment of a follow-up clinic within the central out-patient organization, and it is suggested that the work of this clinic might be coordinated with the activities of the Visiting Nurse Association.

An important adjunct to the teaching and research service for which the clinic is to be founded rests in great part upon the medical records system devised and the mechanism by which these findings become the common property of interested physician groups.

We are suggesting that consideration be given to a unit-type medical record which would embody the complete history during all in-patient and out-patient experiences. To accomplish this, the clinic must become the focal point for the records of all patients in the Center.

It is recommended that the record room of the out-patient department be equipped with electrical tabulating equipment and through use of standard nomenclature by all hospitals, a punch card system be devised that would facilitate any number of reports on medical statistics. This, and the unit record system require that

the medical records of all in-patients should be sent to the out-patient record room for punch carding and tabulating. This system should accomplish the maximum in interchange of medical data and save a substantial amount in reducing repetition of statistical services.

If, on the other hand, medico-legal aspects of record keeping dictate that individual hospitals retain permanent custody of private patient records, we urge that they be subjected to punch-carding to preserve that important function of the system and that this be done centrally, after which the record itself could be returned to the respective hospital for permanent filing.

Having a bearing on this discussion of records and record keeping is an earlier discussion dealing with the possible organization of a school for medical record librarians within the Medical Center, and after study it may be that the hospitals would agree that the parent organization best fitted to sponsor this school would be the out-patient clinic. Certainly, a substantial amount of the practical experience of such students could be obtained herein.

Up to this point we have not dealt with the basic organization of this out-patient department. We believe that The Texas Medical Center, Inc. should own and operate this department. We intend this to imply certain assistance toward meeting building and equipment costs. The operating expenses should be borne proportionately by the participating hospitals, by the Medical School of Baylor University, by the University of Texas Dental School, by the city government and by the community. In indicating community support, we refer to an earlier discussion dealing with the basis upon which the Community Chest now allocates funds to hospitals for the assistance of medically indigent.

As previously stated the Medical School of Baylor University and the University of Texas Dental School would assume professional control of the medical staffing of the clinic. This would encompass approval of appointments, general conduct of the professional staff, rotation of students, assisting in resident assignments, and in recommending policies tended to improve or guarantee teaching standards.

With this diversification of responsibility we must not lose sight of the fact that the general hospitals of the Center have a vested interest in this clinic, financially, educationally, and institutionally, and their representation on the out-patient committee should be of such strength as to guarantee this.

Operational cost of the clinic is difficult of estimation, and we hesitate to use available information on local clinics because of involved accounting procedures. In fact, out-patient cost figures are notably inaccurate in most areas as a result of confusing systems of prorating costs between hospitals and medical schools.

However, from current figures available, principally in the Cleveland, Ohio area where accounting systems are well standardized and have been subjected to involved research, we conclude that the clinic, if operated to serve as well as teach, at a level of 55,000 visits per year, will involve a gross cost between $1.95 and $2.25 per visit. This cost does not reflect interest on investment nor depreciation on building. Not only will this centralization guarantee the highest quality of community service and the maximum use of clinical teaching material available but it will also save capital investment and operating expense.

2. Central Laundry and Linen Service

Laundry

We are recommending the centralization of laundry and linen service based largely on the financial economies accruing to participating hospitals and other constituent organizations both in actual capital outlay and in the subsequent operation costs.

In the first instance, we have the value of space freed to each hospital by removal of planned laundry rooms, linen rooms, and sewing rooms. Next, the capital outlay necessary to equip the laundry planned in several hospitals would far exceed that necessary to equip a single large laundry. This saving is difficult to estimate, and in part would depend upon the general theory of operation, namely, as to whether a work day in excess of the standard eight hours with the resultant reduction in equipment necessary would be feasible.

Economies apparent in operating costs seem to resolve into these factors: namely, that manipulation and utilization of man power is usually possible to a greater extent within a larger group of employees; that supervisory costs do not usually increase in direct proportion to the increase in employees; and that low unit costs usually result from larger quantity usage of water, steam heat, light, power and supplies.

It will, of course, be necessary to study in detail with building and equipment engineers the plans of a central laundry service and only through such study can the actual savings in capital outlay and operating cost be determined. However, the experiences of hospitals currently interested in building programs would seem to indicate that for a centralization of the present planned 1,600 beds, approximately $175,000 must be planned as the cost of building and

$160,000 as the cost of equipment. On the other hand to build and equip five separate units in the general hospitals, the cancer and the tuberculosis hospital, building costs would approximate $250,000 and equipment $300,000. This represents a potential total saving of $220,000 on the present planned capacity. When you contemplate the future expansion to 2,500 beds or 5,000 beds, the potential savings in investment is highly significant.

Naturally, these are gross estimates. When the plans of each of the five units are far enough advanced, more accurate estimates can be secured for final decision.

Additional savings in operating costs can be secured by centralization. From a study of operating costs in varying sized hospitals we have found that many with capacity less than 350 tend toward per capita per diem costs approximating .42 while those operating laundries serving the large volume centers approximate .27 per capita per diem.

It is estimated that 480,000 patient days would be the volume of service in The Texas Medical Center of 1,600 beds. The higher per capita cost, reflecting the probable operation of the decentralized laundries, would indicate $192,000 operating costs per year. The centralized laundry securing the lower per capita cost would reflect $130,000 or an annual potential saving approaching $60,000. Approximately this same saving is estimated when the lower rate on poundage is attained by centralization.

Certainly, with laundry and linen expense approaching 5% of total hospital expenditure and with the above gross estimates in mind, careful consideration of the advantages of centralization should be made.

Linen Control

It would seem advantageous to include as a function of the central laundry the control, including replacement, of all hospital linens and these suggestions might be carried in mind as having a bearing on successful operation:

(1) It might prove feasible to appoint a representative committee experienced in nursing needs, in laundry techniques, and in matters of purchasing to consider diligently their mutual problems and strive for standardization of size and quantities of hospital linens. They should attempt re-designing of items to fill needs being met by use of multiple slightly varying pieces.

(2) Such standardization would permit interchangeability of linens between the hospitals and avoid the expense of processing, or marking, and of sorting which would further insure the lowest possible poundage cost.

(3) Such standardization would also tend toward elimination of "special" high priced manufactured items and increase the purchasing power of "stock" items.

Sewing Room

It would, of course, be feasible to have adjacent to the laundry area a sewing room capable of undertaking manufacture of small quantities of special items and the repair of all hospital linens.

Rug Cleaning Room

Although more frequently appended to housekeeping facilities and under their control, in this instance where centralization is being urged, this truly economic function might reasonably be made the responsibility of the central laundry, more from the standpoint of centralized location than for any other reason.

General

Control of this service unit could well rest with the Texas Medical Center, Inc. with capital and operating expenses met by the hospitals and other units of the Center using the facilities. Sliding scales based upon poundage or unit poundage costs could be established on a non-profit making formula to guarantee participants a rate lower, we believe, than possible under their own necessarily restricted volume.

3. A Central Maintenance of Buildings and Grounds Service

We are recommending that consideration be given to the centralization of the responsibility for the maintenance of buildings and grounds. This is intended to refer to the services of engineers, draftsmen, estimators, electricians, mechanics, carpenters, painters, and representatives of other trades deemed necessary to the organization of a well-rounded department.

Such an endeavor would permit the availability of engineers and skilled mechanics normally unavailable to hospitals of medium size and modest budgets. The operating expense for such work should be lessened both through planned maintenance and by the greater utilization of equipment.

By reason of the quantity of work, the full time services of consulting engineers, draftsmen, estimators, and such special trades as masons, glazers and elevator electricians which the average individual hospital could not afford would become available, and the ability to avoid duplication of ordinary equipment and tools would allow for expenditures in much needed but seldom acquired machine shop equipment. Such maintenance shops might profitably include a modest sized machine shop and a paint shop, including stripping tanks,

et cetera, equipped to renovate all hospital furniture and equipment.

Centralization of maintenance could logically start with appointment of a building committee having the authority necessary to bring into conformity and standardization "specifications", particularly those dealing with mechanical and electrical installations which are involved in the proposed buildings. This should apply to the plans and specifications of St. Luke's Methodist, and Hermann, and to the other units of the Center as they come into being. The advantages of standard specifications would at the beginning hardly seem to justify the work involved, but as time passes and the replacement of literally thousands of individual parts becomes a routine problem, the value of standardization will become apparent.

The expeditious handling of emergencies may be pointed out as a reason against centralization of workmen, with the feeling that proper "coverage" might not be accorded all areas; although this might occur, it should not be deemed an inevitable condition and proper management will provide for meeting emergencies.

The operating expenses for maintenance of buildings and grounds should be considerably less for the participating hospitals due not only to better distribution of manpower but to greater utilization of equipment.

4. Central Heating and Power Plant Service

Obviously in this sized project considerable economy can be realized by a central service of this kind. It should be owned and operated by the Medical Center and service furnished at cost. Substantial savings can also be realized in the total capital investment for such facilities. Moreover, valuable space in other buildings can be utilized for more significant purposes. Practical problems in timing the construction of this facility urge early study

and consideration so that the service would be ready for expanded institutions.

5. Central Purchasing and Storing Office

Although we have recommended elsewhere that a reorganization of the Hospital Council be undertaken to the end that hospitals of the entire area might provide themselves with certain important group services, one of which is centralized purchasing, we recommend that within the Medical Center itself, a central purchasing function be organized also that would coordinate the purchasing requests from hospitals, clinics and other units of the Center wishing to participate.

As the Medical Center units pass their early stage of development, well over one million dollars of total supplies must be purchased annually by them. Such an amount dictates a need of highly trained personnel, suggests economies from bulk purchases at lower prices and through the development of a larger range of potential markets than could be otherwise secured by each unit acting separately. Storeroom facilities should be provided for the bulk purchases, to be issued periodically to the smaller storerooms of the individual units of the Medical Center. Its cost would be relatively small and could be prorated over the supplies used by each unit.

This would appear to be a duplication of function and energy except for the fact that the Hospital Council should limit the scope of their efforts to the procurement of bulk supplies of a nature that should be well defined in advance. Hence, many hundreds of items daily needed in a unit the size of The Texas Medical Center would still require procurement, in fact, would represent the more difficult part of the purchasing problem although representing probably

a small per cent of the value involved in all supply expenditures.

Such centralization has obvious advantages, not the least of which lies in the channeling of all commercial contacts into one location in the Center where they can be equitably, ethically, and expeditiously handled.

Although this unit might not be responsible for large bulk purchasing and, therefore, responsible for the savings accruing thereby, in comparison with decentralized purchasing it could surely be staffed more economically, be able to develop a larger range of potential markets as a result of more volume, and to some extent correlate requirements to secure advantageous prices, while if the Hospital Council failed to develop this service, this proposal would be paramount.

6. Central Personnel Service

Personnel wages, particularly in hospital organizations, are mounting until it appears that they will represent from 70% to 75% of the total budget. In addition to its effect upon the quality of service, good personnel management can result in real economies of operation. Certain of these personnel functions can be conducted more effectively by centralization in a project of this size than by decentralized efforts. We refer to the recruitment, pre-employment interviewing and testing, in training programs, health service and indoctrination procedures. This service should be conducted by the Medical Center and offered to all units in the Center on a cost basis prorated by payroll per unit or service secured.

We would recommend that a committee of personnel relations be appointed to coordinate and standardize as deemed necessary to meet the unusual conditions existing in individual hospitals.

It is believed that at the start of such a centralization the function be vested with the original interview and screening proceses preceding actual employment for the non-professional groups only, placing the responsibility for a temporary period for the procurements, interviewing, and hiring of graduate nurses and technicians, with the individual hospital.

This function guided by the committee of personnel relations should undertake in-training programs and indoctrination lectures that would be deemed necessary and would have the function of developing statistics on labor turnover and separations. It should be vested with the responsibility of conducting terminal interviews, as well as maintaining records on up-grading and job evaluations.

It would be responsible for interpreting labor conditions and markets and establishing contacts leading to the sources of labor supply, should prove competent and invaluable in the setting of wages and salary scales, in the standardization of job classifications, and a source to which employees might bring personal as well as vocational problems. It should devise health programs for employees and be responsible for organizing and carrying out such recreational programs as may be agreed upon.

7. Central Public Relations Service

The public relations aspects of a project as major as this in the health life of this community are of paramount importance, particularly during the formative years of the project when the community's public opinion is experiencing its first contact and is being molded. The individual units in their current fund-raising campaigns are securing already realistic public reactions and appreciating the need of greater public information.

It is realized that the average moderate sized hospital cannot afford the full time services of a public relations officer, but with such a group as suggested in the Medical Center, we recommend that consideration be given to this important aspect of public education. Such a person or staff would be responsible for welding cooperative plans utilizing every possible legitimate and ethical means of informing the public of the benefits to be derived from its hospitals.

From such an office working toward a regularity and continuity of public releases, the hospitals, in fact, the Center is certain of the following benefits:

(1) Development of public understanding and appreciation of hospital services.

(2) Fostering of an attitude of general goodwill on the part of the public toward the hospitals.

(3) Stimulation of more accurate analysis of community needs and institutional resources.

(4) Clarification to the public and to governmental bodies the status of voluntary hospitals so that the many economic problems being discussed may be solved in a most desirable manner.

(5) Effecting a thorough understanding as to the legitimate reasons for hospital construction. Make known the advantages of over-hospitalization and stimulate the greater use of existing hospital facilities.

(6) Stimulating voluntary contributions, public and private endowments.

In addition to the work of public education, such a staff might undertake work in preparation of bulletins, annual reports, and intra-center publications.

This service because of its all inclusive nature should be

operated by the Medical Center with a prorating of the costs to the individual agencies and to the Center itself.

8. Pharmaceutical Manufacturing Unit

We are recommending that consideration be given to the development of a central pharmaceutical laboratory in the out-patient building which would be coordinated with and furnish facilities for the School of Pharmacy dealt with in recommendations necessary for needed training facilities. This laboratory should be under a Pharmacologist appointed to the faculty of a university.

If such an undertaking could be accomplished, it would serve the purpose of training student pharmacists, which training could be rounded out through interneships of reasonable duration in the hospitals' pharmacies of the Medical Center, and at the same time prove a source from which could be procured almost any non-biological preparation used by the hospitals and at costs far lower than obtainable on the open market.

It is suggested that in addition to the routine compounding of medications in bulk, the manufacture of sterile solutions would be an economic undertaking. Substantial savings have been realized through just such plans already in existence in other Centers, and these might be studied as patterns for the development of this unit.

It would seem advisable to establish a pharmacy committee early in the stages of such centralization with substantial representation by medical staffs, and hospital pharmacists. This committee should take the necessary action and thought toward the establishment of a standard formulary acceptable to all hospitals of the Center and should develop regulations to control the use of proprietary drugs and excessively expensive drugs where less expensive substitutions of equal merit are available. It should advise on the inclusion and exclusion to the formulary of new and non-

official but accepted drugs.

It is suggested that if it becomes apparent that an unusual delay is likely to occur in the development of a pharmacy student body that consideration be given to establishing the laboratory either operated by the School or jointly by the hospitals, and that the staff be obtained from pharmacologists, pharmacists and technicians.

Consideration has been given to the centralization of functions related to home-going prescriptions, but this has been ruled out in view of the fact that the elaborate mechanism necessary for its accomplishment might well work a hardship upon many of the patients.

This unit should be operated by the Medical Center and the costs directly distributed to the hospitals and clinic on the basis of the number and volume of solutions, preparations and medications received by the participating agencies. Such a unit can become more than self-supporting, if desired.

9. Central Dining Service

We are recommending that consideration be given the development of central dining facilities which could be made available to personnel, student groups, ambulatory patients and visitors to all patients dependent for meals upon the locality of the Medical Center. Such facilities are deemed extremely important in the overall development of the Center inasmuch as it is a service which is frequently left to chance in a development of group activities and is finally met by commercial concerns in a manner entirely incompatible with the conditions and needs.

It is realized that hospitals of the Center must plan facilities in a degree that will provide food preparation for personnel and student groups as well as for patients, and that no proportionate

saving in equipment cost can be expected, if this recommendation is carried through. Also, we realize that a moderate proportion of personnel food preparation can usually be carried by employees primarily engaged in patient food preparation and that only a minimum cutback in the salary expense of these individuals can be expected.

We wish to point out three trends noticeable in recent years in hospitals throughout the country, all of which can be adopted with ease following such a centralization:

(1) There is a genuine interest in alleviating any and all phases of student group existence tending toward institutionalism.

(2) There are efforts being made to dispense with the old system of serving a "planned meal" to personnel and student groups with frequent dissatisfaction on the part of the recipient.

(3) Many hospitals have placed a cash value upon all perquisites including meals and are paying the value of such perquisites to students and personnel, allowing those individuals to buy their own meals consisting of what they want and where they want it.

These have all been accomplished or considered with a view toward correction of the conditions which over a period of many years have led to continuous agitation and aggravation.

It would seem that upon completion of all plans now in vision for The Texas Medical Center there might well be between 7,000 and 8,000 persons living, working, or visiting within the Center. Therefore, we feel that the Medical Center should operate a central restaurant which would furnish meals on a low profit or cost basis to individuals connected with the participating agencies;

and secondly, that all of the hospitals should keep to a minimum their dining services and kitchen facilities.

10. Communication System

It is our belief that the opportunities for economies and more effective operation can be secured by the installation of a central telephone service and a central pneumatic tube system. Each of these should be studied when the plans of the individual units have progressed sufficiently to be relatively definite and final decision made before construction. Their installations would be dependent upon the final decisions made in regard to other centralizations, such as laundry, maintenance, pharmacy, etc.

11. Organization

Insofar as the agencies which comprise the Medical Center are independently operated and the above desirable centralizations will have lasting effect upon future activities, it seems advisable to have formal organization channels by which individual differences may be recognized and the joint endeavors may meet their objectives. On the highest organization level the major policies can be coordinated and enunciated by the action of the Board of Trustees on which is included representatives of the participating agencies.

However, this is not sufficient to keep abreast with technical changes and currently varying operational problems which are present in the administration of educational and health agencies. Some provision should be made, at least, on two lower levels of the organization. Therefore, we suggest the creation of:

(a) A Central Administrative Advisory Committee, composed of the chief executives of the various units of the Medical Center, with the Chief Executive of The Texas Medical Center as chairman, which would

suggest detailed policies and recommendations on all joint projects and services for later action by the Board; would jointly develop regulations and procedures for carrying out the adopted policies and would adjust the current problems which undoubtedly would arise.

(b) Special Advisory Committees on Specific Joint Services; for example, Committee on Purchasing, Committee on Personnel, Committee on Pharmacy, and the like. These committees would be composed of respective department heads representing the various agencies and would be subordinate to the Central Administrative Advisory Committee to which they would make their recommendations. Likewise, they would be expected to develop rules and procedures for their respective fields.

D. MEDICAL CENTER UNITS

At the beginning of this study, the following institutions were scheduled to function as units in the Medical Center. Elsewhere in this report are our comments and suggestions relative to their functions and programs:

(1) Baylor University College of Medicine

(2) University of Texas Dental Branch

(3) University of Texas School of Public Health

(4) University of Texas Post-Graduate Medical School

(5) M. D. Anderson Hospital for Cancer Research

(6) Hermann Hospital

(7) Methodist Hospital

(8) St. Luke's Episcopal Hospital

suggest detailed policies and recommendations on all joint projects and services for later action by the Board; would jointly develop regulations and procedures for carrying out the adopted policies and would adjust the current problems which undoubtedly would arise.

(b) Special Advisory Committees on Specific Joint Services; for example, Committee on Purchasing, Committee on Personnel, Committee on Pharmacy, and the like. These committees would be composed of respective department heads representing the various agencies and would be subordinate to the Central Administrative Advisory Committee to which they would make their recommendations. Likewise, they would be expected to develop rules and procedures for their respective fields.

D. MEDICAL CENTER UNITS

At the beginning of this study, the following institutions were scheduled to function as units in the Medical Center. Elsewhere in this report are our comments and suggestions relative to their functions and programs:

(1) Baylor University College of Medicine

(2) University of Texas Dental Branch

(3) University of Texas School of Public Health

(4) University of Texas Post-Graduate Medical School

(5) M. D. Anderson Hospital for Cancer Research

(6) Hermann Hospital

(7) Methodist Hospital

(8) St. Luke's Episcopal Hospital

(9) Tuberculosis Hospital

(10) Medical Library of Houston Academy of Medicine

Also, although not located in the Medical Center grounds, the Rice Institute can be of great value in cooperation with the School of Public Health and in fields of special research, particularly in parasitology, bio-chemistry and physics; the University of Houston can assist the community program significantly in the various joint-educational projects of the Medical Center; and several hospitals in Houston can materially aid through jointly planned educational and health endeavors.

In addition, we are recommending for location on the Medical Center Site the following:

(11) Texas Medical Center Out-Patient Department (See III, C, 1)

(12) Hospital and Research Institute for Children (See II, C, 6)

(13) Chronic Hospital (See II, A, 5)

(14) Rehabilitation Center (See II, C, 4)

(15) Continuation Center

There should be a unit which might be called a Continuation Center for the purpose of providing "continuation study". Its staff would encourage professional and occupational groups of the Area or State to meet in brief refresher courses at institutes, and its facilities would furnish them favorable conditions for the discussion of their mutual problems. The physical plant should consist of lecture rooms, lounging rooms and bedrooms, whereby the visiting student may be cared for completely during the entire institute of from five to ten days. The most outstanding unit of this

sort is located at the University of Minnesota where, during its ten years of operation, 520 courses have been conducted with over 24,000 registrants. This self-supporting unit should be owned and operated preferably by the University of Texas, but if that isn't feasible, by The Texas Medical Center.

(16) Administration Building

During early stages of the survey discussions were held which led to the decision that the administrative offices of The Texas Medical Center would be located in the Central Library Building of the Houston Academy of Medicine. Since then other proposals have come to the foreground which led to the recommendation that the Medical Center should give consideration to a separate Administrative Building, furnishing areas capable of meeting the administrative need that will arise through active operation of certain centralizations suggested herein. It should house main offices of the Center, the central purchasing, personnel and public relations offices. In addition, such a building might make available offices to certain health agencies and organizations now having offices in Houston, such as the Visiting Nurse Association and the Houston Anti-Tuberculosis League.

(17) College of Nursing

An educational building with classrooms and laboratories should be erected for the use of the proposed College of Nursing (See II, D, 4 of main report).

(18) Service Building

We recommend that the central laundry, maintenance shops, heating and power plant and storerooms (See III, C 2,3,4,5) be integrated into a single building or a group of buildings.

(19) Housing

(a) Nursing Students Residence

A residence should be constructed for student nurses who are attending the College of Nursing and for those assigned from other schools to the special hospitals which are located at the Medical Center. It should be large enough to house 800 students and contain appropriate facilities for religious, recreational and social activities. If constructed in quadrangle form, it would be possible to segregate the students of each hospital located in the Medical Center, if they desired to do so, and still retain the advantages of centralization.

(b) Other Personnel

Interest has been evidenced in the development of housing for teachers, research workers, post-graduate students, technicians, et cetera, actively engaged in the Medical Center. We recommend such a development in dormitory, single and multiple apartment units, available on a rental or lease basis commensurate with the earning power of the leasor.

(20) Central Restaurant (See III, C, 9)

E. RECOMMENDATIONS

88. That The Texas Medical Center plan a program to provide 2,500 hospital beds by 1950, 4,000 beds by 1960, and 5,000 beds by 1970.

89. That the 1970 capacity of the Medical Center be distributed among the various medical specialty services in a manner to fulfill proper community obligations, to permit all undergraduate teaching of the proposed professional schools to be carried out in the Medical Center, and to provide adequate clinical material for graduate training and research (see III, A).

90. That immediate consideration be given to meeting the 1950 shortage of 1,036 beds in the Medical Center allotment of community needs, which will exist after completion of presently proposed building plans (see III, A).

91. That consideration be given to the enlargement of the three proposed new general hospitals to 500 beds each or to seeking one or two additional general hospitals.

92. That, although the acute bed shortage assigned the Medical Center appears disproportionate to the overall community shortage in 1950, major emphasis and impetus be given the Medical Center upon its inception.

93. That within the Medical Center the voluntary hospitals participate in the operation, support and benefits of a central Out-Patient Department.

94. That this Out-Patient Department offer services in all general clinical fields including psychiatry and venereal disease, which are weaknesses in the present out-patient services rendered.

95. That the Out-Patient Department be owned and operated by The Texas Medical Center, assisted by an advisory group representative of the participating hospitals, and medical, public health, and nursing schools.

96. That the medical and dental policies and appointments of the Out-Patient Department be the responsibility of the Baylor University College of Medicine and the University of Texas Dental Branch.

97. That the Out-Patient Department be held responsible for the final determination of medical indigency, for the need of hospitalization and for "referral" to the proper in-patient service of the hospitals of the Medical Center, as based upon predetermined budgets of maximum indigent case loads and with consideration of the specialty fields available within the participating hospitals.

98. That the Out-Patient Department encompass the central medical record and medical statistics tabulating rooms, through which would pass all records of out-patients and in-patients alike, but wherein only out-patient records would remain in permanent files.

99. That the Out-Patient Department encompass the central pathological unit and morgue which would be the site of major teaching and research work, yet available to hospitals in the Survey Area that are without the services of a pathologist. It would not obviate the desirability of the larger hospitals having their own pathology unit and carrying out their routine autopsy work.

100. That a central pharmaceutical manufacturing unit be organized in the Out-Patient Department from which a large number of bulk medications and sterile solutions, prepared at cost, could be supplied to participating hospitals.

101. That this central pharmaceutical manufacturing unit operate under advice of a Pharmacy Committee representative of the hospitals, medical, and pharmacy staffs and this committee undertake the preparation of a standard formulary for use by the participating hospitals.

102. That a central power plant be erected to furnish heat, light, power and steam to all units of the Medical Center, and that the service plant be operated on a non-profit basis by The Texas Medical Center.

103. That a central laundry and linen service be organized to furnish service to all units of the Medical Center and that this service be operated on a non-profit basis by The Texas Medical Center.

104. That a central dining facility be constructed to furnish low-cost meals to personnel, student groups, ambulatory patients and visitors primarily on a cafeteria level.

105. That participating hospitals consider cash payment to employees and token payments to students for meals now considered perquisites.

106. That a central department for the maintenance of buildings and grounds be instituted and operated by the Medical Center on a cost basis to participating units.

107. That a central purchasing division be established that would correlate the needs of all hospitals and units in the Medical Center, yet not duplicate the bulk purchasing phases of a Hospital Council purchasing section.

108. That a central personnel organization be developed that would embody all functions of recruitment, pre-employment interviewing, indoctrination, in-training, and health and welfare programs for personnel in hospitals as well as in allied units of the Medical Center.

109. That consideration be given to the establishment of a central public relations office, serving particpiating hospitals and the Medical Center as a whole in the conduct of a program aimed at the education of the public through ethical releases of information.

110. That there be developed in the Center under the administration and control of The Texas Medical Center, housing facilities for student groups and for various technical and professional personnel of the Medical Center at a level of lease or rental commensurate with the individual's earning power.

111. That a service building be erected which would combine the central power plant, laundry and linen service and maintenance department.

112. That central storage areas be provided in the service building to permit of bulk purchasing and central control.

113. That consideration be given to a central telephone system, central mail and messenger service, and a central pneumatic tube system between hospitals and the Out-Patient Department.

114. That a central blood bank, combined with a blood donor registry, be organized in the Out-Patient Department.

115. That a central library under auspices of the Houston Academy of Medicine be established at the Medical Center on a level that would supply the library needs of the entire Center.

116. That a medical museum be started as an adjunct to the central library.

117. That a Rehabilitation Center be constructed as a unit integrated with the Out-Patient Department and Chronic Hospital.

118. That a Continuation Center be established at the Medical Center by the University of Texas or The Texas Medical Center.

119. That an Administration Building be constructed to house the main offices of the Medical Center, the central purchasing, personnel and public relations offices and the offices of certain community health agencies.

120. That an education building be erected for the College of Nursing.

121. That a student nurses' residence be constructed in quadrangle form.

122. That a central advisory administrative committee be created in the Medical Center organization (see III, C, 11).

123. That special advisory committees be created for specific joint services at the Medical Center (see III, C, 11).

CHRONIC ILLNESS

I - Deaths from Chronic Diseases

The five leading causes of death in the State of Texas in 1945 were chronic diseases. They included heart disease, cancer, "apoplexy", nephritis, and tuberculosis. Added together, they accounted for 347 deaths for every 100,000 persons in the population. If we add to them those attributed to "senility" the total is 362 per 100,000 population. These rates, applied to the estimated population of Harris County, indicate that there were approximately 2,400 deaths due to these six causes in Harris County during 1945.

The death rates of the major chronic diseases have been climbing steadily. In the decade from 1935 to 1945, deaths from heart disease in the State of Texas rose from 151 per 100,000 population to 192. Cancer increased from 68 to 88. "Apoplexy" rose from 64 to 74. Loss of life measures only one part of the toll taken by the chronic diseases, however. Weeks, months, or years of invalidism preceding death characterize them. They kill slowly, with extended periods of helplessness for the patient, and of physical and financial burdens for those charged with his care. Some of the chronic diseases rarely kill. This is particularly true of arthritis. It frequently cripples in early adult life, leaving the patient for years dependent upon others for care. These patients, and those suffering other forms of crippling and severe physical impairments, are not reflected in the death rates. They constitute a considerable part of the population, however, for whose care some provision must be made.

II - Extent of Chronic Illness in Houston and Harris County

It is estimated that there are in Harris County, as of June 30, 1946, at least 114,000 persons suffering some degree of handicap as a result

of chronic illness or severe physical impairment. Of these, approximately 7,000 are invalids.* The chronic diseases like other forms of illness are no respecters of persons. They strike rich and poor; men, women, and children. Approximately three-fourths of all invalids in Harris County are under 65 years of age, the majority of them falling within the age groups between 35 and 65. There are slightly more invalids under the age of 35 than there are over the age of 65. More specifically, it is estimated that of the 7,000 invalids in Harris County, approximately 25% are under the age of 35; about 50% are between 35 and 65 years of age; and the remaining 25% are 65 and over. Figures are not available on which to base a detailed breakdown of the age distribution of persons suffering from, or invalided by, chronic diseases as of 1946. The age distribution of these patients as of the 1940 census, however, is shown in Tables I and II.

---

* Estimates based on rates established by U.S. Public Health Service National Health Survey applied to estimated population of Harris County.

TABLE I

ESTIMATED NUMBER OF PERSONS HAVING SOME CHRONIC DISEASE OR PERMANENT IMPAIRMENT, HARRIS COUNTY, TEXAS (1) 1940

	Population	Rate per 1,000	Number of Persons Affected
ALL AGES	528961	168.16 (2)	88940
Under 5 years of age	41816	34.2	1430
5 - 14 years	82134	68.3	5610
15 - 24	94882	82.9	7866
25 - 34	113399	159.2	18053
35 - 44	89770	221.0	19839
45 - 54	55260	273.4	15108
55 - 64	30000	344.3	10329
65 - 74	16053	467.1	7498
75 and over	5647	567.9	3207

(1) Estimates based on rates established by United States Public Health Service National Health Survey, applied to 1940 census.

(2) National Health Survey figure for all ages in United States as a whole is 177. Adjustment for differences in age distribution of population between Harris County and U. S. as a whole gives Harris County a rate for all ages of 168.16.

TABLE II

ESTIMATED NUMBER OF INVALIDS IN HARRIS COUNTY, TEXAS 1940 (1)

	Population	Rate per 1,000	Estimated Number of Invalids
ALL AGES	528961	10.24 (2)	5417
Under 5 years	41816	1.9	79
5 - 14 years	82134	3.1	255
15 - 24	94882	4.5	427
25 - 34	113399	5.6	635
35 - 44	89770	10.4	934
45 - 54	55260	15.7	868
55 - 64	30000	27.8	834
65 - 74	16053	53.5	859
75 and over	5647	93.1	526

(1) Estimates based on National Health Survey rates applied to 1940 census figures.

(2) N. H. S. figures for all ages for U. S. as a whole is 11.4. Adjustment for differences in age distribution of the population between Harris County and the U. S. as a whole shows rate of 10.24 for all ages in Harris County.

It is strongly to be hoped that successful efforts will be made to counteract the persistently upward trend in the amount of chronic illness and invalidism. There are two chief factors which explain this upward trend: (1) the increasing age of the population plus the higher incidence of the chronic diseases in the upper age groups; and (2) the steadily increasing rates of illness and death from heart disease, other circulatory disorders, cancer, and crippling arthritis. Little can be done directly to change the first of these. The hope for control of the problem must, therefore, lie in efforts to prevent and control the specific diseases. How much can - and will - be accomplished in this direction in the immediate future is problematical. It may be that during the next 25 years much will be accomplished. It is to be hoped that between now and 1970 there will be at least enough progress in control of these diseases to counteract the other factors which tend to increase the amount of chronic illness and invalidism. Assuming that this occurs and the incidence of invalidism remains approximately at its present level, Harris County may still anticipate marked increases in the number of invalids needing care. The rapid increase in population of the county will bring increasing numbers of invalids. The estimated numbers of invalids in the county for the decades 1940 to 1970 are shown below:

	Estimated Population	Estimated Number of Invalids
1940	528,961	5,417
1950	695,505	7,122
1960	1,017,461	10,419
1970	1,474,456	15,098

III - Diagnostic Distribution

It is assumed that the diagnostic distribution among invalids in Harris County does not differ greatly from that established by the National Health Survey for the United States as a whole. On this basis, it is estimated that there are in the county about 5,300 persons who may be classified as permanent invalids. In addition, there are about 1,700 persons living as invalids whose condition may be subject to considerable improvement or cure. It is significant that in about 24% of all persons living as invalids, the invalidism is reported due to conditions which ordinarily need not cause permanent helplessness. More than 8% of all invalids report their invalidism due to vague and ill-defined conditions which strongly suggest a need for better diagnostic service. A review of records of causes of death indicates that this proportion may be even higher in Texas than for the country as a whole. In 1945 the reported causes of death in the State of Texas included "senility" as one of the eight leading causes of death. "Senility", when listed as a cause of death, is certainly a vague term. There are few other states in which this is still reported as a cause of death in so high a proportion of cases. It appears to reflect a real need in Texas for more accurate diagnosis and reporting. Certainly there can be little hope of prevention and control of the chronic diseases without accurate diagnosis.

The remainder of the 24% of potentially hopeful cases of invalidism is made up of a wide variety of other conditions. They include diabetes, asthma, hernia, "anemia", bronchitis, goiter, sinusitis, hemorrhoids, and other similar conditions.

The estimated diagnostic distribution of invalids in Harris County is shown in detail in Table III.

TABLE III

DIAGNOSTIC DISTRIBUTION ESTIMATED NUMBER OF INVALIDS IN HARRIS COUNTY AS OF JUNE 30, 1946

	Per cent of Total Cases (1)	Estimated Number of Cases Harris Cty.
TOTAL	100	7000
Orthopedic Handicaps, Blindness and Deafness	24.7	1729
Nervous and Mental (not including long-term institutional cases)	18.2	1274
Rheumatism and Arthritis	10.0	700
Heart Diseases	9.8	686
Vague and ill-defined diseases	8.13	569
Tuberculosis (not including long-term institutional cases)	5.3	371
Arteriosclerosis and Hypertension (including cerebral hem. and resulting paralysis)	4.1	287
Diabetes	2.32	162
Nephritis and other Kidney Disorders	2.1	147
Asthma	2.0	140
Cancer and Other Tumors	1.9	133
Diseases of Female Organs	1.25	88
Chronic Diseases of the Eye	1.14	80
Diseases of Gall bladder and Liver	1.09	76
Hernia	1.08	76
Ulcers of Stomach and Duodenum	1.08	76
Anemia	.87	61
Diseases of Skin	.64	45

(1) Figures based on National Health Survey rates.

	Per cent of Total Cases (1)	Estimated Number of Cases Harris Cty.
Chronic Bronchitis	.62	43
Diseases of Bladder and Urethra	.60	43
"Other" Diseases of Circulatory System	.59	41
Goiter and Other Thyroid	.56	39
Varicose Veins	.42	30
Diseases of Prostate and Male G.U.	.31	22
Chronic Tonsillitis and Other Throat	.26	18
Sinusitis	.24	17
Hemorrhoids	.20	14
Chronic Disease of Ear	.18	13
Chronic Pleurisy	.17	12
Chronic Appendicitis	.12	8

(1) Figures based on National Health Survey rates.

IV - Facilities and Services Needed for Prevention and Control of the Chronic Diseases and the Care of Patients Disabled by Them.

The rapidly increasing numbers of invalids requiring care is a matter for serious concern in Houston, as it is in other communities everywhere. More and better facilities for long-continued care of permanent invalids are urgently needed. They must be provided. It is not enough, however, to attempt to meet the problem by this means alone. Vigorous efforts should be made to prevent and control the diseases which cause it. The problem is not an inevitable concommitant of the increasing life span. To a very great extent it can - and should - be controlled.

Bringing into reality the practical activities needed to control the chronic diseases will not be easy. Arthritis, heart disease, cancer,

arteriosclerosis, circulatory diseases and the other chronic diseases will not be brought under control overnight. This fact, however, only increases the importance of prompt planning and action to this end. An effective plan to meet the problems of chronic illness must include well-coordinated activities in at least two broad fields:

A. the prevention and control of the chronic diseases and of the invalidism associated with them; and

B. provision for continuing care of patients for whom prevention and control are no longer possible. Specifically, an effective program should include at least the following activities:

1. Medical Research into the causes and methods of prevention and treatment of the various particular chronic diseases, especially arthritis, heart diseases, arteriosclerosis, hypertension, cancer and "senility". This should include both research in the basic sciences and clinical research.

2. Social and Economic Research into the causes, and methods of prevention and relief, of factors other than physical damage which contribute to invalidism. This should include investigation into the possibilities of rehabilitation, selective placement of handicapped people in industry, etc.

3. Professional Education which will assure a supply of professional personnel competent to meet the problems of prevention and control of the chronic diseases and the care of patients disabled by them. This should include physicians, nurses, public health personnel, nutritionists, and diet therapists, occupational therapists, physical therapists, social workers, hospital administrators, and other professional persons needed to provide the various services required.

4. Health education on a mass basis, directed toward educating

people on nutrition and other aspects of health promotion; and including information which will promote early recognition of disease symptoms and prompt seeking of competent medical attention.

5. Public health services including good vital statistics; well-balanced administration of public health services to take into account the chronic diseases as well as the control of communicable disease, infant welfare services, etc. These should include consistent activities which will keep the public intelligently informed on the nature and type of health problems in the community, including the chronic diseases. They should also include effective licensing, registration, and other means of control over the quality of professional personnel offering services to the sick; and of institutions including hospitals, nursing homes, sanatoria, homes for the aged and other places offering shelter and care.

6. Provisions for meeting the costs of care for persons unable to do so from their own resources. Public assistance programs, voluntary welfare agencies, "free" and "part pay" medical services, should be adequate to assure that no one in the community will be unable to obtain promptly - and whenever needed - the medical services, hospital care and other attention necessary for

(a) prevention or early detection of disease.

(b) diagnosis and treatment of existing illness.

(c) rehabilitation, including partial or complete restoration of physical function which may have been lost or damaged.

(d) control of the progress of disease and prevention of further disability.

(e) relief of pain.

7. Diagnosis and treatment adequate in quality and amount to

meet the needs of all persons in the community, including early detection of disease, and prompt diagnosis and treatment. These should include adequate provisions for:

(a) physicians' services including the specialties.

(b) nursing service including the services of competent practical nurses as well as registered nurses.

(c) hospitals for the chronically ill.

(d) laboratory and X-ray services and equipment.

(e) medications and prosthetic and therapeutic appliances.

(f) dental care.

(g) services of nutritionists and diet therapists for instruction of patients as well as management of diets in hospitals and institutions.

(h) occupational therapy.

(i) physical therapy.

(j) social case work services.

8. Rehabilitation services comprehensive in scope and constructive in approach. They should include well-coordinated services for:

(a) physical restoration.

(b) education of the patient in how to care for his personal needs and live intelligently with his handicap.

(c) instruction in performance of useful work.

(d) vocational guidance.

(e) selective placement in industry.

The services should be available to all who can benefit from them and should not be limited to persons who can become fully self-supporting. They should include such services as instruction of handicapped women in the performance of household duties and education of parents of handicapped children in how

to meet their needs constructively.

9. Facilities and services for care of permanently disabled patients. These should include services to help families caring for patients in their own homes; and community facilities for care of patients who cannot remain in homes of their own. Adequate provision should be made in both groups for all patients needing care, regardless of economic status. It is usually preferable for the same agencies and institutions to serve both rich and poor. The costs of care for the poor can be met from public funds while payment is made from their own resources by patients able to pay for their care. Services for patients in their own homes should include:

(a) physicians' services.

(b) nursing services by visiting nurses, and also registries and other means by which families can obtain part-time or full time service from both registered and competent practical nurses.

(c) services of other specialists on a visiting or part-time basis, including nutritionists and diet therapists.

(d) housekeepers.

(e) occupational therapy.

(f) physical therapy.

(g) social case work.

(h) religious activities.

(i) rehabilitation, particularly instruction of patients in how to live with their handicaps.

(j) recreation.

Facilities for the care of patients outside of their own homes will include nursing homes, units for long-term care affiliated with general hospitals;

infirmary units in homes for the aged; etc.

10. Coordination of facilities and services with adequate provision for maintaining accurate information on the nature and extent of community needs; gaps and overlapping in services; and community attitudes. Provision should be included for a central place where persons needing care can obtain reliable information on how and where to obtain it.

V - Existing Facilities and Services in Houston and Harris County

A. Medical Research

The research being carried on in the M. D. Anderson Hospital for Cancer Research should be a matter of pride to the community and to the State of Texas. The volume is not yet large. It offers an example, however, of comprehensive planning. And it demonstrates excellent coordination between research activities in the basic sciences and clinical research.

The clinical records are comprehensive, complete, well-organized, and accessible. The value of medical records of this type in clinical research is very great. Incomplete, poorly organized, or inaccessible records are among the greatest single obstacles in the way of good clinical research. They seriously discourage attempts at research even when they do not make it completely impossible.

If present plans materialize, the M. D. Anderson Hospital for Cancer Research should offer an outstanding example of what can be accomplished in this field. The proposed new hospital building, and the inclusion of a unit for terminal care of advanced cancer patients, will provide opportunities for continuous observation of patients from the beginning to the end of the disease process. Patients - and the progress of their disease - can be traced from the "pre-clinical" stages when they appear in the cancer detection clinic, through the various forms of treatment, and through the termin-

al illness. This offers extremely valuable opportunities for comprehensive clinical records and research. Too often, the research values are overlooked in patients who have passed the point where prevention and cure are possible. If facilities for the terminal care of cancer patients are included in the M. D. Anderson Hospital - or in close affiliation with it - Houston will have one of the few institutions in the country where such comprehensive research is possible.

It is unfortunate that very little medical research is being done in Houston on diseases other than cancer. Research is urgently needed in the fields of arthritis, circulatory disorders, arteriosclerosis and other chronic diseases. The research opportunities in the general hospitals are considerable. Very little use is being made of them, however. No research activities of any kind are being carried on in the 30 or more homes and institutions devoted to the long-term care of patients suffering from chronic diseases. It is to be hoped that, as the Baylor University Medical School becomes better established in Houston, medical research in the chronic diseases will be more fully developed. It is possible, also, that the Houston Academy of Medicine might offer additional stimulus and leadership in the development of research. Certainly there is urgent need for greater use of the opportunities for medical research - particularly clinical research - which are available in Houston.

B. Social and Economic Research

No indications were found, in the course of this survey, of any active efforts to discover and deal with the social and economic factors which contribute to invalidism. There is a definite distinction between the existence of a chronic disease and invalidism. One patient may have extensive physical damage and still remain on his feet, caring for himself and perhaps even contributing to his own support. Another patient with

identical physical pathology may take to his bed, becoming and remaining a helpless invalid. There is great need for clarification of the specific factors which result in these very different reactions to the illness. There is also need for investigation which will demonstrate methods by which invalidism can be prevented or relieved. Work done during the war in the Army Air Forces Convalescent Centers and elsewhere has demonstrated enormous possibilities for overcoming the handicaps of illness and loss of physical functions. More research on these factors is needed, however. It will require skilled service and money. There is a tremendous possibility here, however, for discovering ways in which to lighten the burdens of chronic illness, both for patients and their families and for the community.

The public assistance agencies are supporting large numbers of families in which the need for assistance is based upon the invalidism of the breadwinner. There are excellent opportunities in this group for study of the nature of invalidism and the factors which contribute to it. Research opportunities on this subject undoubtedly exist also among the ill and handicapped people served by the State Commission for the Blind, the Harris County Association for the Blind, and the Houston Training School for the Negro Blind; the School for Spastic Children; the Anti-Tuberculosis League; the Goodwill Industries; the Crippled Children's Division, State Dept. of Education; and the Rehabilitation Division of the State Board of Vocational Education. There are excellent opportunities in the convalescent home operated by the Houston-Harris County Board of Public Welfare. Studies might also be carried on in the other institutional facilities offering care for "incurable" patients.

Investigation by industry of the possibilities for greater use of handicapped persons is needed. There is also need for further investigation of the possibilities for selective placement in employment of people handi-

capped by chronic illness or impairment.

Undoubtedly, some testing of the possibilities for preventing and controlling invalidism is being done on a trial and error basis in some of the agencies. It does not appear to be consciously planned and coordinated, however.

The development of a Rehabilitation Center was suggested in Houston some time ago. It does not seem to have had wide-spread interest or support. Such a unit might well be a center of research in this field and a stimulus to other groups. Before it can be achieved, however, much activity may be needed to awaken the community to the need and possibilities. Significant numbers of young adult handicapped people are merely left to exist indefinitely in the homes and institutions in the community. More complete investigation of the possibilities for enabling them to do more to care for themselves should be made. There were some indications that one reason why there is not more activity of this kind is that the community is too prone to accept invalidism as being inevitable in the presence of chronic illness or physical impairment. Public education is urgently needed to overcome this fatalistic attitude toward the problem.

C. Professional Education

Facilities for education of physicians and nurses are discussed elsewhere in this report. No elaboration is needed here except to point out the unused educational opportunities in relation to the chronic diseases. There are no provisions in any of the homes and institutions caring for chronically ill patients for activities of any kind in the education of professional personnel. The five leading causes of death in Texas are chronic diseases. Care of patients suffering from chronic illness absorbs a very large proportion of the total medical and nursing service in the community. These patients constitute a heavy proportion of the physi-

cian's practice. Yet little, if anything, is being done in the education of interns, residents, and nurses to prepare them for this work. This is one of many valid arguments against the exclusion of the care of long-term patients from general hospitals. The large numbers of deaths reported in the State as due to "senility", with no clearer explanation of the actual causes of death, is evidence of the need for more effective education of physicians in dealing with the chronic diseases.

Houston at present has practically no facilities for the education of dietitians, occupational therapists, physical therapists, social workers, administrators of hospitals or institutions for the chronically ill, public health personnel, or persons skilled in rehabilitation. All of these specialists are essential if there is to be an effective attack on the problems of chronic illness. Not only are there no schools of this type in Houston, there are none nearby. New Orleans and St. Louis are the nearest educational centers for most of these specialists. There is an obvious need in the community for qualified personnel in these fields. Houston has real opportunities for developing facilities to train them and should make use of them. The course in Community Facilities recently inaugurated at the University of Houston and the class in Public Health Nursing at Incarnate Work College appear to be a start in this direction.

D. Health Education

Most of the active health education for adults in the community seems to be done by the Houston Anti-Tuberculosis League. Its regular and special radio broadcasts on health have given an excellent community service. The health education activities of the Houston City Health Department also have value. They are much less extensive than should be true in a community of this size, however. They have been limited in both amount and scope. Little - if any - attention has been given to the chronic diseases. This

is true in spite of the fact that Health Department records show that in 1945 heart disease alone accounted for more than 2-1/2 times as many deaths in the City of Houston as all the acute communicable diseases combined - including pneumonia. The combined deaths from heart disease, cancer, cerebral hemorrhage, and nephritis amounted to more than 15 times the total number caused by all communicable diseases, exclusive of tuberculosis and pneumonia. See Table IV.

TABLE IV

COMPARISON NUMBER OF DEATHS DUE TO COMMUNICABLE DISEASES
AND SELECTED CHRONIC DISEASES
CITY OF HOUSTON, 1945 (1)

All Acute Communicable Diseases		Four Leading Chronic Diseases	
Cause of Death	No. of Deaths	Cause of Death	No. of Deaths
Total	376	Total	2,179
Diphtheria	8	Heart Disease	1,066
Infantile Paralysis	22	Cancer	474
Malaria	2	Cerebral Hemorrhage	472
Epidemic Meningitis	14	Nephritis	167
Syphilis	30		
Typhoid Fever	3		
Typhus Fever	4		
Whooping Cough	1		
Others	58		
Penumonia	234		

(1) Figures quoted from "Progress" - Report of activities and plans - Houston City Health Department 1942 - 1945, page 48.

The Health Department of the City of Houston is aware that there is a need for health education activities directed at the chronic diseases. The recently adopted new organization plan for the Department includes, in the Division of Preventive Medicine, a Bureau of Adult Hygiene. This bureau does not appear to be active at the present time, however, and the Department's announced plans for the next five years do not seem to include significant development of it. There is provision in the Department's announced five-year plan for expansion of health education services into the field of the chronic diseases in 1949. It will be unfortunate, however, if the community does not have significant increases in these services before that time. The problem is increasing rapidly. Health education can be a highly effective weapon, but it cannot be expected to produce quick results. The longer these services are delayed, therefore, the more extensive and serious the problem becomes.

With the exception of those in the field of tuberculosis, the community has had very few health education activities directed toward early diagnosis and competent treatment of particular chronic diseases. With the establishment of the Texas Division of the American Cancer Society, much more work of this kind in the field of cancer is in prospect.

There is urgent need for increased health education activities directed toward the other chronic diseases also, if there is to be any hope of controlling them. Adequate medical services must be available for early detection and prompt treatment of disease. These will be useless, however, unless the people in need of the services are educated to the importance of seeking and using them. Diabetes, for instance, should not be permitted to go untreated until limbs are lost from gangrene, or vision is sacrificed to a diabetic cataract. Hypertension should not be permitted to go untreated until "strokes" leave patients permanently paralyzed. Heart disease should not be allowed to make invalids of large numbers of patients. A very large

proportion of all patients suffering from these illnesses can be taught to live with their illnesses without being overcome by them. The fact that this is not being done is in considerable measure due to the lack of effective health education programs. These inadequacies, of course, are not peculiar to Houston. They exist elsewhere. Many other communities, however, seem to be somewhat ahead of Houston in their efforts to meet them.

Work which is being done in training chronically ill and handicapped children to live with their disabilities apparently is more comprehensive and effective than that being done in the adult field. General health promotion and health education services in the public schools are of vital importance. Present services of this kind are doing an important work. It is to be hoped that they can be developed further.

E. Public Health Administration Related to the Chronic Diseases

Public health administration in Houston and Harris County is discussed in more detail elsewhere in the Study Report. It has special significance in relation to the chronic diseases chiefly in its responsibilities for health education and for licensing and control of quality of care in institutions caring for the sick.

The Houston City Health Department appears to have made significant progress in the last three years. There are, undoubtedly, many reasons why the program has not yet reached perfection. Efforts should be made, however, to achieve a better balance than now exists between the Department's activities and the needs as demonstrated by the extent of illness and deaths from various diseases. Activities now being carried out in the communicable diseases are undoubtedly necessary. There is relatively an extremely high proportion of effort going into these activities, however, as compared with the almost total lack of any effort to prevent and control the chronic diseases. There is no intent to imply that efforts at prevention and control of the

acute diseases should be diminished. Efforts to prevent and control the chronic diseases should, however, be built up to a point more nearly approximating their relative importance as causes of illness and death in the community.

F. Licensing and Regulation of Institutions Caring for the Chronically Sick

In 1943 the City of Houston enacted an ordinance "Providing for the Regulation of the Establishment, Maintenance and Operation of Convalescent Homes in the City of Houston." In the Fall of 1944, this ordinance was amended to include some additional specifications with respect to the care of mental patients. It appears that this ordinance has never been generally enforced. Spasmodically, public concern has been aroused over the conditions in convalescent homes and efforts have been made to enforce the requirements. Most recent of these occurred in the spring and summer of 1946. An article appearing in the Houston Post of July 17, 1946, quoted one of the city council members as summarizing the present situation as follows: "Mr. Gaines found Tuesday that the homes were operating without permanent licenses and that the City had made little effort to enforce the regulatory measures since few of the homes could meet the requirements. City Fire Marshall Resweber after a recent inspection of the 31 convalescent homes operating here reported to Acting City Manager, J. M. Nagle that none could pass the fire requirements."

In the course of this Survey, members of the City Health Department Staff also expressed the opinion that of all the homes operating in the City of Houston, there is not one which can meet the requirements specified in the City Ordinance.

In 1945 the Texas State Legislature became concerned over the problem of nursing homes and passed "an act for regulating and operating

convalescent homes; defining terms; providing certain exceptions; providing penalties; allocating funds; providing for inspection and reports; and declaring an emergency." Although this law was passed and approved by the Governor on June 16, 1945, no evidence was found in the course of the Survey that efforts had been made to apply it within Houston or Harris County. Newspaper reports in the summer of 1946 indicated that Houston city officials had a question as to whether there was a conflict between the State Law and the Houston City Ordinance. In practice, however, there does not appear to have been any action on the part of the State which would create conflicts of this kind and apparently the question has never been brought to full clarification.

The situation with respect to licensing and regulation of nursing homes in Houston appears to be essentially the same as that in many other communities. Laws exist which require relatively high standards of safety and operation in the homes. There are thousands of patients in need of care, however, and no homes meeting the standards set up by the law in which they can obtain it. Consequently, they have no choice but to turn to homes that have lower standards than specified in the law. Public officials who attempt to close these homes while there still is no other place where patients can go for care find their task impossible. If one home is closed, the patients are only driven out to seek shelter in other places no better, and frequently worse. One of the impossibilities which blocks any attempt to eliminate low quality homes at present lies in the lack of funds with which to provide more adequate care. Recipients of old age pensions, and blind assistance, are limited in the amount of money which they can receive to an amount too low to permit paying for adequate services. Provision of care of a quality meeting all of the standards set forth in the Houston City Ordinance, would cost at least twice as much as

these patients are now permitted to pay. There are no provisions for supplementation of their allowances in most cases. Consequently they are held to the low payment levels and low quality of care. Experience in other communities has been consistent with that in Houston - that poor quality nursing homes cannot be eliminated by any type of licensing laws or other means until better places are available to care for the patients now dependent upon them. Better places cannot be provided until the need for adequate funds to pay for the care has been faced realistically and met. Essentially, licensing requirements constitute a negative approach to efforts to assure good quality of care. Their intent is to eliminate the bad. Meeting these problems successfully, however, cannot be done on a negative basis. It calls for constructive action which will bring into being good places for the care of the thousands of patients who are now in the community and must have care somewhere. When this has been done - and not before - it will be possible to eliminate bad homes by means of licensing laws and other methods. There is urgent need for Houston and Harris County, as well as other communities, to face this fact realistically. Until this is done, efforts at enforcing licensing requirements, are doomed to continuing failure.

G. Provisions for Meeting the Cost of Care for Persons Unable to Do So from their Own Resources

There are approximately 350 patients in nursing homes and institutions at the present time wholly or partly dependent upon public funds for their support. This includes approximately 240 in privately operated nursing homes, 75 in the Harris County Home, and 35 in the Convalescent Home operated by the Houston-Harris County Board of Public Welfare. An additional 75 are being supported by voluntary philanthropic agencies in privately operated nursing homes and not-for-profit institutions. In the community as a whole, including Harris County, approximately 10,000 people are receiving old age

assistance, 300 are receiving aid to the needy blind, and 550 families are receiving aid to dependent children. The State Constitution places a limit on the amount of old age assistance payments under which it is impossible, even with the recent increase in federal payments for this purpose, to pay more than $45.00 per month to any individual regardless of illness or other requirements which may make his actual need far exceed this amount. As of June, 1946, the average old age assistance payment in Harris County amounted to $24.81 per month. The average payment to needy blind individuals was $29.41 per month and the average payment to a family receiving aid to dependent children, $27.54 per month. It is probably true that in a considerable majority of cases, public assistance payments are not sufficient to maintain a minimum standard of living, even without any provision for meeting the costs of any type of medical care or special service required because of illness.

The community maintains Jefferson Davis Hospital for residents of the City of Houston who require medical attention and are totally unable to make any payment for it. The free and part-pay clinics and hospital care maintained by the Hermann Hospital are the only other significant source of "free" medical attention in the City. Public assistance payments are not large enough - even when a so-called "medical allowance" has been included to make it possible for dependent people to purchase care needed for the prevention, early diagnosis, prompt treatment and control of disease.

Since there are not sufficient facilities in the community offering these services without charge to the patient, there is an obvious explanation for the fact that far too many patients remain undiagnosed and untreated until their chronic diseases have reached an advanced stage in which prevention and cure are no longer possible. It is true, of course,

that money alone does not assure prompt recognition of symptoms and competent care. The provision of financial assistance, or other means of meeting the cost of care, must be supplemented with active health education which will cause patients to seek and obtain care after it is available to them. Until the financial problem is met, however, any other attempts to prevent and control chronic diseases will remain ineffective for the financially dependent and low income groups.

The present assumption that public funds can be saved by failing to make provision for adequate medical attention for health promotion, early detection of disease, prompt treatment and rehabilitation services, is completely unjustified by the facts. Permitting these long term diseases to go unrecognized and untreated until they have become completely disabling and incurable, ultimately places a far heavier burden on public funds than would be true if adequate attention were given to prevention, control and rehabilitation. Supporting an invalid through years of disability and helplessness, and frequently supporting a family also if the invalid has been a wage earner, is in the end a far more expensive process than the expenditure of funds for an adequate prevention and control program. A considerable proportion of the 500 or more families dependent upon aid to dependent children require assistance because of the disability of the normal wage earner in the family. As of present standards, the total cost of supporting these families in Harris County amounts to almost $170,000 per year, even at the present low standard of living. Much of this charge against the public treasury can be attributed directly to disability resulting from the chronic diseases, or from the physical impairments. Prevention of these conditions and of the disabilities related to them could result in a marked saving of public funds. Add to this the amount being spent for the support of the blind and for aged persons who might not require assistance if they had been

able to retain their health, and the amount of money which might be saved as a result of better preventive services comes to a very considerable figure.

There is urgent need in Houston and Harris County for more adequate provision for meeting the costs of medical care for prevention, early diagnosis, and control of the chronic diseases; for rehabilitation of patients; and for the care of permanently disabled people. The burdens of caring for permanently disabled people will continue to increase until effective action is taken toward making available to all the community better services for prevention and control of disease in its early stages.

It is significant to note, also, that the three privately operated nursing homes in the community generally regarded as most seriously inadequate in the quality of their care, are patronized predominantly by recipients of public assistance. These homes cannot be markedly improved until more adequate funds are available to meet the costs of good care. Nor can the problem be solved by moving the patients into public institutions. Even economically operated institutions of this kind cannot meet all the costs of adequate care within a $35 to $40 per month limit. The convalescent home operated by the Houston-Harris County Board of Public Welfare is operated with unusual efficiency. Its costs over the past 15 months have averaged approximately $55 per patient per month, not including any medical attention and not including full costs of the building and equipment which are shared with other public agencies.

More flexible procedures are urgently needed for determining the amount of money which can be paid from public funds for the care of chronically ill patients. And there must be more realistic facing of the public's responsibility for adequate financing of care. The blame for low quality of care in homes and institutions for the chronically ill rests at least as much on the public's failure to meet this responsibility as it does on the operators of the homes and institutions.

H. Community Facilities for Diagnosis and Treatment

The adequacy of facilities and services in the community for the diagnosis and treatment of illness is discussed in detail elsewhere in this report. They need not be elaborated here, except to point out that any shortages of such facilities tend to be felt first and most intensely by the patients in need of care because of chronic diseases. It is inevitable and entirely reasonable that when there are two patients in need of care and only one hospital bed available preference is given to the patient whose condition is acute. No one would wish to challenge this plan. The situation should not be permitted to exist, however, in which there is only one hospital bed for two patients, both of whom admittedly require care. There should be sufficient hospital beds, sufficient well-trained physicians, sufficient nurses, laboratory technicians and facilities, dentists, nutritionists and dietitians, occupational therapists, physical therapists and social case workers to meet the needs of all patients who require their services. Inadequacies in the availability of such medical personnel and facilities are another of the significant contributing factors in the extent to which chronic illness is neglected until it reaches an advanced stage. It is of extreme importance that adequate medical care be easily and promptly available to the patient in the early stages of the disease while there is still time to cure, control or check the progress of the disease.

I. Rehabilitation

Until very recently the community does not seem to have recognized the need for effective rehabilitation services, nor the possibilities which are inherent for the relief of many of the problems of chronic illness and invalidism. Considerably more emphasis should be placed on these needs and possibilities. There are some evidences that interest in

the subject is growing. The recent developments under which the Anti-Tuberculosis League has employed a staff member to do "rehabilitation service among tuberculous patients" is a step in the right direction. It is not yet clear, however, whether or not even in this program the methods and possibilities of constructive rehabilitation services are fully grasped. In any event, the present amount of staff is not sufficient even for an adequate demonstration of possibilities in this area. Some activities are being carried on through the Harris County Association for the Blind. Work is provided in the Light House maintained by the Association and this is undoubtedly of value. It is probably true here also, however, that the possibilities of a really constructive rehabilitation program have not been fully grasped, or at least have not been fully translated into the practice of the agency.

The special classes for handicapped children in the public schools perform a valuable service in teaching these children to live intelligently with their handicaps. The services of the State Board of Rehabilitation also have value, as do those of the State Commission for the Blind, Houston Training School for the Blind, the Goodwill Industries, and the privately operated school for spastic children. There appears, however, to be no well-rounded and effective rehabilitation program in the community which can offer constructive help to adults in learning how to live with their handicaps without becoming invalided by them. This may be another manifestation of the fact that the community does not yet seem to have become fully aware of the fact that invalidism need not be an inevitable result of chronic illness or physical handicap.

J. Services and Facilities for Continuing Care of Permanently Disabled Persons

It is estimated that there are in Houston and Harris County ap-

proximately 7,000 invalids. About 1,000 of them are receiving care in homes and institutions scattered throughout the county, most of them located in the City of Houston. It is estimated roughly that about 500 to 1,000 more are probably scattered in rooming houses, hotels, boarding houses, and other places not equipped to care for the sick. The remaining patients are apparently in their own homes with their families. There are marked inadequacies in both quality and quantity of services available for patients. This is true of patients in their own homes and for those dependent upon care in nursing homes and institutions.

K. Care of Patients in Their Own Homes

There is urgent need for more and better facilities in Houston and Harris County to help families care for invalids in their own homes. The Houston Visiting Nurse Association is providing excellent service. It is obvious, however, that their services are touching only a very small number of all the patients needing care. The V. N. A. reports a total of 600 visits during 1945 to 60 chronically ill patients. Although the Association is prepared to serve all economic groups, there is some question as to whether its facilities are being used to any considerable extent by families which are financially independent and able to pay the full costs of the service. The excellent quality of care given would seem to justify a considerably larger service than is now in use. There are, of course, many reasons why more service was not given in 1945. One of them undoubtedly was limitations on available personnel to staff the Association for a larger program. There is a need in the community for a great expansion of this service, however, and it is to be hoped that the V. N. A. services to chronically ill patients in their own homes will expand markedly in the near future.

Housekeeper service on a visiting basis is an essential part of an adequate community program for care of the chronically ill. Many patients

greatly prefer to remain in their own homes and can do so if some help can be obtained in the housekeeping service. Frequently this can be handled on a part-time visiting basis. The need exists for all economic groups and is urgent among those who are able to pay for the service, as well as those who are financially dependent. It appears that the only service of this kind now available in the community is that provided by the Family Service Bureau, which maintains a total staff of 7 visiting housekeepers. The great excess of demand for service over the amount which can be supplied by so small a staff, has resulted in a policy which makes such service rarely, if ever, available to long term patients and their families. As a result, for practical purposes, the community now has no housekeeping service which can help families to meet these problems when they arise in relation to the care of invalids in their own homes.

The community has no provisions for services on a visiting basis to patients in their own homes by nutritionists and diet therapists, by occupational therapists, physical therapists or persons skilled in rehabilitation service.

Some social case work services are available through the Family Service Bureau, the Jewish Family Service and the Salvation Army. Social case work services are also provided, in theory, to recipients of public assistance. Case loads in the Aid to Dependent Children, Aid to the Needy Blind and the Old Age Assistance programs, however, are so high that in actual practice individualized case work service cannot be provided. There is urgent need in the community for more and better services which can help families to meet the problems of caring for invalids in their own homes.

L. Nursing Homes and Institutions

There are in Houston and Harris County two governmentally operated institutions for the care of patients suffering from long term illness. The convalescent home operated by the Houston-Harris County Board of Public Wel-

fare on the top floor of the old Jefferson Davis Hospital, and the Harris County Home for the Aged, which is located approximately 12 miles out of the City of Houston. The opinion was expressed on a number of occasions by persons interviewed in the course of the survey that there is urgent need for more beds in governmentally operated institutions. Neither of the two present institutions is operating at full capacity, however. At the time they were visited, the Houston-Harris County Board of Public Welfare Convalescent Home had 33 patients with a total bed capacity of 45. The Harris County Home had 74 patients and a total capacity of 100. The fact that neither of these homes is operating at capacity can probably be explained by factors other than lack of need for care in the community. The Board of Welfare Convalescent Home is relatively small and there are some problems of bed adjustments between the male and female services which make it difficult for the home to operate at full capacity. A factor that probably has greater importance, however, is the admission requirement which restricts the services of this home to persons who are totally indigent; are not eligible for assistance under other public assistance programs; and meet all of the rather rigid eligibility requirements for receiving assistance through the Houston-Harris County Board of Public Welfare. The relatively isolated location of the Harris County Home for the Aged probably helps to explain the fact that it is operating well under capacity. It is located a considerable distance from the center of the city and is not very easily accessible to it. Patients usually are reluctant to enter institutions far removed from their families, friends, and home surroundings. There may be some influence contributed also by the fact that the Harris County Home is definitely a home for the aged and many of the invalids needing care in Harris County and Houston are not aged people. Occupancy here also is limited to persons who are not eligible for public assistance through the old age assistance and aid to the needy blind programs.

The care provided in both of the governmentally operated homes is of relatively good quality. In both instances the homes are clean and are managed and staffed by persons who apparently carry on their work with real human understanding and kindness. Food, shelter and the general atmosphere, in both homes, appears to be well up to reasonable standards. The Welfare Board Convalescent Home is particularly notable for the resourcefulness and attitudes of its Superintendent and the intelligent cooperation given by the Director of the Welfare Board. The lack of medical attention in this home is surprising in view of the high quality of care provided in other respects. The home has no provision for the services of any physician except in so far as they can be obtained by moving the patient from the home to Jefferson Davis Hospital in an ambulance. The lack of such service is probably related somewhat to a fairly general pattern in the community of regarding assistance to needy people as something which does not include provision for medical attention or health services. The persons responsible for the management of the Welfare Board home are aware of the need for better provision for medical attention and are attempting to find some method for meeting it. It is to be hoped that they will succeed in these efforts in the very near future. Medical services in Harris County home are provided by a county physician who visits the home every second Sunday and when called at other times. There are indications that the medical attention in the home is somewhat sketchy, but at least some provision is made to meet the medical needs of the disabled people in the home.

There are four institutional homes in the community operated on a not-for-profit basis and offering some degree of care for disabled people. They include St. Anthony's Home for the Aged with 54 beds, the Maria Boswell Flake Home with 9 beds, the Home for Aged Sons and Daughters of Israel with 15 beds, and the Sheltering Arms with 10 beds. These homes are intended primarily for the care of aged people and their residents are predominantly

in the higher age groups. Practically all of them, however, are suffering some degree of disability due to chronic illness. It is surprising that in these homes also some vacancies were reported in spite of an obvious need in the community for care. The Home for Aged Sons and Daughters of Israel, for instance, reported 10 patients in the home and 5 vacancies; the Maria Boswell Flake Home reported 5 residents and 4 vacancies; the Sheltering Arms and St. Anthony's Home for the Aged apparently are operating at full capacity.

Houston and Harris County have relatively fewer institutional homes for the aged or disabled than most communities of this size. It is difficult to know exactly why this is true. It is probably explained in part, however, by the rapid growth of the city and the fact that even yet the population in this community is younger than is true in many other places. The community has not yet faced the problems of an aged population to the extent that some other communities have been forced to do. It is difficult to estimate the extent to which the relatively few institutions under non-profit auspices in this community can be attributed to a lower degree of interest on the part of the community in supporting not-for-profit services. There are indications that this is not a major factor. Funds have been made available in generous amounts for maintenance of hospitals under non-profit auspices and conversations with various persons in the community seemed to indicate a consistent preference for non-profit service as compared with institutions operated by government, or services left entirely to proprietary management. There appears to be at least enough possibility of future development of services under not-for-profit auspices to justify aggressive attempts in this direction.

The tendency of small proprietary nursing homes to spring up over night and vanish almost as rapidly makes it difficult to determine exactly how many such homes there are in the community. The number seems to fall somewhere between 30 and 35 with a total bed capacity of roughly 800. The

quality of care in these homes shows wide variation. As might be expected, those offering care for large numbers of persons depending upon public assistance and therefore limited in the amount they can pay for the service offer care which is far from adequate. Mention has already been made of repeated statements by public officials that not one of the homes operated in the City of Houston can meet acceptable standards of safety and sanitation. The community has good reason to be concerned by the inadequacies of these homes. There are, of course, notable exceptions to the low quality of care. A few of the homes (not more than 20 to 30 per cent of the total) offer care which is good from the point of view of pleasant surroundings, cleanliness and adequate physical attention. There is probably no community in the United States at the present time which does not have some inadequate nursing homes. Some of Houston's homes, however, are certainly worse than those tolerated in most communities of its size.

Two of the four homes visited during the course of the survey had mentally ill and disturbed patients housed alone in small out-buildings which apparently had previously served as chicken houses. The managers in both instances explained that these patients had to be kept by themselves in these accommodations because they disturbed other patients. The arrangement apparently had not been considered seriously from the point of view of what it did to these patients, nor had it apparently occurred to the managers that the patients should not be in their homes at all if they were not equipped to offer better care.

One home housed two blind men in an out-building barely large enough for the two beds. One of the men was helplessly bed-ridden, the other ambulant. The building was an old frame structure and at the time of the visit the floor was littered with matches, some of which had been burned (apparently by the ambulant patient while lighting cigarettes) while many

others were still unused and strewn directly in front of the entrance where the friction of stepping on them might easily have ignited them and caused the entire structure to go up in flames. This same home houses 11 patients with active tuberculosis and includes among its patients a 17-year old spastic boy who apparently has been completely helpless since birth. Although it is in the City of Houston, the home has no sewer connection and makes use of a septic tank which leaks. The buildings are all frame and appear to be highly combustible, but it is 400 feet to the nearest fire hydrant. The manager of this home appears to be a conscientious person with good intentions. She is limited in her ability to operate a good home by many factors, some of which are beyond her immediate control. Many of her patients are recipients of old age assistance and can pay her only $35 per month for their care. She is under constant pressure to admit more patients and to use every available bit of space and every possible building on the place. The great pressure in the community for facilities for the care of patients at low cost, keeps her home constantly in demand. Although she is apparently intelligent and conscientious, she had had no previous training or experience to equip her for the management of a home. Much of the inadequacy of care can probably be attributed to this factor. The housing shortage, combined with the lack of funds, makes it impossible for her to obtain buildings for this purpose which are safer from the point of view of fire and sanitation. This home is not the worst in the community. It is, however, an illustration of the serious inadequacies in care now available.

It is useless to attempt to improve such homes through licensing requirements or to eliminate its services at this time. The community will have to face some of the deeper factors contributing to low quality care before improvement can be expected. Particularly, responsibility must be accepted for more adequate financing of service.

M. Bed Requirements

The needed facilities for chronic care are frequently measured from two to four beds per thousand population. The generally accepted figure of three beds per 1,000 population is probably a reliable index to the number of beds needed for long-term care of chronically ill patients. However, applying the minimum basis to the 1945 estimated population of Harris County, there should be a total of at least 1,290 beds for this purpose at the present time. Including the full capacity of homes for the aged as well as all known nursing homes and institutions, the community has barely two-thirds this many at present. Of the ones now in existence, at least half should be markedly improved or replaced at the earliest possible time by ones offering better quality of care. Therefore, the more realistic viewpoint would indicate an approximate shortage of 700 beds.

Applying the minimum of two beds per 1,000 population to estimated population figures for the future, it is estimated that Houston and Harris County's need for such beds will be approximately 1,400 by 1950 with a shortage of 800 beds, 2,000 by 1960 with a shortage of 1,400 beds, and 3,000 by 1970 with a respective shortage of 2,400 beds.

N. Coordination of Community Activities

There is more detailed discussion elsewhere in the Study Report of the coordination of health and welfare activities in the community. Services related to chronic illness seem to reflect a general need for better coordination in the community.

The Health Council of the Houston Council of Social Agencies offers at present the most comprehensive coordinating service in the community. It does not appear to be as comprehensive as might be desirable, however. The work of hospitals is not effectively coordinated with other health and welfare services in the community. Hospital administrators and board members have a vital part to play in dealing with the problems of chronic illness.

Their experience is a necessary ingredient of good planning for development of additional services for prevention and control of the chronic diseases and for long-term care of patients. They do not appear, however, to be taking any active part in the consideration now being given to the problem of chronic illness.

The community has relatively very few preventive services related to chronic illness. The ones there are do not seem to coordinate their services in effective planning or action.

There seems to be some overlapping in function between the Health Committee of the Chamber of Commerce and the Health Council of the Council of Social Agencies. It seems probable that both could be more effective if their efforts were better coordinated.

The same problem is apparent within public services. The Houston-Harris County Board of Public Welfare and its Convalescent Home; the Harris County Home for the Aged; and the public assistance program for patients in private nursing homes seem to operate quite independently of each other. Each operates with rather rigid eligibility requirements. Services provided by one agency cannot be shared by persons who are receiving help from another. Some of the reasons for this are beyond the immediate control of the administrators of the programs. It, nevertheless, is an unfortunate situation from the point of view of efficient public administration as well as that of the patients. While recipients of old age assistance are suffering for want of homes and institutions, 25% of the beds in the Harris County Home remain vacant and almost a third of those in the Welfare Board Convalescent Home are unused. There is no provision for medical care in the Welfare Board Convalescent Home and no provision for extension of medical services into the Home by Jefferson Davis Hospital. As a result, the care of patients suffers and money is wasted in makeshift provisions to meet medical needs.

In the field of community interest and volunteer service related to chronic illness there is also a regrettable lack of coordination and directional Women's Clubs, church groups and others are giving time and money to help relieve the inadequacies in care of chronically ill patients. Their efforts are not particularly successful, however. There does not appear to be any central point in the community through which their interest and resources can be steered into constructive channels. There are tremendous possibilities among these groups for creating an intelligent public understanding of the problems of chronic illness and popular support for good programs to solve them. These possibilities are being dissipated, however, for want of coordination and leadership.

The recent organization of the Volunteer Community Services may be at least a partial answer to this need. It is too recently established to have become effective yet. It will require close coordination of their work with that of other agencies concerned with the problems of chronic illness if they are to become effective in this field in the future.

VI - Summary

The planned development of The Texas Medical Center offers rare opportunities to Houston, Harris County, and the State of Texas. It is possible to envision excellent facilities and services for the prevention and control of the chronic diseases and for the care of persons disabled by them. Many of the roots from which these services can be developed exist now in the community. At the present time, however, the community's facilities are far from adequate when viewed as a whole. Many of the services and facilities which are available are not coordinated are inadequate in scope and amount and low in quality.

Chronic illness is the largest single health and welfare problem now facing the community. No organized, comprehensive effort has yet been

undertaken, however, to meet it.

The community as a whole does not seem to be fully aware of the size and seriousness of the problem. The community attitudes, in general, seem to be fatalistic and accepting of the problem of caring for invalids - rather than constructive and aggressive in attempting to find ways of preventing and controlling it. The possibilities of prevention and control of the chronic diseases seem to have had little consideration. The M. D. Anderson Hospital for Cancer Research stands out as a notable exception to this statement. It is notable, also, as a pattern which might well be followed in such other chronic diseases as arthritis, arteriosclerosis and other circulatory disorders, diseases of the heart, etc.

There is urgent need for educational work which will be more effective in preparing physicians, nurses, and other professional personnel to deal with the problems of prevention and control of the chronic diseases and the care of patients disabled by them.

There is a tragic lack of services for health education, health promotion, and early detection and treatment of disease, as these are needed in prevention and control of the chronic diseases.

Efforts at improving the quality of care in nursing homes and institutions for the chronically ill have not been effective. They will not be effective so long as they continue to consist entirely of attempts to eliminate low quality homes through licensing requirements. The problem of adequate financing of care for dependent and low income people must be faced more realistically. Present provisions for meeting the needs of the poor are inadequate as they relate to prevention and control of the chronic diseases and to the continuing care of permanently disabled people.

VII - Recommendations

As steps toward meeting the problems of chronic illness in Houston and Harris County, the following recommendations are offered:

1. (36) That of the maximum 1,030 beds now available for the chronically ill in present institutions and nursing homes, at least 430 beds should be replaced or markedly improved.

2. (35) That the community provide a minimum of 1,400 total beds for the care of the chronically ill patients by 1950, 2,000 beds by 1960, and 3,000 by 1970.

3. (37) That the bed shortage for the chronically ill should be met by the development of units as integral parts of general hospitals, but specialized units could operate effectively provided close working relationships were maintained with general hospitals.

It is recommended that these facilities be constructed, owned, and managed by not-for-profit corporations. Voluntary philanthropy, however, should not be expected to bear the costs of caring for financially dependent people in the institutions. The costs of care for patients unable to pay their own expenses should be met by public funds paid to the institutions on a fee-for-service basis, through public assistance agencies or other appropriate units of the local, State, or Federal government.

4. (38) That there is need for a Community Rehabilitation Center closely correlated with out-patient services and with the facilities for the long-term care of chronically ill patients. The services of the Rehabilitation Center should be available to out-patients and to in-patient services for treatment and for long-term care. Preferably it should be located in The Texas Medical Center.

5. (39) That present agencies expand their programs or new agencies be created to emphasize preventive measures in the field of geri-

---

Note: Numbers in () indicate number of recommendation in Abstract

atrics through increased medical research, social and economic research, professional education, and general public health education.

6. That an appropriate administrative official in The Texas Medical Center be responsible for the stimulation of interest in and leadership in developing medical research and professional education in the chronic diseases; and for planning and coordinating activities in the Center related to the chronic diseases and the care of patients disabled by them.

7. (40) That the proposed consolidated Public Health Department not only keep pertinent vital statistics of chronic diseases, but that aggressive licensing procedures be invoked to improve rapidly the physical facilities and the quality of care in units furnishing service to the chronically ill.

8. (41) That, as a means of retarding the chronic problem, community services be developed on a visiting basis to families caring for invalids in their homes, in the following specialties: housekeeping aides, nutrition advisors diet therapists, occupational therapists, and recreational workers.

9. (42) That an intensive program of health education directed at the particular chronic diseases not now being covered be instituted. This should be initiated at the earliest possible time. It should include, also, general education of the public on the problems of chronic illness, and should provide for coordination of volunteer services and other community activities related to community efforts to meet the problem.

The program should be under the direction of an agency prepared to give consideration to all the various diseases; to coordinate the activities directed at particular diseases; and to stimulate the development of new services in the community as needed.

If the Houston City Health Department and the Harris County Health Unit cannot undertake such work immediately, efforts should be made to establish such a program under the auspices of the Health Council of the Council of Social Agencies of Houston and Harris County. The program might be developed under the guidance of a coordinating committee composed of agencies now concerned with various aspects of the problems of chronic illness. Adequate provision should be made for financing its work, including provision for the employment of competent staff on a full-time basis.

10. (43) That immediate efforts be made to bring about the removal of the State Constitution limit on the amount of public assistance which may be paid to needy individuals, regardless of need in the individual case. The legal provisions should be such as would permit varying the amount of public assistance payments when illness and other requirements increase the amount needed in individual cases. In the meantime, immediate efforts should be made to supplement the amounts of public assistance payments to chronically ill recipients of Old Age Assistance and Aid to the Needy Blind. Every effort should be made immediately to bring these payments up to a level which will permit at least a minimum adequate quality of care for these patients.

As part of these efforts to bring about better standards of assistance, workable and realistic standards for evaluating quality and costs of care for chronically ill people should be formulated and adopted by the State Welfare Department.

11. That provisions be made at the earliest possible time to make available to dependent and low income people medical care for the prevention, early detection and treatment, and rehabilitation of the chronic diseases and of persons handicapped by them.

Preferably, these services should be provided to needy people by the same physicians and other practitioners, and the same hospitals and other institutions as serve other patients in the community. Payments for the services received by needy patients should be made on an adequate level from public funds just as payments for other patients are made from the individual's own resources.

If the community does not wish to follow this pattern in providing the services, it might expand existing governmental services for the poor through the Jefferson Davis Hospital and the Health Department. Comprehensive out-patient services might be established either at the hospital or under the Health Department. If this is done, care should be taken to assure that the services will not be limited to treatment of well-established disease. Adequate health promotion and disease detection services should be included. Care should be taken also to assure that services will be available to patients able to pay part, but not all, of the costs of their care as well as those unable to make any payment.

12. That any expansion of publicly operated - or other - facilities for care of long-term patients be developed in close affiliation with general hospital services in the City of Houston or other towns in the County having good general hospitals. Facilities should not be located in isolated rural areas.

13. That public - and other - agencies concerned with rehabilitation and/or care of handicapped persons, or those disabled by chronic illness, should correlate their activities closely with the services provided in The Texas Medical Center.

PROPOSED SCHOOL OF PUBLIC HEALTH

I - Need for A School of Public Health

Although the Board of Regents of the University of Texas and the Directors of The Texas Medical Center have already committed themselves to the proposition that the University will establish a School of Public Health and locate it within the Medical Center, some interest may be attached to the possible needs for a school of this character.

At present there are nine schools of public health in the United States located at the following universities: California, Columbia, Harvard, Johns Hopkins, Michigan, Minnesota, North Carolina, Vanderbilt, and Yale. Within the Southwest, the University of Oklahoma is considering the development of such a school and has appointed a planning committee; possible interest has also been expressed at Tulane. The existing schools differ greatly as to the extent to which they seek to train all groups of health personnel or limit their interest to certain professional groups. At present they are not taxed to the limit of their capacity. The turnover of public health personnel is so rapid, however, that if such personnel could be found to fill all positions now vacant and such personnel were to be trained before employment, the training load would be greater than could be borne by existing schools. Further development of public health, as envisioned by the Emerson report on Local Health Units for the Nation, would further increase the demand for trained personnel.

The situation with respect to public health nurses is comparable. Only three of the schools of public health provide for training of public health nurses. The remainder of the nurses receive their training in courses in twenty-eight other universities. In all but two or three of

these, the courses are not so much as affiliated with a school of public health, a situation which the writer believes to be detrimental to both the school of public health and the public health nursing course. These schools are in general quite crowded though the degree of crowding is very uneven. Within Texas the only school is that of the College of the Incarnate Word at San Antonio, obviously too small to train the 1,284 nurses needed for local health work in Texas, as estimated in the Emerson report. Other nurses receive training at Peabody and Vanderbilt in Nashville and at St. Louis University in St. Louis. Were all existing public health nursing vacancies to be filled with trained personnel and new positions established in accordance with the Emerson report, additional facilities would be needed to train the necessary personnel.

The situation in Texas and the other States of the Southwest is shown in the accompanying table. This takes no cognizance of the personnel required in State health departments. The writer is in general accord with the estimates except for those of engineers and health educators which he believes to be gross underestimates. It should be pointed out further that these estimates are based on 1940 population and make no allowance for current or future growth in population.

The establishment of a School of Public Health in Houston would offer the added advantage of location in or near an area where tropical diseases are of major importance. Although significant instruction and research in the field of tropical disease has been carried out in several of the existing schools of public health, none of them is located with particular reference to this field of medicine.

Public Health Personnel Currently Employed and
Ultimately Needed for Adequate Local Health Service
Modified from Emerson's "Local Health Units for the Nation."

	Texas		Oklahoma		Arizona		New Mexico		Total	
	Present	Desirable	Present	Desirable	Present	Desirable	Present	Desirable	Present	Desirable
Health officers Full time	43	80	30	32	5	7	10	10	98	129
Part time	13	---	---	---	---	---	30	---	43	---
Other medical administration	45	35	12	13	1	4	5	8	63	60
P. H. Nurses	415	1284	130	464	77	101	74	107	696	1956
P. H. Engineers	30	87	63	32	---	7	---	---	30+	126
Sanitarians	227	163		58	11	13	13	32	251+	266
Veterinarians Full time	23	34	---	4	1	1	---	---	24	39
Part time	7	---	---	---	---	---	---	---	7	---
Laboratory workers Full time	49	235	10	85	---	12	2	14	51+	346
Part time	20	---		---	1	---	---	---	21+	---
Dentists Full time	9	16	---	---	---	---	---	---	9	16
Part time	5	192	8	60	3	17	2	14	18	283
Dental Hygienists	---	204	---	70	---	16	---	27	0	317
Health Educators	---	34	---	2	---	1	---	1	0	38
Others	50	115	4	42	---	5	1	5	55	167

Because of the growing importance of Houston as a sea and air port connecting with the American tropics, a school of public health in this city would be singularly well situated to take a position of prominence in this field. Just as every existing school has placed special emphasis on some phase of its program, so a school in Houston might well develop the field of tropical medicine and hygiene as one of its major interests, without neglect of the diverse local problems presented by a State which covers so vast an area as does Texas.

In view of the foregoing, it is logical to conclude that

A. There is need for additional facilities for public health training in the United States.

B. There is no school of public health in the Southwest, and local facilities for the training of public health nurses are inadequate.

C. Establishment of a school of public health in Houston would, therefore, help to fill an existing need and a need which will probably be greater in future years.

II - Scope of a School of Public Health

Two widely divergent points of view exist as to the desirable scope of a school of public health. Some would limit such a school to little more than the training of medical health officers, delegating the training of public health engineers to schools of engineering, of public health nurses to schools of nursing, and of health educators (if any) to colleges of education. Some engineers would prefer not even to recognize the category of public health engineer, preferring to think in terms of sanitary engineers employed by health agencies. Under such a philosophy of decentralization, each group is highly trained within its own sphere of activity but unfortunately loses sight of the role that the other groups must play in the communi-

ty program. Consequently, the opposite school of thought conceives of the school of public health as the agency for the graduate education and training of the entire public health team. Under such a philosophy, the school of public health would receive physicians from the medical schools, nurses from the schools of nursing, engineers from the engineering schools, etc., and would, through its postgraduate facilities, teach these several professional groups the application of their skills to the entire public health program and mould them into a cooperating team of health workers.

The natural correlary of this latter philosophy is that the school of public health has an added function, that of helping to educate the public to an appreciation of the value of health and, therefore, a willingness to support a satisfactory community health program. There has been a tendency to forget that health is not a matter of concern solely to certain professions. We cannot think of medical health, dental health, engineering health or any kind of health other than public health. As it is the public whose health is being protected, so it is the public that must be educated to the point of supporting the program. Present-day public health results are far behind their potential achievements chiefly because the public has not given adequate support to the program due to lack of understanding and appreciation.

The writer is of the belief that the school of public health of the future must be built around this latter philosophy. This is particularly true of a state-supported university which has an obligation to the taxpayer somewhat different from that of the privately supported universities. It is recommended, therefore, that any school of public health to be established at Houston be designed to provide the broadest possible graduate training in public health, to include programs for physicians, dentists, engineers, nurses, medical administrators, hospital administrators, laboratory personnel,

health educators and such other professional personnel as may be included within the public health field.

III - Institute of Geographical Medicine

During recent years there has been a slowly growing realization of the fact that relationships may exist between geography and disease. The first comprehensive study of this relationship was made late in the 19th century by Hirsch. Several subsequent investigators have touched on this problem and the Germans coined the term "geomedicine", though attaching to it certain political implications. Students of tropical medicine have been more conscious of geographical relationships than have other medical groups. During the recent war, the Germans made preliminary geographical studies within the Mediterranean basin while the United States extended its studies to all parts of the globe as an urgent necessity incidental to a global war. The American Geographical Society has expressed interest in this topic and has committed itself to certain research projects.

The resumption of international commerce in the post-war period and the speeding up of travel incidental to aviation developments have emphasized the need for more precise studies of geographical medicine. Some very rough plotting of the distribution of certain infections and nutritional diseases has been accomplished, but these are crude and inexact at best. Next to nothing is known of the geographical distribution of other types of disease. Such studies of distribution are an essential prerequisite to the initiation of studies to determine factors which underlie these differences, studies which may conceivably shed considerable light on underlying etiological factors.

To explore the field of geographical medicine there is an obvious need for the establishment of several institutions. One such was established

in Basle, Switzerland, during the war, but its early publications give little reason to anticipate significant progress. One or two universities in the United States have indicated an interest in such a venture, but none has embarked upon it. If a School of Public Health is to be developed at Houston according to the plans presented herewith, it might be a logical center for developments along this line.

Already it is apparent that Houston may develop into one of the major outlets to Latin America and to a lesser degree to Africa. It may thus serve as an unwilling portal through which diseases indigenous to other countries may be introduced into the United States. An institute of geographical medicine located in Houston would thus be situated on one of the major pathways through which diseases largely localized by geographical factors may be migrating under changed conditions of travel. Furthermore, the Southwest represents a geographical unit which remains largely unexplored so far as concerns its disease problems determined by climate and other geographical factors. An institute of geographical medicine, bringing together skills in medical research, epidemiology, and geography, would find Houston a logical focus from which to spread its activities both locally and internationally. Such an institute should logically be a part of a school of public health, taking full advantage of the several units or departments that comprise such a school.

IV - General Organization of Program

There is no standard pattern which can determine the form of organization of a school of public health. Although the Committee on Professional Education of the American Public Health Association in establishing its criteria for accreditation has insisted on effective autonomy for such schools, it has purposely avoided any suggestion as to how this shall be

achieved. At present the pattern of organization ranges from that of a completely independent school within the university structure to that of a department of a medical or graduate school. All intermediate gradations are recognizable. The significant common denominator is that the public health faculty has been entrusted with the responsibility of guiding its own destinations, determining its own policies in a manner and to a degree comparable to that of an independent school of a university.

The internal structure of a school is, however, dependent upon the physical and organizational relationship of the school to other parts of the university. In some schools there has been a high degree of duplication of teaching and research facilities that exist elsewhere within the university. Thus, departments of bacteriology and parasitology have been established which duplicate those in related and physically contiguous medical schools within the same university. Such duplications obviously increase the expense. In other instances the school of public health has turned to other parts of the university for certain course work which is desirable as part of the public health curriculum. Through this technique, schools have obtained instruction in epidemiology, bacteriology, parasitology, sanitary engineering, political science, speech, public health nursing, journalism and other subjects. In some cases this has been accomplished through joint appointments, in other instances through intra university arrangements whereby special courses of instruction were created by other university departments or public health students took advantage of courses that already exist. At the same time, the parts of the university have obtained comparable assistance from the school of public health. Interchange of this character is possible, however, only if there is close physical relationship between various parts of the university. Separation by a distance of several miles usually imposes serious obstacles.

A school of public health maintained at Houston by the University of Texas would be in a semi-isolated position and would, therefore, have to duplicate certain facilities that already exist at Austin or at Galveston. Duplication of certain other facilities would be required, however, if the school were located in either Austin or Galveston. It is probable that no greater duplication will be needed at Houston than would be the case at either Austin or Galveston.

Relationships that could be established at Houston with the University of Texas School of Dentistry, the Baylor Medical School, and the Rice Institute, all of which are or will be located in or adjoining The Texas Medical Center, could potentially reduce the extent of duplication. Such cooperation would result in a substantial saving to all participating institutions.

Cooperative facilities that could be so achieved are as follows:

A. Instruction in preventive medicine and public health in Baylor Medical School. As the School of Public Health and the Baylor Medical School are to be located on contiguous land within the Medical Center, the latter should logically turn to the former for its instruction in preventive medicine and public health, including epidemiology, sanitation, medical economics, statistics and public health administration.

B. Instruction in preventive medicine in Texas Dental School. Just as such instruction could be furnished to Baylor Medical School, so could it likewise be furnished to the Dental School.

C. Instruction in parasitology. Rice Institute is at present carrying on notable work in parasitology under the direction of one of the leading parasitologists of the country; some instruction is given also in Baylor. For each of these and the School of Public Health to conduct independent de-

partments of parasitology would constitute an obvious duplication. It is recommended that cooperative arrangement be reached whereby a unified and expanded institute of parasitology might be achieved, either in the School of Public Health or in Rice Institute.

D. Instruction in public health engineering. The Rice Institute is at present offering courses in sanitary engineering in the civil engineering curriculum. These courses have been poorly developed and are inadequate as an introduction to public health. If these were strengthened, they could be utilized by the School of Public Health as part of its work in public health engineering, thus permitting it to limit its development to the public health aspects of engineering without the necessity of bolstering its program with instruction in the structural aspects of sanitary facilities. Similar utilization might be made of existing courses in ventilation and air-conditioning. If such strengthening of the sanitary engineering in Rice is not possible, the School of Public Health would be obliged to expand its staff and facilities to provide for complete instruction in both sanitary and public health engineering.

E. Coordination of bacteriological teaching. Within the Medical Center, several education units will have need for instruction in bacteriology; viz., the School of Public Health, the Dental School, Baylor Medical School, and the University School of Nursing. Rice University likewise offers instruction in bacteriology through its Department of Biology. For each of these units to attempt to provide independent bacteriological facilities would be uneconomical. The development of one strong unit with utilization of its facilities by the other institutions would provide proper instruction and opportunities for research at a minimum cost. The Baylor Medical School is already well equipped to this end and its physical plant

is nearing completion. It might, therefore, serve as a bacteriological center for all of the cooperating institutes.

F. Cooperation with other fields. Two separate proposals have been made with respect to the undergraduate course in public health nursing, that it be made a part of the proposed University School of Nursing (see Nursing report) and that it be part of the School of Public Health (see elsewhere in this report). Whichever plan is selected will require close cooperation between the University and the School of Public Health. Under the former plan, the public health nursing students would turn to the School of Public Health for technical instruction in all phases of public health other than nursing; under the latter plan the students would turn to the University for courses in sociology, political science, and psychology.

The graduate program for all groups in the School of Public Health may require assistance from the University of Houston or Rice Institute in the form of admission to courses in political science, economics, journalism, speech and related subjects. At the same time, it is possible that students in the University of Houston as well as Rice may wish to take advantage of certain public health courses offered in the School of Public Health.

G. Cooperation with proposed Negro medical school. It is understood that plans are under consideration for the establishment of a Negro medical school at another point in the city. Instruction in preventive medicine might well be carried from the School of Public Health to this Negro school within the prevailing pattern of racial separation.

The above proposals for cooperation with other universities or university branches within the Houston area depend on mutual agreements with appropriate fiscal adjustments. Basic to such agreements is a willingness of each institution to admit to its classes students from the other institutions and the acceptance of credits so earned without reduction in value.

Such exchange exists between other universities at the present time; to a limited degree the University of Texas is already a party to such agreements.

H. Cooperation with City and State Health Departments. The establishment of a School of Public Health and erection of a suitable building at the Medical Center should be accompanied by an attempt to transfer to the Medical Center area certain facilities now maintained elsewhere in the city by the local and state health departments.

At present the state maintains a regional laboratory in the old Jefferson Davis Hospital. This laboratory serves Harris County and several surrounding counties which normally turn to Houston. The nearest other regional laboratory is 100-150 miles distant. Owing to the existence of this laboratory and its maintenance in close affiliation with the City Health Department, the city is not obliged to maintain an independent laboratory. Most of the work done deals with environmental sanitation and the enforcement of quarantine practices. In conformity with public health practices throughout Texas as a whole, the laboratory plays an insignificant role in the provision of diagnostic assistance to the physicians, a smaller role than in almost any other state in the Union. This lack of availability of free laboratory service may well be a not inconsiderable factor in Texas' unenviable possession of one of the worst communicable disease records in the United States.

In virtual conjunction with the State regional laboratory, the City Health Department maintains its typhus control unit, which operates on a laboratory basis. The future will undoubtedly see even further need for public laboratory services of this character as the role of arthropods in the local spread of disease is further recognized and industrial hygiene programs become better developed.

As the present physical plant in which these state and city functions are now being performed is old, both must look forward in the next few

years to the relocation of their facilities. Location of these on the grounds of The Texas Medical Center, adjacent to or as an integral part of the School of Public Health would be of material advantage to all parties. The School would benefit from having easy access to the laboratory material for teaching and research purposes. The laboratories in turn would benefit from the stimulus that comes from association with a teaching program, access to advisory assistance in bacteriology, parasitology, entomology and related subjects and ready access to the Central Library, Pathological Institute, and other facilities of the Medical Center. Comparable cooperative facilities between universities and public health laboratories already exist in several states and are being planned as a part of the post-war development in others. Under such an arrangement the professional staff of the laboratory become active members of the university faculty and participate in the teaching program, to the benefit of university, health department and students alike.

Other aspects of the City Health Department program might equally become affiliated with the School of Public Health, to the mutual benefit of each agency. The Health Department has already projected a plan for decentralization of many aspects of its work, through the establishment of district health centers. Suitable locations for the first five of these have already been selected. Although none of these first five is currently planned for the region of the Medical Center, the rapid growth of the city in this direction will ultimately make a center in this area also advisable. The teaching value of a district health center as a part of the physical plant of a school of public health has been demonstrated in New York. The school profits from the immediate availability of facilities for the study and observation of public health practice; the health department profits from the advice and assistance of school staff, access to added facilities, and the stimulus that comes from close association with a teaching program. It is

recommended, therefore, that the physical and organizational plan for the School of Public Health include provisions for a district health center either in the School of Public Health building or in a connecting building. The Health Department portion of the building should include provisions for housing of official and non-official agencies such as the visiting nurse service, tuberculosis association, and other agencies which play such a vital part in the community health program. The School of Public Health would thus become a real health center, coordinating the teaching and the official and non-official service aspects of the program under one roof.

V - Programs of Instruction and Budgets

In order to carry out a program of public health instruction and research as envisioned above, provisions should be made either within the School or through cooperation with one of the other universities in Houston for instruction in the subjects enumerated below. The costs of each program are rough estimates of the bare minimum and the desirable budget.

A. Public Health Administration. Organization and philosophy of public health practice and the development and operation of community programs. This unit should be developed in close collaboration with state, county and city health departments to provide practical experience. Budget $10,000-$20,000.

B. Epidemiology. Factors governing the occurrence of disease. To be developed in close collaboration with units of bacteriology and parasitology, and the Institute of Geographic Medicine, and to serve not only the School of Public Health but also other schools. Budget $10,000-$25,000.

C. Bacteriology. The role of bacteria and viruses as a cause of disease, this unit to be developed as an expansion of the present Baylor Department of Bacteriology or through the School of Public Health but to serve all schools. This unit might be developed in close coordination with the

city and state branch laboratories, which should be located as a part of the Medical Center. Budget, if independent: $15,000-$30,000.

D. Parasitology. Role of animal parasites as a cause of disease, this unit to be developed as an expansion of the Rice Institute or part of the School of Public Health and to serve all institutions. This unit should be developed in close coordination with the city and state laboratories. Budget, if independent: $15,000-$25,000.

E. Public Health Engineering. Sanitary and health control of the environment through engineering measures, and application of such principles by public health agencies. To be developed parallel to sanitary engineering instruction in Rice Institute and to serve all institutions. Budget $10,000-$25,000.

F. Public Health Nursing. Role of nurses in community health program with training in application of nursing skills to solution of health problems. To be developed either as part of School of Public Health or of School of Nursing in a university. Budget $15,000-$20,000.

G. Health Education. Development of community programs for popular education in matters of health, and public relations program of health department. Budget $5,000—$15,000.

H. Medical Economics. Social and economic aspects of medical care, with special attention to development and administration of health insurance and other community programs for medical care. Budget $10,000-$20,000.

I. Biostatistics. Statistical procedures as applied to study of vital phenomena with particular reference to vital statistics and epidemiology. Should provide instruction not only to School of Public Health students, but also to Baylor Medical School. Budget $7,500-$15,000.

J. Industrial Health. Study of special hazards associated with

industrial processes, measures for their control and development of programs for medical care in industry. Budget $10,000-$30,000.

K. Geriatrics. Factors conditioning degenerative diseases. This unit may be incorporated with the unit for physiological hygiene or may be kept separate. Budget for separate maintenance: $7,500-$25,000.

L. Physiological Hygiene. Adaptation of physiological processes to needs of community life, including fatigue, nutrition and exercise. May be coordinated with geriatrics. Budget for separate maintenance: $10,000-$25,000.

M. Maternal and Child Health. Program for reduction of maternal and child mortality with special reference to factors which produce physical defects during childhood and adolescence. To be developed in conjunction with departments of obstetrics and pediatrics of Baylor Medical School. Budget $5,000-$15,000.

N. Mental Hygiene. Factors contributing to development of mental disease or mental maladjustment to community life. To be developed in conjunction with Department of Psychiatry of Baylor Medical School and the Veterans Administration Hospital. Budget $5,000-$15,000.

O. Hospital Adminstration. Development of hospitals as part of the community health program and application of modern business methods to promotion of efficient management. To be developed in coordination with all hospitals forming a part of The Texas Medical Center. Budget $10,000-$20,000.

P. Institute of Geographical Medicine. See above for details. Budget $10,000-$30,000.

Q. Administration. Overall administration of School of Public Health. Budget $15,000-$25,000.

R. Overhead, operation and maintenance. Physical care of plant, repairs, general supplies and equipment. Budget $20,000-$75,000.

Budgets estimated above have been based on assumption that independent units for each of several functions would be developed and that full-time personnel for the several functions would be employed. Pooling of resources and part-time appointments shared with cooperating institutions and the city and state health departments would make possible appreciable savings. Maxima are estimated as the sums required to permit a well-rounded development, but obviously are not intended to include special research developments as prompted by special interest and opportunities.

It is recognized that the budget here proposed, totalling from $190,000 to $455,000, is greater than that of several existing schools of public health. These latter budgets range from $40,000 to $275,000 a year, but none of these schools provides all of the units envisioned here as part of a comprehensive instructional program. Many of the schools draw heavily on the facilities of other parts of the university so do not have to make budgetary provisions for certain programs included in the above organization. It should further be emphasized that even the maximum figures of the several units of the program do not equal the maxima for comparable programs in certain schools. Were an attempt made to provide for a comprehensive and all-inclusive program which in every respect exceeded that of any other university, a budget at least twice that proposed here as the maximum would be required.

An attempt to outdo everyone else in every respect would, however, be uncalled for, undesirable, and wasteful. A well-rounded and balanced program is obviously preferable. Time alone will determine those parts of the program to which special attention should be given. These will expand, requiring added funds and facilities, but much of this expansion will undoubtedly be achieved through research grants, as has been the case in all other schools of public health. The budget here proposed, with minima and maxima

for each item, will provide for a well-rounded and reasonably inclusive program and enable the procurement of adequate staff to carry on a program of both research and instruction.

The omission of a special unit for tropical medicine requires some explanation, especially in view of what was said above regarding the possible desirability of placing special emphasis on problems of tropical medicine and hygiene in a program of this character. The conventional pattern of departmentalization within schools of medicine and public health would provide for a tropical medicine department. These departments frequently become little more than departments of pure parasitology and applied parasitology; other phases of tropical medicine such as the bacterial and virus infections, non-infectious diseases, physiologic effects of climate, special problems of personal hygiene and environmental sanitation, and countless other public health and medical problems that are peculiar to the tropics are usually relegated to other departments or completely ignored. It would seem preferable that problems of tropical medicine should permeate the entire program of the School of Public Health rather than being apparently so much the province of one department that others should hesitate to concern themselves with them. The organizational plan proposed above, therefore, makes no provision for a separate unit of tropical medicine.

VI - Recommendations

We recommend:

A. That a School of Public Health including an Institute for the study of Geographical Medicine be located in The Texas Medical Center to help meet a need existing in the Southwest.

B. That the School of Public Health provide the broadest possible graduate training in public health, to include programs for the entire public health team.

C. That consideration be given to establishing cooperative relationships with Baylor Medical School, University of Texas Dental School, and Rice Institute to obviate duplication of facilities for the instruction of epidemiology, sanitation, medical economics, parasitology, and other subjects of preventive medicine and public health.

D. That consideration be given to an alternate plan for the operation of an undergraduate course in public health nursing wherein the School of Public Health is vested with primary responsibility and arranges affiliations for instruction in the social and nursing subjects.

E. That basic agreements and appropriate fiscal adjustments be conceived to permit exchange of instruction and credits between participating educational units.

F. That certain functions of local and state health departments could be carried on by them to greater advantage if maintained physically in the School area, and that one of the proposed five City district health centers should be integrated with the School of Public Health.

G. That there would be advantage to inclusion in the Public Health facility of certain non-official agencies playing a vital part in the community health program, such as visiting nurse service, tuberculosis association and the like.

A SURVEY OF NEEDS AND EDUCATIONAL FACILITIES FOR NURSES

I. Summary of Existing Facilities

A. The nurse educational facilities in Houston include: (1) five hospital operated schools of nursing -- Hermann Hospital School of Nursing, Jefferson Davis Hospital School of Nursing, Memorial Hospital School of Nursing, Methodist Hospital School of Nursing and St. Joseph's Hospital School of Nursing; (2) the University of Houston, which offers the usual pre-clinical courses, one or two other elective courses, gives an Associate in Arts degree and offers opportunity to graduate nurses to study for a Bachelor's degree with transfer credit; (3) courses offered in Integration of Public Health in the Basic Curriculum by traveling nurse instructor from the Incarnate Word College in San Antonio; (4) an occasional course for graduate nurses by the University of Texas; (5) the proposed school of nursing at Episcopal Hospital which is at present being organized.

At present there is no school for vocational (practical) nurses in Houston.

B. A summary of the descriptive sketches of these schools shows considerable similarity in their characteristics:

1. Three existing schools are church schools (Baptist, Catholic, and Methodist) and a proposed new school will be Episcopalian.

2. All offer a 3-year program approved by the Texas State Board of Nurse Examiners.

3. All use instructional facilities of the University of Houston for specified courses.

4. All offer four basic clinical services (medicine, surgery, pediatrics, obstetrics).

5. Clinical experience in psychiatry is given in two schools; one by af-

filiation, one in small psychiatric unit of own hospital.

6. Practically no experience is given in communicable diseases except at Jefferson Davis where patients on survey date were chiefly polio patients.

7. No experience is given with chronic patients, and convalescent and rehabilitation or cancer except as occasional cases appear on general wards.

8. A 2-weeks experience in clinics and home visiting is given some students supervised by nurse personnel of the City Health Department.

9. Medical service is the one which would first set a limit to expansion of school enrollment though no services at present are used to capacity.

10. School libraries range from 124 volumes to 766 without exclusion of duplicates or old editions.

11. Among nurse members on faculty of schools, of the 20 full-time listed, 11 had Bachelor's degrees, and 4 had Master's; of the 24 part-time, 7 had Bachelor's degrees, and 3 had Master's degrees.

12. The total number of students in the schools on October 23, 1946 was 564.

13. The sum of the maximum enrollment in each school during the war years (usually occurred in fall '45) was 798.

14. The admission trend since 1945 is markedly downward:

Hermann Hospital School of Nursing	-	September 1944.	48	
		February 1945	22	
		June 1945	28	
			98	Total 1944-45
		September	0	
		February 1946	0	
		June 1946	17	
			17	Total 1945-46
Jefferson Davis Hospital School of Nursing	-	August 1944	62	
		February 1945	29	
			91	Total 1944-45
		August 1945	33	
		February 1946	0	
			33	Total 1945-46

		June 1946	0
		September 1946	?
Memorial Hospital School of Nursing	-	September 1, 1944 . . .	50
		February 1945	23
		June 1945	37
			110 Total 1944-45
		September 1, 1945 . . .	25
		February 1946	0
		June 1946	0
			25 Total 1945-46
		September 1946	32
Methodist Hospital School of Nursing	-	September 1944.	16
		January 1945	8
		June 1945.	13
			37 Total 1944-45
		September 1945	13
		February 1946	0
		June 1946	0
			13 Total 1945-46
		September 1946	12
St. Joseph's Hospital School of Nursing	-	September 1944	51
		June 1945	30
			81 Total 1944-45
		September 1945	45
		June 1946	18
			63 Total 1945-46
		September 1946	30

15. The expected graduations during the school year 1946-47 (August 1946 - July 1947) are:

Hermann	11.0
Jefferson Davis	26.0
Memorial	48.0
Methodist	23.0
St. Joseph's	80.0
	188.0

16. Graduations expected in 1948-49 are estimated at 105.

17. These schools are operated by respective hospitals and their boards. For none of them is a separate budget or separate board maintained.

18. Religious education is considered a function of three schools (and will

probably be considered a function of the potential sixth school).

19. The withdrawal rate among students is high, particularly since V-J Day, with marriage ranking as first (30% of total withdrawals), "academic failure" ranking second with 21% of total withdrawals, and "loss of interest" ranking third with 20%.

20. Recently admitted students were tested by University of Houston battery. Scores were not used to eliminate candidates for admission.

21. Only occasional evidence was found that students were removed from a clinical service scheduled for educational experience and placed where needed to meet nursing service needs.

22. The record of the students in State Board examinations was 9.6% failures in the last classes.

23. A considerable number of nurses recently graduated are studying or part time in order to obtain supplementary education necessary for a degree.

24. While hospitals vary somewhat in proportion of services rendered by types of personnel - graduate professional nurses, student nurses, and related nursing personnel - none vary markedly from an average of 1/3 of total service from each type of personnel.

25. All hospitals claimed to be understaffed with nursing and related personnel; the hours of care per patient by graduate, student, and auxiliary nursing personnel on October 23, 1946, ranged from 3.6 to 5.8 with the median hospital at 4.8.

26. Auxiliary nurse personnel were trained on the job, if at all, although some "undergraduate students" and self-styled practical nurses served both as special nurses and on the hospital staff.

II. Types of Nurses Needed to Serve in Expanding Health Facilities and Preparation Needed by these Nurses.

A. Professional nurses for hospitals, clinics, doctors' offices, and community health agencies.

For their sound operation and progress, the developing health facilities require professional nurses who have both general cultural) education and professional preparation to meet the varied needs of a great diversity of patients. This preparation can best be secured by a well-rounded and integrated program of instruction and experience at a college level which in accordance with current trends should lead to a baccalaureate degree. Every patient's problem merits psychological and sociological handling as well as technical nursing care. Every doctor because of his expanding activities will depend on intelligent, educated nurses to serve his patients. The coordination of medical and health services at The Texas Medical Center and related hospitals will demand nurses who have insight into preventive and community aspects of nursing care. Medical education and other forms of education, according to potential pattern at the Center will progress only if patients individually and as groups receive this comprehensive nursing service.

Just as the Medical Center will provide medical, hospital and health services for a wide geographic area and will be an outstanding center of which leadership is expected, so should it afford educational opportunities for nurses of excellent quality. The people of Houston and Harris Counties will thus be served well, other patients and personnel attracted, and the Center's position of leadership enhanced. With the wealth of educational facilities at the Center comes the obligation to promote the use of them to best advantage for both service and education.

B. Professional nurses for advanced positions in administration, supervision,

instruction in hospitals, nursing schools and health agencies.

Nursing services, hospital and public health, at the Center and elsewhere in Houston and in Harris County will require expert administration and supervision and nursing education will require expert administration and instruction. Advanced preparation at a graduate level in these (including the special fields of tuberculosis, chronic diseases, geriatrics, psychiatry, pediatrics, out-patient department, convalescent nursing and rehabilitation) is required to qualify nurses for these numerous and important positions. Educational and clinical facilities necessary for such preparation for graduate professional nurses will be readily available and should also be used to greatest advantage both to meet the needs of the Center, of Houston, of the State - and to assert the position of leadership of the Center.

C. Trained vocational (or practical) nurses.

Because of the increased demand for nursing services and the consequent need to provide effective services economically, trained vocational nurses are needed to perform services which do not require the extensive preparation given to professional nurses. At least two clinical fields (combining medicine, surgery, obstetrics, pediatrics) and a home service, all under educational auspices, are needed to produce these vocational nurses. These nurses would be prepared to give simple care to chronic, convalescent, aging patients in hospital and home under supervision of professional nurses and to participate in care of more acutely ill patients in hospitals under more direct supervision of professional nurses. Training for vocational nursing (with hospital and home experience) should require practically a year.

III. Increase in Available Clinical Experience through Plans for Medical Center

A. For Basic Nursing Programs.

1. Pediatrics

Should a children's hospital be constructed at the Medical Center, it will afford possibility for selection of more diversified experience for students although existing facilities in each hospital appear adequate quantitatively at present. Child psychiatry and psychology and guidance of normal development if carried on at the Center could be added to experience of every student.

2. Out Patient Department

A central outpatient department at the Center and possibly that now at the city hospital could give every student experience with pre- and post-hospitilization periods of patient care and with outpatient treatment. This experience could be directly related in time with clinical experience in hospitals (example: experience in medical clinics as part of experience in medical units of hospital - similarly for surgery, obstetrics, etc.) The experience in the outpatient department could also be related to and a part of community nursing experience.

3. School of Public Health

A school of public health with accompanying development of field experiences for several types of public health personnel could offer to every student instruction in prevention, public health, community health resources, these both as courses and as parts of other clinical courses, as well as field experience in community nursing service.

4. Cancer Research Institute

A cancer research institute could offer experience to every stu-

dent in latest methods of treatment, in assistance in research, and instruction in community-wide educational program in cancer.

5. Chronic Hospital

A chronic hospital could offer every student a brief experience in care of this type of patient and in geriatrics. It could also give students an opportunity to serve as part of team on which a higher proportion of nursing care than ordinary is given by related personnel.

6. Tuberculosis Hospital

A tuberculosis hospital could offer experience with patients in all stages and types of tuberculosis with emphasis on the tuberculosis hospital as a part of the total community tuberculosis program. This experience would take on additional importance because of the current scarcity of teaching facilities for communicable disease nursing.

B. For Advanced Nursing Programs

1. Hospital Administration and Hospital Nursing Service Administration

Centralization of service activities (purchasing, etc.) combined with the usual administrative activities of the special institutions above and in the expanded hospitals located at the Center could offer excellent opportunity for field experience as part of a professional graduate program in hospital administration, nursing service administration in hospitals, and nursing service administration in specified hospital units, such as, medicine, surgery, obstetrics, pediatrics, tuberculosis.

2. Public Health Nursing

Through the school of public health and through development of city, county, and State field resources, a professional graduate program for nurses in public health nursing, rural and urban, including industrial and school nursing, could be developed; also advanced programs in supervision and administration in public health nursing services. An advanced program for prepara-

tion of nurses for administrative and nursing service administrative positions in outpatient departments would draw heavily on the school of public health. So also would any other nursing service or nursing education advanced program use the facilities of the school of public health for preventive, positive health, and community aspects of those programs.

3. Nursing Education for Nursing School Personnel

The combined facilities of the general hospitals and school or schools of nursing and of the special institutions at the Center could serve as fields for advanced programs preparing nurses for positions as instructors (including clinical instructors) and administrators in schools of nursing.

C. For Vocational Nursing Programs

The clinical facilities of the general and special hospitals at the Center could afford an excellent field for practice by students in the one or more vocational schools of nursing. The general hospitals (or one general hospital), and the chronic disease hospital, as well as the tuberculosis hospital could be used.

The establishment of educational programs at the Center for other types of personnel -- doctors, social workers, dentists, dental hygienists, hospital administrators, nutritionists, etc., would add elements of interprofessional appreciation and cooperation to all nursing programs, basic and advanced.

IV. Other Available Educational Facilities

A. Rice Institute

According to the Bulletin of Rice Institute, this university is dedicated to the advancement of literature, science, and art; its educational program of liberal and technical learning aims to justify the designation "institute", combining the functions of a teaching university and in some of its departments those of the more recently established research institutions in this country and abroad. While it is the policy of the school to develop more seriously from the science point of view, there are also facilities for the elementary and advanced courses in the so-called "humanities", thereby enabling the Institute to offer both the advantages of liberal and general education and those of professional training.

The Institute maintains itself from income from its endowment. It would appear consonant with its philosophy to furnish some candidates for a school of nursing who were college graduates or who carried a pre-medical program and transferred to a school of nursing at the close of the second year. It would not appear consonant with the philosophy of this institution to establish a special program of courses suitable for the basic nursing curriculum.

B. University of Houston

According to the Bulletin of the University of Houston, this university is planned as a service institution for Houston and the surrounding communities. It is composed of two major divisions: The Junior College Division, and the Senior College and Graduate Division. The University of Houston gives instruction in the following subjects to all students in the five schools of nursing in the city:

Chemistry 141	Introductory General Chemistry	4 credits
Biology 145	Microbiology (Inc. Pathology)	4 credits
Biology 146	Anatomy and Physiology	4 credits
Psychology 231	General Psychology	3 credits
Psychology 233	Psychology of Abnormal Behavior	3 credits
Sociology 231	Introduction to Sociology	3 credits
Nutrition 131	Nutrition, Food and Cookery	3 credits
English 131-132	Composition and Western World Literature	6 credits
Government 233-234	Constitution of the United States and Texas	6 credits

These courses are offerings of the Junior College. Upon completion of the major portion of the nursing school program in any one of the five hospital schools of nursing and certain other requirements, the students in these schools of nursing are eligible to receive the diploma of Associate in Arts. Not all students apply for this diploma. Credits earned in the Associate in Arts program and in the remaining nursing program with additional electives, qualify the graduate nurse for a Bachelor's degree. A small number of recently graduated nurses enroll in this program.

The selection of students and promotion and graduation policies rest with each individual school of nursing.

The philosophy of this university would permit the offering of courses desired for the school of nursing curriculum as well as the appointment of well qualified medical and nursing instructors for credit-bearing clinical courses. The officers of the University expressed an interest in adapting its existing courses and establishing needed additional courses for a nursing program on a college level. They also expressed an interest in correlation of theoretical instruction and clinical experience for students. Facilities for promotional and public information programs and participation in the usual forms of "college life" would be available here for students in a school of nursing.

A special tuition rate of $4.00 per semester hour is now charged nurs-

ing students for all credit-bearing courses. This special rate is contingent upon the income derived from the State-Junior College appropriation. It is doubtful that a complete nursing school curriculum could be offered by this University at the current rate per semester hour, particularly since such a nursing program would require Senior College courses.

The University of Houston offers a wide range of courses to Negro students in a separate college.

Certain courses needed for advanced curricula in nursing are already available and the University appears willing to set up other courses which would be desirable in such programs.

The presence of certain technical programs among the University's offerings would indicate that a vocational nursing program (for practical nurses) could also be established here.

C. Other Universities

The University of Texas, Baylor University, and the proposed Catholic University, were not included in this exploration.

V. Number of Nurses Needed

A. Total Nursing Service

The following estimates of the number of nurses needed in Harris County have been prepared on the basis of the number of hospital beds needed in the County according to this survey. The following figures on beds needed were used:

	1950	1960
General Hospitals	3649	5448
Communicable Disease Hospitals	139	222
Tuberculosis Hospitals	677	762
Psychiatric Hospitals	334	651
Chronic Hospitals	1400	2000

To compute the number of nurses needed it was estimated that 80% of these beds would be occupied and that the work week for nurses would be approximately 44 hours per week and that the hours of nursing service needed for general and communicable disease and psychiatric patients would average 5 per day. The estimate of 5 hours per patient per day represents an upward adjustment of the accepted standard of 3.2 hours per day for medical and surgical patients.* Because nursing services have become more complex than in 1942 and because the 3.2 average did not include the auxiliary services covered in this survey, the estimate of desirable hours per patient per day was placed at 5. This figure appears reasonable in light of the fact that the average hours of care per patient per day in the five hospitals studied in Houston showed a range from 3.6 to 5.8 at a time when in all hospitals it was stated that nursing services were understaffed. Computations from these figures (44 hour week and 5 hours care per patient per day) bring the number of nurses needed per patient to .795 for general, communicable and psychiatric patients.

Estimates of the nurses needed for tuberculosis patients were computed at two hours of care per patient per day; and for chronic at 1.5 hours of care per day. These requirements would indicate that .318 nurses were needed per tuberculosis patient and .239 nurses per chronic patient. Applying these ratios (.795 per patient for general, communicable disease and psychiatric patients) and the ratios stated above for tuberculosis, and chronic patients to the needed beds at 80% occupancy gives us the following number of nurses needed:

---

* Manual of Essential of Good Hospital Nursing Service, Joint Committee of American Hospital Association, National Leage of Nursing Education, American Nurses Association, American College of Surgeons, American Medical Association, New York 1942.

	1950	1960
General	2321	3465
Communicable Disease	88	141
Tuberculosis	172	194
Psychiatric	212	414
Chronic	280	380
	3073	4594

B. Proportion of Service to be given by Professional and Vocational Nurses

In the absence of any established ratios of professional to vocational nurses, the writer used her own judgment in setting these ratios. This judgment is a composite of the experience and thinking of many groups and committees, although to date very little has been published on the subject. Varied ratios are being used experimentally in several situations, but until conclusive results are formulated no more reliable information is available. The ratios suggested here are also in line with the porportions of total service rendered by professional nurses (combined graduate and student service) and auxiliary nursing personnel now existing in the five hospitals. For general, communicable disease and psychiatric patients, the ratio of 2 professional nurses to one vocational nurse is suggested; for tuberculosis patients, the ratio of one professional nurse to three vocational nurses is used; and for chronic patients, one professional to four vocational nurses is used. Applying these ratios to the number of nurses stated above as needed in 1950 and 1960 gives the following:

1950	Total	Professional	Practical
General	2321	1547	774
Communicable Disease	88	59	29
Tuberculosis	172	43	129
Psychiatric	212	141	71
Chronic	280	56	224
	3074	1846	1227

1960	Total	Professional	Practical
General	3465	2310	1155
Communicable Disease	141	94	47
Tuberculosis	194	49	145
Psychiatric	414	276	138
Chronic	380	76	304
	4594	2805	1789

Using the ratio one public health nurse to 5,000 population, Harris County should have 140 public health nurses in 1950 and 205 in 1960. The ratio one to 5,000 is considered minimum; the ratio of one to 2,000 is optimum. Using the latter, the needs for 1950 would be 350 public health nurses, and for 1960 510 public health nurses.

VI. Number of Professional Nurses Now Available (October 1946)

A count of graduate professional nurses now employed in hospitals in Harris County computed as another part of this survey gave a figure of 420. On October 23, 1946 215 additional professional nurses were employed as special nurses in the five hospitals and schools. There are approximately 50 public health nurses in Harris County. Adding an estimated number of special service nurses in other hospitals than the five explored by the writer, the total number of graduate professional nurses employed in Harris County can be estimated at approximately 750. It is also estimated that approximately 400 nurses will be graduated by the five schools of nursing between the present date and through the fall of 1949. The estimated attrition from the pool of professional nurse power can be reasonably expected to reach 350 by 1950. Adding 750 now employed, 400 to be graduated, and subtracting 350, gives 800 professional nurses who will be available in 1950.

No figures are available on the number of vocational or practical nurses available. The auxiliary nursing personnel employed in the five hospitals with schools of nursing was composed chiefly of untrained persons or persons trained "on the job" and with a few "undergraduate nurses" or those who had dropped out of a professional nursing school before accomplishing a complete program. The number of trained practical nurses available is judged, therefore to be negligible.

VII. Production of Number and Types of Nurses Needed

From Section V above it is noted that by 1950, 1850 nurses will be needed to serve the hospitals and institutions in Harris County and a minimum of 140 public health nurses will be needed, or an optimum of 350 public health nurses. Eight hundred graduate professional nurses will be available in 1950, leaving a deficit of 1190 graduate professional nurses in 1950 meeting only minimum public health nurse needs, and 1400 meeting optimum public health nurse needs. To maintain a constant nurse power of 1990 nurses, (1850 in hospitals plus 140 public health nurses) annual graduations from schools of the County should approximate 200. This estimate is based on an expected annual attrition of 10% from the professional group, the best available figure, which was computed during the decade immediately prewar. To maintain a constant supply of 3010 (2805 in hospitals plus 205 public health nurses) graduate professional nurses, (the 1960 needs), annual graduations should approximate 300. A deficit of 1190 graduate nurses (1990 needed minus 800 available) would exist in 1950 if construction of hospital beds approximated the County's needed number of beds. Admissions to schools of nursing in the school year 1947-48 will not begin to increase the graduate nurse power of the County until 1950. This deficit will, therefore, have to be made up after 1950. Combining the graduations required to maintain the pool (200) with those required to make up the deficit (238) would indicate a need to graduate approximately 450 nurses annually between 1950 and 1955. Spreading the deficit over ten years instead of five would reduce this number to approximately 350 graduations annually. Annual production of approximately 350 graduate nurses until 1960 would provide by 1960 the amount of graduate nurse service needed in 1950 based on bed need. By 1960, however, the bed need would have increased in accordance with population and annual graduations to maintain the needed constant supply should be

approximately 300. Assuming that the deficit had been made up by 1960, we figure 300 graduations after that date would meet the needs then current but would not provide for increasing the construction of hospital facilities in accordance with bed need in 1970.

The figures above for making up the deficit do not provide for the 10% attrition from the annual new crop of nurses in the decade 1950-60. These computations exclude the value of contribution of students to the professional nurse pool. An enrollment of 500 students (counting each student as one-half of the professional graduate nurse) cuts the deficit by 250 nurses and the needed annual graduations by 25. An enrollment of 600 students would cut the needed graduations by 30.

Graduations of 350 professional nurses annually during the decade 1950-60 should, as has been said above, make up the current deficit by 1960 and provide for the increased amount of service required by the construction of the hospital facilities needed by 1950. Since it seems unlikely that construction will be recommended to meet the entire bed need and since it is uncertain that the entire recommended construction will be completed, it would seem reasonable to recommend that graduation of approximately 250 professional nurses annually during this decade. Assuming that the construction according to a schedule which ends at meeting fully the total bed need by 1970, this production rate could be increased during the decade 1960-70 to reach approximately 300 annual graduations. The entire situation should be reviewed periodically in order to determine the length of time during which increased nurse production is necessary. If the population increases as projected and if bed needs are met progressively through the years, a steady expansion of nurse production facilities should be anticipated.

All the above computations are based on the assumption that educational

facilities of Houston will provide nurses only for Houston's and Harris County's own expanding needs. The computations also ignore the fact of the possibility of influx of graduate nurses from other centers. In consideration of the total needs of the State of Texas, however, a Medical and Educational Center at Houston should meet the obligation of producing nurses for other parts of the State and of the southwest.

The State of Texas at present has less than 450 public health nurses and needs approximately 1400. In 1944, figures compiled by the Nursing Procurement and Assignment Service showed 17 graduate nurses employed in the nervous and mental hospitals of the State which had a census of 15,836 patients. This was a ratio of 1 nurse to 932 patients. Using the minimum ratio recommended by the American Psychiatric Association of 1 professional nurse to each 25 patients, 633 graduate nurses should be provided for these patients. (Note that five hours of nursing care per patient was used in estimating nurses needed for psychiatric units of general hospitals in Houston where therapeutic care is demanded for all patients and research is being carried on. In State mental hospitals a high proportion of care is custodial.)

No figures are available upon which to base a reasonable estimate of the number of nurses needed in the State of Texas for all general hospital nursing services, although from the 1944 Procurement and Assignment figures and from the general impression of understaffing it can be assumed that a deficit currently exists. From all these considerations it may be inferred that there is practically no danger of overproduction of nurses with the annual production recommended here.

No estimate can be made for the numbers of graduate professional nurses with the special qualifications for administration, supervision in hospital nursing services, and administration and instruction in nursing schools, and

of nurses with specialized preparation. From the vacancies now existing in schools of nursing and hospital nursing services, and from the fact that both general and special hospital facilities are to increase rapidly, one can infer the need for production of a considerable number of specially prepared personnel, the production of which should begin immediately.

Since similar shortages exist throughout the country as a whole, the State of Texas can expect little relief through importation of nurses from other States. A large medical and education center would possess even greater obligation to produce nurses with these special skills than it possesses for good basic preparation for nurses since such centers in the Southwest are extremely scarce.

Nurses for public health agencies can be produced both by preparing graduate professional nurses for this special field for administrative and supervisory positions, and by preparing public health staff nurses through a basic nursing program planned for this additional purpose. To make up the current deficit of almost 1000 public health nurses in the State of Texas and to maintain a pool of approximately 1400 public health nurses would require an annual production through the decade 1950-60 of approximately 240 public health nurses, the majority of whom could be prepared in the basic nursing curriculum. Obviously, other basic nursing programs in the State can also be expected to develop for this purpose, but it is unlikely that other large centers for special preparation of graduate nurses for this purpose will develop in the State. A definite effort must be made to direct into the psychiatric and public health nursing fields many of the nurses graduated from a school or schools connected with the Center.

A number of these nurses must also be directed into the care of the tuberculosis patient if the health record of the State in relation to this

disease is to be improved.

VIII. Description of Alternate Plans for Meeting These Needs - Basic Programs

Justification for the annual production in Houston of approximately 250 professional nurses annually is abundant. As previously stated, the development of extensive plans for medical and health care demands that these nurses be soundly prepared for the type of responsibility that is to be placed upon them. All on graduation should be ready for a first level position in general and special hospitals, clinics, and doctors' offices, and for staff nursing positions in public health nursing agencies. In view of the subsequent recommendation for the development of vocational or practical nurses and in line with the current trend in nursing education, and because of the excellence of the educational and clinical facilities, the program of basic nursing education should be on a college level and lead to a baccalaureate degree.

A. A Proposed Program of Studies

A recommended program of studies which it is hoped could be offered by a university and lead to a baccalaureate degree is designed to occupy three semesters annually for four years and to provide 146 earned semester credits, of which 46 are earned through a high quality of clinical practice. That program follows:

1st. Year

Fall	Credit	Spring	Credit	Summer	Credit
Communications	3	Communication	3	Nutrition	3
Chemistry Survey	3	Chemistry Survey	3	Human Anatomy and Physiology	6
Community Organization	3	Human Personality	3	Introduction to Nursing	4
Biology Survey	3	Microbiology	3	Nursing Laboratory (12 hrs. per week)	2
History and Government	3	History, Government and Social Structure	3		
	15		15		15

2nd. Year

Medical and Surgical Nursing	6	Medical and Surgical Nursing	6	Psychiatric Nursing	3
Diet Therapy	2	Professional Adjustments I	2	Abnormal Psychology	3
Nursing Laboratory including conferences (30 hrs. per wk.)	4	Nursing Laboratory (30 hrs. per wk.)	4	Nursing Laboratory (36 hrs. per wk.)	5
	12		12		11

3rd. Year

Pediatric Nursing	3	Obstetric Nursing	3	Community and Family Health	4
Child Psychology & development	3	The Family	3	Tuberculosis (incl. community problem)	2
Nursing Laboratory (36 hrs. per wk.)	5	Nursing Laboratory (36 hrs. per wk.)	5	Nursing Laboratory (36 hrs. per wk.)	5
	11		11		11

4th. Year

Cancer, Geriatric Comm. Diseases	3	Advanced Medical & Surg. Nursing Seminar	2	Rural Community Nursing Seminar	2
Rural Sociology	3	Geographic Medicine	2	Convalescent Care and rehabilitation	3
Nursing Laboratory (36 hrs. per wk.)	5	Professional Adjustments II	2	Nursing Laboratory (44 hrs. per wk.)	6
		Nursing Laboratory (36 hrs. per wk.)	5		
	11		11		11

Total credits: 146

The first and second semesters would include little or no hospital practice; the third semester a small amount of nursing laboratory practice and conference, approximately 12 hours per week. In the second year it is recommended that nursing practice, approximately 30 hours per week be undertaken in the first two semesters, and thereafter at the rate of approximately 36 hours per week during the third semester of the second year and all three semesters of each of the third and fourth year. One credit has been assigned to approximately 7 hours of combined practice and conference weekly. The recommended program aims to provide general and cultural education both through the courses which are usually considered academic and through the quality of instruction and experience in the clinical fields.

The foundation of both biological and physical sciences and social sciences underlies and is interspersed with clinical instruction and practice. The recommended program strives to integrate formal instruction with clinical instruction and practice. It is assumed Senior college credit will be given for clinical instruction and practice in the excellent clinical laboratories provided by the expanding hospital, clinical and community facilities and based on and accompanied by scientific instruction. Experience and instruction includes an introductory assignment to the nursing laboratory (hospital units) during the third semester and to general and special medical and surgical services during the fourth and fifth semesters; to psychiatric, pediatric and obstetric practice during the sixth, seventh and eighth semesters; to the community and family health and tuberculosis in the ninth semester; to cancer, geriatric and chronic disease experience in the tenth semester; advanced medical and surgical nursing with their specialties in the eleventh semester, with an experience in rural community nursing service and to convalescent and rehabilitation service in the twelfth semester.

After the third semester, the semesters may be interchanged as desired in order to provide for the needed variation and sequence of experience, thus preventing overcrowding of certain clinical facilities, and providing more even spread of student service among the various clinical facilities. The experience in rural community nursing is included for every student because of the great need in Texas, as in other States, for nurses who understand the problems and the appeals of this type of nursing.

The courses are combined with suitable related experience and if semesters of clinical practice are interchanged accompanying course should be similarly interchanged. The number of students will be so large as to necessitate repeating most courses every semester so that the problem of interchange of semesters would not be a difficult one. One month's vacation annually should be allowed for the students. In some years this will coincide with the usual university vacation periods; in others, it will need to be planned especially between the spring and summer semesters, and between the summer and fall semesters. The fact that summer semesters at some universities are shorter than other semesters should facilitate this plan.

B. Proposals for Organization of Basic Nursing Program

Four plans, the first three using the curriculum proposed above, are proposed as possibilities and are presented in the order of their desirability.

PLAN I

This plan calls for the establishment of a College of Nursing, perhaps named for its founder, and established as a full-fledged college in a university. The College would provide all instruction including clinical instruction and would select experiences for all students from the best available. This plan assumes the merging of each of the existing five schools and the potential sixth school into a single College. To produce 250 graduates annually, 300 to

350 annual admissions would be required. The college should find desirable clinical experience of the expected level of educational content in the six general hospitals of Houston and the special hospitals, clinics, and public health nursing facilities of the Center, and in other community facilities:

Experience in medical and surgical nursing and their specialties (recommended as above in the fourth, fifth and eleventh semesters) in all six hospitals;

Pediatric experience should be procured in those hospitals having 30 or more pediatric patients with diversified diagnosis, or in the special pediatric hospital;

Obstetric nursing experience could be procured in those hospitals with 20 or more patients in order to guarantee variety;

Outpatient nursing experience could be procured at the outpatient department at the Medical Center, and if needed, also at any hospital with a large and diversified outpatient department; experience in the outpatient department should be coordinated with the various clinical experiences in various hospital wards and also should be coordinated with experience in the community nursing units;

Psychiatric nursing experience could be procured in a psychiatric research hospital or in psychiatric units developed in individual hospitals whose daily census averages more than 20 diversified patients;

Tuberculosis nursing experience could be procured in the Tuberculosis Hosiptal at the Center;

Community nursing experience could be procured in the local agencies developed for this purpose, in the outpatient department and through integrating instruction and experience in all services, all of these in cooperation with the School of Public Health;

Cancer nursing experience could be procured in the Cancer Research Hospital at the Center;

Chronic disease nursing could be procured in the Chronic Hospital at the Center;

Rural community nursing should be provided in selected outlying rural hospitals and health agencies.

The general and special hospitals which were selected by the College of Nursing as clinical fields for the above-mentioned experiences would expect to receive from the College a definite number of students for specific periods. During these practice periods these students would afford valuable service to the hospitals, but the hospitals would not be able to depend solely upon students for complete service in the hospital as a whole. Good planning could result in general in a steady flow of students from the College to the hospital units. This plan assumes at least the current amount of staffing by graduate professional nurses and by practical nurses and other auxiliary personnel with increases in these two types of personnel in proportion to increases in census.

This plan includes the establishment at the Center of an educational building or buildings for such facilities as classrooms, laboratories, library, etc., of the entire College of Nursing. Although located at the Center, this unit would be administered by the University of which the College of Nursing is a part. A residence for student nurses should be provided at the Center for students in attendance at the University for the first three semesters of the program and for the students assigned to those hospitals (including tuberculosis, convalescent, etc.) which are at the Center. Students receiving experience at general hospitals not at the Center should be housed either at these

hospitals or should have provision for transportation from the residence at the Center. Either as a part of the educational building or the residences, or in combination with both, complete facilities should be provided for religious activities, recreation, and social activities.

The College of Nursing should be organized and administered as a college in a university with a Dean of Nursing as its administrator. The Dean in so large an important an institution should be exceptionally well qualified by professional and educational background and professional experience.

The College should set up admission requirements in accordance with the policy of the university of which it is a part and should recruit and select all students, and be responsible for promotion and graduation policies.

The College should provide public relation services, counselling for all students, and an excellent health program for students.

The College should provide all instruction, including supervision of clinical practice; appoint clinical instructors in the various hospitals upon the recommendations of qualified persons by the administrator of the hospital; these appointees will have dual responsibilities for supervision and administrative service in clinical units and for instruction of students assigned to these units for practice.

The entire College and faculty should be organized with appropriate committees including Executive Committee, Curriculum Committee, Committee on Student Affairs, and Departmental Committees (Medical Nursing Committee, Obstetrical Nursing Committee, Rural Community Nursing Committee, etc.). These committees will usually be composed preponderantly of nurse instructors and should be planned to include instructors and professors of basic sciences (biological, physical, and social) in order to guarantee continuous integration of all subject matter with experience.

The College should have an Advisory Committee composed of the administrators of the hospitals, of the clinics, of health agencies, and administrators of nursing services in these institutions, and representatives of related professions, educational and religious groups, and the community at large.

Sources of income of the College should include:

An endowment for the educational, residence, and other buildings and for their maintenance, as well as for the operation of the school program;

Payments by the students of tuition for the partial costs of educational program and of maintenance would contribute to the income. It is hoped that the endowment would be sufficiently large to enable the College of Nursing to operate at a lower tuition than other colleges in the university;

An endowment from community sources should be given in recognition of the public service rendered by nurses and the obligation of the community to prepare this type of professional health worker for its citizens;

Income should also be derived from the hospitals, general and special, which should contribute to the College budget an amount equivalent to the financial value of student service received by each respectively. Adjustments in such payment would be necessary for those hospitals which provided maintenance for students while assigned there;

The possibility of securing appropriation from the State for the partial support of this educational venture should be explored. Justification for seeking funds from this source is identical with that of seeking endowment from the citizens of the community.

All costs of the program, including those for partial salaries of clinical

instructors, should be met from the income of the College as listed above.

Financial administration of the College should rest with the Board of the university or with that of the College, depending on the provisions of the charter.

A large scholarship fund should be available for worthy students who need finanical aid.

The appointment of instructional staff for courses in sciences, communications, sociology, and the like, should be made after careful consideration of the special qualifications and interests of individuals in the type of program being offered. Appointments of well-qualified instructors should insure high level instruction and experience worthy of Junior and Senior College credit.

Students not enrolled in the College of Nursing should not be included in the plans for clinical experience and instruction in the general and special hospitals lest that experience and instruction suffer downgrading. Separate educational programs should be provided for these students who are accepted in these hospitals from schools with lower standards than the College of Nursing.

Since the College of Nursing would replace educational institutions which have professed responsibility for religious education as well as professional education, special provision should be made for spiritual guidance of all students according to their particular religious choice.

The school could be expected to develop in students fine ideals of humanitarian service.

PLAN II

The second recommended plan is identical with the first except that not all of the five existing schools would participate. Schools now con-

nected with hospitals which expect to become a part of the Medical Center may be more likely to desire to merge themselves into a single College of Nursing. Should such a plan develop, certain courses offered by the College of Nursing might also be opened for students in other schools although the primary aim of the College of Nursing should be the development of courses filling their special place in the total integrated program of studies designed to fulfill the aims of the College. Educational buildings and residences should be provided for the College at the Center. These should be planned so that expansion is possible as transition proceeds.

PLAN III

Plan III provides for several college schools of nursing in one or more universities. Each existing school wishing to participate could become a college school, combining its name by hyphen with that of the university. Each school would have its own charter, its own board, and its own director. The university or universities with which these schools were connected would need an administrative officer or dean who had administrative responsibility for the entire program of its nursing school. One or more of these schools could operate the program described in Section VIII, A. above. Variants of this program might be preferred by others. If residences of two or more such separate schools are to be erected at the Center, a quadrangle plan might be used.

PLAN IV

A university (for example, the University of Houston) could operate a school of nursing offering the four-year integrated program suggested above, choosing clinical facilities where best are available, probably among those at the Center and the hospitals connected with the Center including also rural hospitals and community health centers. Each hospital now operating a school

would probably continue its own school. The University should safeguard the instruction and experience of its students in chosen clinical units from downgrading due to presence of students enrolled in another program with different objectives. The College of Nursing in this university would be much smaller than the College of Nursing proposed in Plan I. Students could be housed either in dormitories on the campus and at the hospitals offering clinical experience, or in a residence at the Medical Center which would serve during certain clinical experience also.

Advantages and Disadvantages of Plans

PLAN I

1. A dramatic change in educational system such as this permits opportunity for placing nursing and nursing education before the public (and possible candidates for admission to the College of Nursing) in a forceful manner and emphasizes community responsibility for health and for production of health personnel.

2. This plan will translate into values for patients the full potentiality of the Center.

3. Such a College of Nursing would attack total problem of producing nurses in unified manner in contrast with current fragmentary attack on partial problem. It will relieve hospitals of responsibility of operating a school of nursing.

4. Unified recruitment (public relations) would be more economical than the combined cost of adequate recruitment programs by five or six schools.

5. All students enrolled in Houston and ultimately all patients would benefit by the rich and integrated program which could not be imitated by any single school not related to the College.

6. Effective planning of total nurse production in relation to total needs

for nursing service in the area could be carried on continuously.

7. Pooling resources permits selection of best facilities for all.

8. Nursing education under this plan could compete more successfully with all other professional schools for women and would attract outstanding instructional personnel.

9. Graduates of the school would identify their own plans with total community needs rather than with provincial local needs of single hospitals.

10. Prominence of College of Nursing will coincide with that of Medical Center and college would serve wider area as educational center in Southwest.

11. Larger numbers of public health nurses and psychiatric nurses would be provided to meet large deficit.

12. Extensive basic program would serve as rich field for practice by larger number of graduate nurse students in advanced programs.

PLAN II

This plan could be looked upon as a transition between present system and PLAN I. Schools merging themselves with new College of Nursing would be in favorable position in competition with other schools and in respect to ability to meet community needs.

PLAN III

This plan represents only minor improvements (patching up) in the present system and fails to recognize opportunity to undertake meeting total community needs.

PLAN IV

This plan provides at best one small collegiate school of nursing in addition to present facilities but also fails to consider total community needs.

IX. Recommended Advanced Programs in Nursing

Three types of advanced programs are needed and facilities are available in Houston for the development of these three programs.

A. Preparation for Public Health Nursing. The large deficit in public health nurses in Texas points to the need for developing advanced programs in generalized public health nursing. Not every State should expect to offer advanced programs of this type which qualify for recognition by the National Organization for Public Health Nursing. Facilities, clinical and educational, are available in Houston and a good advanced program could serve the State and neighboring States advantageously. The development of such a program should be contingent upon the establishment of a school of public health. Whether the public health nursing program should be organized in the School of Public Health or in the College of Nursing is a debatable question. The writer believes that locating the public health nursing program in the College of Nursing is preferable; the presence of a school of public health, however, is essential.

The basic program recommended above should produce staff nurses for public health nursing agencies both official and non-official. For some time, however, a program which would prepare a graduate nurse who had had no study in public health nursing would be desirable.

A program preparing supervisors and administrators for public health nursing agencies is urgently needed. Graduates from the recommended basic program (preparing for staff nurse positions) and from the supplementary program for graduates not prepared for public health staff nursing would provide enrolees for this advanced program.

Facilities for field study in industrial nursing and school nursing

are abundant in Houston. The special tuberculosis hospital with its accompanying community program, and the proposed central out-patient department should also be used as fields. Mental hygiene and geriatrics and chronic diseases would also be available for study and the facilities for "geographic medicine" would add richness to the public health nursing program.

Advice of the National Organization for Public Health Nursing should be sought in the initial stages of planning for this program.

B. Preparation for supervision and administration of hospital nursing services.

A definitive program aimed at preparation of supervisors of nursing services in all clinical fields should be planned. Such a program should contain courses in each of three major elements: (1) advanced study and practice in the clinical field of the student's choice; (2) study in methods and procedures of supervision of nursing operations and of nursing personnel; (3) advanced study in supporting subjects such as Sociology, Psychology, Economics, Institutional Management, public opinion and relation, related sciences (such as Bacteriology, Chemistry, Physiology, Physics) and the Humanities.

This program should require a baccalaureate degree for admission. Courses carried for the first degree should be considered supplemental rather than part of the graduate program. Courses from the first two of the three elements mentioned above should be built for the college graduates and not carried simultaneously with supplemental college courses leading to the Bachelor's degree.

Emphasis should be placed on institutional nursing service, not on nursing education. Research in nursing service should be stimulated.

A similar pattern should be developed for nurses with the baccalaureate degree who wish to prepare for administration in hospital nursing service.

C. Preparation for Teaching and Administration in Schools of Nursing

These programs should also contain three elements: (1) Advanced study and practice in the clinical field in which the enrollee wishes to be prepared to teach; (2) Methods of Teaching, Principles of Learning, and other courses in Education; (3) Advanced study in supporting fields.

All comments under B above are applicable to this special program, substituting "nursing school" for "nursing service".

Because some nurses will wish to be dually prepared and qualified for a position combining supervision of nursing service with instruction in a clinical field, the programs in B and C should present opportunity for combining the two types of preparation, each type, however, maintaining its own identity. Similarly, dual preparation should also be available for administrators of nursing services and nursing schools.

Research in both instruction and administration in nursing schools should be carried on by candidates for these advanced (Master's) degrees.

X. Recommended Programs in Vocational or Practical Nursing

This program should be designed for high school graduates or as a part of the program in a vocational high school or technical school for high school graduates. Candidates beyond a given age, say 30 or 35, could be exempt from the high school graduation requirement upon evidence of intellectual ability to carry the program successfully. At least 100 candidates should be admitted annually.

The program should prepare practical nurses for care of chronic and con-

valescent patients in home or hospital with a moderate amount of supervision by professional nurses. It should also prepare them to give elementary care to hospital patients more acutely ill with more direct supervision of professional nurses. It should enable the practical nurse to become a member of the team with professional nurses, the team giving total care to patients.

The program should give emphasis to how elementary nursing is done with less emphasis on principles than is given in the basic professional program. The theoretical instruction should be given in approximately two months. Supervised clinical experience in medical, surgical, pediatric, and obstetric services should occupy approximately eight months. Supervised experience in homes should occupy approximately two months. Cookery and home management should be emphasized.

A publication of the U. S. Office of Education expected momentarily from the press should be helpful for its list of activities for practical nurses.

Professional nurses and nutritionist should constitute the major portion of the teaching staff.

It is hoped that state licensure would be required of graduates of such a program for the protection of both the public and the practical nurse.

XI. Sources of Enrollees in Schools of Nursing - Current and Potential

From an unpublished report of the U. S. Public Health Service, information has been secured regarding the localities which furnish student nurses for the five schools in Houston. A large sample, or a total of 980 admissions in these schools during a two and one-half year period of wartime was studied. Of this number 838 came from within the State of Texas. Thirty-one other States provided 139 students. The following table shows the number of students from major Texas cities and from certain other States.

Places of Residence of Student Nurses Who Enrolled in Houston Schools

Place	Number of Students	
Texas		838
Houston	243	
Beaumont	15	
Goosecreek (suburb of Houston)	14	
Port Arthur	11	
Brownsville	9	
Conroe	9	
Victoria	9	
Bryan	8	
Crosby	8	
El Campo	8	
Jacksonville	8	
Palestine	8	
San Antonio	8	
Corpus Christi	7	
Lufkin	7	
Nacogdoches	6	
12 towns contributing 5 each	60	
17 towns contributing 4 each	68	
23 towns contributing 3 each	69	
64 towns contributing 2 each	128	
135 " contributing 1 each	135	
Other States		139
Louisiana	43	
Arkansas	15	
Oklahoma	12	
California	8	
Indiana	6	
New Mexico	4	
Georgia	4	
Iowa	4	
Ohio	4	
4 States contributing 3 each	12	
7 " " 2 each	14	
11 " " 1 each	11	
Outside United States		3
Total		980

A spot map shows that eastern plains of Texas, coastal sections of Texas, and neighboring States furnish most of the students. Except for Houston, large cities in Texas provide relatively few students for these schools.

When admissions to schools in the entire State are considered, it is noted that approximately 94% of all students enrolled in Texas schools are drawn from Texas; also that of all young women from Texas who study nursing, approximately five-sixths enter Texas schools. Several other States exceed Texas in the proportion of students drawn from other States. These are usually States in which there are one or more schools of national reputation -- or sectional rather than local prominence. Usually States with relatively poorer schools tend to draw a higher proportion of students from within the State. It can be assumed also that many superior young women in such States enter schools outside their home State. The Houston schools draw more non-Texas students than others since about one-sixth of their students come from outside the State.

During the peak of the wartime program, approximately 10% of female high school graduates were needed in nursing schools if quotas were to be met. Several States exceeded this percentage. High school graduations (female only) in Texas in the school year 1943-44 reached approximately 28,000. The fact that nursing schools in Texas admitted approximately 2200 students in 1944-45 would indicate the presence of additional potential candidates within the State. From this group also should be drawn the majority of candidates for vocational schools of nursing preparing practical nurses.

From the statements above, it may be inferred that other cities in Texas, and both rural and urban populations outside the State would constitute fertile fields for recruitment for a superior school in Houston.

Selection among recruits for the recommended College of Nursing should include verification of sound physical and emotional health; evidence through interview and selected recommendations of suitable personality, appearance, and social competence; measures of intellectual ability by tests and previous scholastic record.

Careful selection, sound guidance during the operation of an effective program by well-qualified faculty and suitable learning conditions should bring the number of withdrawals to a minimum.

XII. Summary of Report

A marked increase in supply of nurses is needed in Houston both to fill existing deficits in nurse power and to meet needs for services in rapidly expanding health facilities.

A broader and more comprehensive preparation of nurses than the current typical preparation in four services only is demanded by existing types of health needs and by expansion of facilities in additional fields, such as, tuberculosis, chronic diseases, cancer.

A metropolitan center such as Houston with its existing and potential educational facilities possesses responsibility also to produce well prepared nurses to meet shortages of personnel in Texas and the Southwest - particularly shortages in rural hospital and community nursing services, in public health, tuberculosis, and psychiatric nursing.

Professional nurses with special and advanced preparation are needed for administrative and supervisory positions in special and general hospitals, other institutions and health agencies and for administrative and instructional positions in basic and advanced professional programs of study and in vocational nursing schools - all in Houston, in the State of Texas, and in the South-

west.

Trained vocational (or practical nurses) are needed to supplement the care given by professional nurses in special and general hospitals and homes - rural and urban.

Existing and potential facilities for general (cultural and academic), for professional (basic and advanced), and for vocational education are adequate to produce nurses for present and predicted needs.

The imminence of the establishment of the Texas Medical Center is both a challenge to nursing services and an opportunity to develop needed educational facilities.

The Texas Medical Center can effectively fulfill its purposes only if well prepared nurses as well as other personnel are available for its needs and for its wise interpretation to the patients it will serve.

The major nursing problem is that of designing and operating an educational system which will produce the kind and number of nurses needed and which uses fully the educational potential.

Undertaking to meet the qualitative and quantitative needs for nurses can become a concerted community activity more vital than any separate attempts by a number of single institutions. It can engage interest in sound planning and demonstrate tangibly the effectiveness of expert nursing in a health program broadly conceived.

The area served by a nursing education center in Houston can be as extensive as the size of the area in which it affords the superior educational facility.

XIII. Recommendations

In order to meet the needs for an increased number of nurses prepared for comprehensive service and on all levels of service, the following recommenda-

tions are made:

A. (71,72) One or two vocational schools of nursing admitting a total of approximately 100 students annually should be established in Houston to offer a year's program of combined theory and supervised practice in hospitals and homes. Graduates should be eligible for State licensure and should operate under supervision of professional nurses.

B. (73,74) A College of Nursing (PLAN I) should be established, merging and replacing the five existing and one proposed school of nursing in Houston. It should offer a four-year integrated program leading to a baccalaureate degree. The College should be organized and administered as are other colleges in the university harboring it. It should admit 250-300 students annually and should recruit superior young women from a wider area than do existing schools. The clinical facilities of the Medical Center and the other hospitals not built at the Center should be used as learning fields as should also selected rural hospitals and health centers - for all students. The College should be endowed for construction and maintenance of educational buildings and residences and for operation of the educational program which should further be financed from student fees, payment for student service and perhaps State funds. Consideration should be given to the admission of male students. An alternate recommendation is merging and replacing of less than the total number of schools in Houston (See PLAN II and its listed advantages).

C. (76) A school should be established for Negro student nurses in a College or University and using clinical facilities in existing hospitals and units in proposed hospitals, clinics and health units at the Medical Center.

D. (75) Advanced programs for graduate professional nurses leading to a Master's Degree should be established as part of a university (located at the

---

Note: Numbers in ( ) refer to the respective Recommendations in the Abstract Summary

Medical Center) in: (a) public health nursing and supervision and administration of public health nursing, this in cooperation with the School of Public Health; (b) hospital nursing services including supervision and administration in all available clinical services; (c) instruction and administration in schools of nursing (basic professional and vocational).

E. Periodically nursing needs and progress toward goals should be reviewed and long-term plans adjusted in light of these reviews.

F. A Community Nursing Council or Committee should be organized to initiate and carry forward recommendations A through D. This Council should be composed of representatives: (a) of the five schools and hospitals (and the proposed school and hospital) which consider merging into a single school; (b) medical profession; (c) universities; (d) high schools and other educational institutions; (e) churches; (f) community, consumers of nursing services, including business, industry, labor, service clubs, etc.; (g) hospital and nursing organizations including State Board of Nurse Examiners. This Council should have representation from the planning board of the Medical Center - or if feasible act as a subcommittee. The Council should elect a smaller executive council. It should actively seek the necessary endowment. In reference to recommendation B, it should as soon as possible employ an expert nurse educator to guide planning. She might ultimately, if acceptable to the selected university, become Dean of the College of Nursing.

G. A well organized program of public information should be carried on continuously to keep before public attention the nursing needs of Houston, the State of Texas and the Southwest and to enlist support of plans to meet these needs through a school designed to produce the needed professional nurses. The program should also publicize the vocational and the advanced professional programs. It should engender community pride in the matching resources with demands.

XIV. Appendix - Descriptive Sketches of Five Schools in Houston

A. HERMANN HOSPITAL SCHOOL OF NURSING

The Hermann Hospital School of Nursing, founded in 1925, on October 23rd, 1946, had an enrollment of 101. The following figures indicate the trend in admissions:

September 1944	56	February 1945	21
June 1945	27	June 1946	17

The maximum enrollment reached in the school during the wartime period was 139.

The school provides for all students experience in four basic clinical services and an affiliation in psychiatric nursing at the University of Texas, Galveston. The program is three years in length. Students enrolled at the school complete the following course at the University of Houston:

Chemistry 141	Introductory General Chemistry	4 Credits
Biology 145	Microbiology (Inc. Pathology)	4 "
Biology 146	Anatomy and Physiology	4 "
Psychology 231	General Psychology	3 "
Psychology 233	Psychology of Abnormal Behavior	3 "
Sociology 231	Introduction to Sociology	3 "
Nutrition 131	Nutrition, Food and Cookery	3 "
English 131-132	Composition and Western World Literature	6 "
Government 233-234	Constitution of the United States and Texas	6 "

All other courses are taught in the clinical portion of the nursing school program by doctors, nurses, and others.

The full time nurse faculty of the school numbers eight, five of whom have Bachelor's Degrees. The part time nurse faculty numbers nine, of whom one has a Bachelor's Degree and one a Master's Degree.

The health program of the school includes pre-entrance medical examination and chest X-ray, and also admission, annual and terminal medical examinations with chest X-ray.

Nine weeks' vacations are allowed each student during the three years of training. All students, except a few Senior Cadets, live in the nurses' residence. The students have a student government association.

The students are given a battery of tests by the University of Houston which is composed of the Otis, Iowa Supplementary Reading Test, American Council on Education, and California Personality Tests. Applicants are not eliminated on the basis of these tests but the scores are used for guidance purposes.

On October 23, 1946, with a census of 247 patients 4.25 hours of nursing care were given per patient; of this total 47% was given by the students, 34% by graduate professional nurses and 19% by attendants. On that day 26 professional and 8 practical nurses were employed as special nurses. Neither the patients cared for by these special nurses or their hours of nursing service were included in the computation of the average 4.25 hours of care per patient.

The director of the school states that of 18 students taking the State Board Examinations in the Spring, one failed one or more subjects. Of the 18 who took examinations in the Fall, none failed. Of two classes totalling 29 who recently graduated, 8 are married. Two are doing full time study or part time study and ten have immediate plans for study.

The professional library in the school of nursing contains 766 volumes. Small libraries are maintained on school clinical units.

The director of the school of nursing does not prepare a budget but is allowed $1114 per month for full time nursing school salaries and for supplies.

Students enrolled in this school pay tuition for the first year $124, for the second year $15, and for the third $10, making a total of $149, $144 of which is paid to the University of Houston. In addition, students pay miscellaneous fees totalling $136.00, including payments for uniforms, books, health fees, etc.

B. JEFFERSON DAVIS HOSPITAL SCHOOL OF NURSING

The enrollment of this school on October 23, 1946, was . Total of admissions in the late war years and postwar years is shown by the following:

August 1944	62	August 1945	33
February 1945	29	February 1946	33

The highest number of students enrolled in the school was 159.

The school provides experience in the four basic services and in communicable diseases and outpatient department.

The students enrolled in the school carry the course provided for nursing students at the University of Houston. All other teaching is done by nurses, doctors, and others at the hospital school of nursing.

The nurse faculty of the school includes three full-time instructors, one with Bachelor's Degree and one with Master's Degree. There are two part-time instructors.

The health program provided for the students includes physical examination, including chest X-ray on admission and every six months thereafter. Some time ago tuberculosis was a problem among student nurses, but improvement in hospital procedures among other improvements has obviated this problem.

Students have nine weeks vacation in the three year program.

The students take the battery of tests that are given by the University of Houston and the scores are used for counselling purposes, but not for

purpose of eliminating candidates.

The census on October 23, 1946, was 382 patients, and average hours of nursing care per patient given on that day were 3.6 hours. Of this, 27.5% was given by graduate professional nurses, 36.5% by student nurses and 36% by attendants. Six professional nurses were serving in the hospital on that day as special nurses.

The director of the school states that of the 24 who recently took State Board Examinations, two failed one or more subjects. Of these 24 students, 4 are married and 10 are carrying part-time programs of advanced study.

The professional library in the school of nursing contains 503 volumes.

All departments of the hospital submit estimates for the budget for the coming fiscal year; while the entire income and expenditures of the school are not enumerated on the budget, the director believes that salaries and equipment she requests can be procured.

Students enrolled at the school pay $186 tuition, of which $144 are paid to the University of Houston. Students are charged $169 for uniforms, books, library and other fees.

C. MEMORIAL HOSPITAL SCHOOL OF NURSING

The Memorial Hospital School of Nursing was founded as the Baptist Hospital School for Nurses in 1907; the name of the school was changed to the Lillie Jolly School of Nurses in 1945. The present enrollment is 137 students.

The following indicates the trend in admissions:

September 1944	50	February 1945	23
June 1945	37	September 1945	25
September 1946	32		

The maximum enrollment of the school during the war was 207.

The school offers experience to all students in the four major services and psychiatry with a two-weeks' affiliation in public health nursing. The majority of the 20 psychiatric patients were admitted for shock therapy. The students carry the program of classes outlined for student nurses at the University of Houston.

The health program includes admission, annual and terminal examinations with chest X-ray.

Students from this school live in five residences near the hospital. A new nurses' home with capacity of 250 is under construction.

The students are given the usual battery of tests at the University of Houston and the scores are used for guidance but not for elimination of candidates.

On October 23, 1946, the census of the patients in the hospital was 293; 5.4 hours of nursing service were provided per patient. Of this, 29% was given by graduate professional nurses, 45% by student nurses, and 26% by attendants. 67 professional nurses served as special nurses on that day; the hours of service given by these nurses and the patients they attended were omitted from the computation of the 5.4 average hours per care per patient.

Of the 47 students who recently took State Board Examinations, two failed in one or more subjects. The director of the school stated that the percentage of recent graduates who are married is extremely high and estimates it at 90%. She also believes that at least 50% of the recent graduates are undertaking full or part time study or are planning to do so in the near future.

The library of this school contains 124 volumes.

The school does not prepare estimates for a budget of income and ex-

penditures for the school.

Students pay $161 for tuition of which $144 is paid to the University of Houston. They also pay $201 for uniforms, books, and miscellaneous fees.

D. THE METHODIST HOSPITAL SCHOOL OF NURSING

The Methodist Hospital School of Nursing was founded in 1924. The largest enrollment reached during the war in the school was 75. The following indicates the trend in admissions:

September 1944	16	February 1946	0
January 1945	8	June 1946	0
June 1945	13	September 1946	12
September 1945	13		

The school provides experience in four major services and a two-week affiliation in public health nursing and clinics. Students in this school carry the program specified for students of nursing at the University of Houston and all other teaching is done by doctors, nurses, and others in the hospital school of nursing.

Students in this school are given a battery of tests designed for nurses as well as the usual tests given at the University of Houston. The scores on the former are used for the purpose of selecting suitable candidates.

There are four full-time instructors in the school of nursing; one with a Master's Degree and three with Bachelor's Degrees. Part-time instructors number three with two vacancies. Of these three, none have a degree although two have considerable credit toward a degree.

The census of October 23, 1946, was 138 patients, and the average hours of care per patient on that day were 5.8. Of this care, 35% was given by graduate and professional nurses, 33.5% by student nurses, and 31.5% by attendants. Special nursing was given by 11 professional and 6 practical nurses on

that day.

Students enrolled in the school have admission, annual, and terminal medical examinations which include chest X-ray, electrocardiograph and other tests and treatment as indicated.

Of the students who graduated recently, two failed the State Board Examinations. The director of the school states that a high percentage of recent graduates are undertaking full or part-time advanced study. She also states that a high percentage of recent graduates are married.

Students pay $125.00 tuition, all of which with additions from the school funds is paid to the University of Houston. In addition, students pay $197.50 for uniforms, books, and fees.

The school of nursing does not prepare estimates of incoming expenditures for an annual school budget.

E. ST. JOSEPH'S HOSPITAL SCHOOL OF NURSING

The St. Joseph's School of Nursing was founded in 1905. On October 23, 1946, it had an enrollment of 169 students.

Admissions to the school in 1945 and 1946 were:

September 1944	51	September 1945	45
June 1945	30	September 1946	30
June 1946	18		

Maximum enrollment reached during the war period was 214 students.

Experience in the four basic clinical services is provided by the school for all students.

All students take a battery of entrance tests at the University of Houston, the scores of which are used for counselling purposes only.

At the University of Houston the usual offerings for students nurses are carried by these students.

The full-time nurse faculty of the school numbers two, one of whom holds a Bachelor's Degree and one a Master's Degree. The part time nurse faculty of the school numbers eight, of whom four have Bachelor's Degrees and two have Master's degrees. All nurse faculty are graduates of the St. Joseph's School of Nursing.

The health program of the school includes admission and annual medical examination, including chest X-ray. The school gives nine weeks vacations in the three year program.

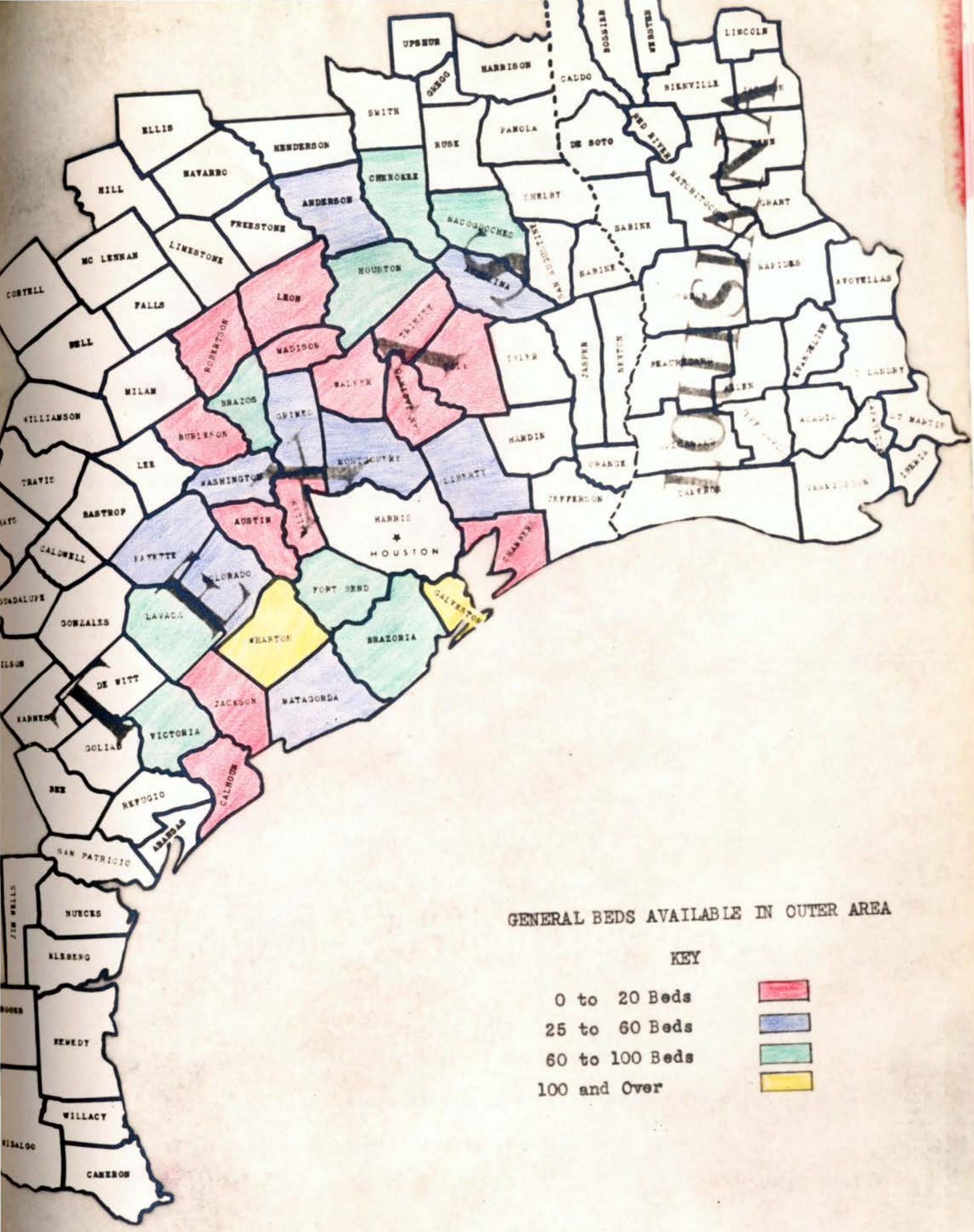
On October 23, 1946, there were 475 patients in the hospital (almost 100 of these were obstetric) and the average hours of nursing care per patient were 4.8 hours. Of this care, 37% was given by graduate professional nurses, 40% by student nurses, and 23% by attendants. 105 professional nurses and 4 practical nurses were serving as special nurses. Their hours of service and the patients they attended were not included in the computation of the average figure for 4.8 hours per patient.

Of the thirty-five students who recently took State Board Examinations, seven failed one or more subjects. The director states that four of the recent class of 34 to graduate are undertaking full-time advanced study and others are enrolled for part time study. She estimates that more than half of the class to be graduated in the fall are now married.

The professional library contains 580 volumes, many of which are duplicates and old editions.

The school of nursing does not submit estimates for the budget of its income and expenditures.

Students enrolled in this school pay $180 upon entrance and purchase uniforms at $42.00 and books at $53.00. An activity fee of $4.00 is also required.



GENERAL BEDS AVAILABLE IN OUTER AREA

KEY

0 to 20 Beds	
25 to 60 Beds	
60 to 100 Beds	
100 and Over	

ADMISSIONS BY RESIDENCE

YEAR ENDED JUNE 30, 1946

SOURCE OF ADMISSION	ST. JOSEPH'S INFIRMARY	HERMANN HOSPITAL	MEMORIAL HOSPITAL	METHODIST HOSPITAL	TOTAL
City of Houston	15,629	7,373	7,774	4,013	34,789
Other Harris County	1,465	525	836	208	3,034
Other Texas Counties	943	415	882	491	2,731
Other States	61	38	48	25	172
Other Counties	6	0	8	0	14
GRAND TOTAL ADMISSIONS	18,104	8,351	9,548	4,737	40,740

- - - - - - - - - - - - - - - - - -

Other Texas Counties	943	415	882	491	2,731
Brazoria	351	32	56	59	498
Fort Bend	123	39	57	28	247
Montgomery	119	7	37	22	185
Liberty	113	11	35	8	167
Galveston	105	14	52	22	193
Chambers	55	3	13	4	75
Waller	45	1	20	13	79
Non-Peripheral	32*	308**	612***	335****	1,287

* 1 County

** 80 Counties with largest number of admissions being 13.

*** 105 Counties with 49 admissions, Jefferson County being the largest.

**** 96 Counties with largest number of admissions being 22.

COUNTIES OF HOUSTON RETAIL TRADE AREA

County	----1940 Population------- Urban	Rural	Total	Growth 1940 Over 1930	1940 Required Beds*
Anderson	12,144	24,948	37,092	7.1	91
Angelina	9,567	22,634	32,201	15.8	77
Austin	3,197	14,187	17,384	-7.8	34
Brazoria	5,666	21,403	27,069	17.4	57
Brazos	14,026	12,951	26,977	23.5	80
Burleson	2,165	16,169	18,334	-7.6	33
Calhoun	2,069	3,842	5,911	9.8	14
Chambers	1,500	6,011	7,511	31.5	16
Cherokee	12,912	31,058	43,970	1.8	104
Colorado	2,422	15,390	17,812	-6.9	32
Fayette	2,531	26,715	29,246	2.5	51
Fort Bend	3,457	29,506	32,963	10.9	59
Galveston	66,610	14,563	81,173	26.0	318
Grimes	6,138	15,822	21,960	-3.0	50
Houston	4,536	26,601	31,137	3.7	60
Jackson	2,724	8,996	11,720	6.7	25
Lavaca	2,789	22,696	25,485	-7.5	45
Leon	900	16,833	17,733	8.8	29
Liberty	3,087	21,454	24,541	23.5	45
Madison	2,095	9,934	12,029	-1.6	23
Matagorda	6,594	13,422	20,066	13.5	48
Montgomery	4,624	18,431	23,055	58.0	48
Nacogdoches	7,538	27,854	35,392	16.8	76
Polk	1,851	18,784	20,635	17.5	35
Robertson	3,511	22,199	25,710	-5.6	49
San Jacinto	500	8,556	9,056	-6.7	15
Trinity	940	12,765	13,705	0.5	22
Victoria	11,566	12,175	23,741	18.4	70
Walker	5,108	14,760	19,868	7.2	44
Waller	1,674	8,606	10,280	2.7	20
Washington	6,435	18,952	25,387	-4.6	57
Wharton	8,292	27,866	36,158	22.9	77

*Allowed 1.5 beds/1000 Rural Population and 4.5 beds/1000 Urban Population.

COUNTIES OF HOUSTON TRADE AREA

County	No. General Hospitals	Total General Beds Available	Required Beds*	Bed Shortage
Anderson	1	25	91	66
Angelina	1	60	77	17
Austin	2	22	34	12
Brazoria	2	70	57	13 (Over)
Brazos	2	65	80	15
Burleson	0	0	33	33
Calhoun	0	0	14	14
Chambers	0	0	16	16
Cherokee	1	86	104	18
Colorado	2	32	32	0
Feyette	1	45	51	6
Fort Bend	2	71	59	12 (Over)
Galveston	3	171	318	147
Grimes	1	25	50	25
Houston	3	70	60	10
Jackson	0	0	25	25
Lavaca	4	67	45	22 (Over)
Leon	0	0	29	29
Liberty	1	55	45	10
Madison	0	0	23	23
Matagorda	1	45	48	3
Montgomery	1	45	48	3
Nacogdoches	1	60	76	16
Polk	1	15	35	20
Robertson	0	0	49	49
San Jacinto	0	0	15	15
Trinity	0	0	22	22
Victoria	2	64	70	14
Walker	0	0	44	44
Washington	2	47	57	10
Wharton	5	170	77	93 (Over)
Totals	39	1317	1806	678

* See Exhibit 2

POPULATION, BY AGE AND SEX
HOUSTON, 1940

	Total		Male		Female	
	Number	Per Cent	Number	Per Cent	Number	Per Cent
All Ages	384,514	100	188,318	100	196,196	100
Under 5 Yrs.	26,834	7.0	13,383	7.1	13,451	6.9
5-9 Yrs.	25,763	6.7	12,851	6.8	12,912	6.6
10-14 Yrs.	28,191	7.3	13,974	7.4	14,217	6.6
15-19 Yrs.	31,988	8.3	14,732	7.8	17,235	8.8
20-24 Yrs.	38,575	10.0	17,519	9.3	21,056	10.7
25-29 Yrs.	43,568	11.3	20,753	11.0	22,815	11.6
30-34 Yrs.	40,440	10.5	19,716	10.5	20,724	10.6
35-39 Yrs.	37,329	9.7	18,526	9.8	18,803	9.6
40-44 Yrs.	30,074	7.8	15,637	8.3	14,437	7.4
45-49 Yrs.	24,125	6.3	12,666	6.7	11,459	5.8
50-54 Yrs.	18,384	4.8	9,714	5.2	8,670	4.4
55-59 Yrs.	13,089	3.4	6,682	3.5	6,407	3.3
60-64 Yrs.	9,695	2.5	4,686	2.5	5,009	2.6
65-69 Yrs.	7,551	2.0	3,522	1.9	4,029	2.1
70-74 Yrs.	4,523	1.2	2,054	1.1	2,469	1.3
75 Yrs. & Over	4,385	1.1	1,882	1.0	2,503	1.3

POPULATION BY AGE AND SEX
HARRIS COUNTY, 1940

	Total		Male		Female	
	Number	Per Cent	Number	Per Cent	Number	Per Cent
All Ages	528,961	100	262,478	100	266,483	100
Under 5 Yrs.	41,816	7.9	20,962	7.9	20,854	7.9
5-9 Yrs.	40,081	7.6	20,192	7.7	19,889	7.5
10-14 Yrs.	42,053	8.0	20,992	8.0	21,061	7.9
15-19 Yrs.	44,110	8.4	20,803	7.9	23,307	8.7
20-24 Yrs.	50,772	9.6	23,200	8.8	27,572	10.3
25-29 Yrs.	58,253	11.0	27,751	10.6	30,502	11.5
30-34 Yrs.	55,146	10.4	27,189	10.4	27,957	10.5
35-39 Yrs.	50,197	9.5	25,359	9.7	24,838	9.3
40-44 Yrs.	39,573	7.5	20,931	8.0	18,642	7.0
45-49 Yrs.	31,371	5.9	16,732	5.4	14,639	5.4
50-54 Yrs.	23,889	4.5	12,794	4.9	11,095	4.2
55-59 Yrs.	17,138	3.2	8,913	3.4	8,225	3.1
60-64 Yrs.	12,862	2.4	6,371	2.4	6,491	2.4
65-69 Yrs.	10,104	1.9	4,876	1.8	5,228	2.0
70-74 Yrs.	5,949	1.1	2,850	1.1	3,099	1.2
75 Yrs. and Over	5,647	1.1	2,563	1.0	3,084	1.2

BIRTH AND BIRTH RATES BY RACE

	-----Number Live Births-----			-------Birth Rate----------		
	White	Colored	Total	White	Colored	Total
HARRIS COUNTY						
1930	4999	1055	6054	17.4	14.5	16.8
1940	8289	1788	10077	19.5	17.2	19.0
1941	9385	2066	11451	21.9	19.3	21.4
1942	10711	2265	12976	24.2	20.5	23.5
1943	12125	2491	14616	24.0	22.5	23.7
1944	11820	2538	14358	23.1	22.2	23.0
1945	13324	2501	15825	25.1	22.3	24.6
CITY OF HOUSTON						
1930	4834	1078	5912	22.5	13.9	20.2
1940	7517	1728	9245	26.2	17.7	24.0
1941	8515	2003	10518	28.9	20.0	26.6
1942	9486	2170	11656	29.9	20.1	28.2
1943	10460	2364	12824	31.2	20.7	28.5
1944	10295	2452	12747	30.0	21.0	27.0
1945	9959	2352	12311	28.3	19.7	26.1

DEATHS ALL AGES BY RACE

	-----Number of Deaths-----			-------Death Rate*-------		
	White	Colored	Total	White	Colored	Total
HARRIS COUNTY						
1930	2579	1272	3851	9.0	17.5	10.7
1940	3442	1368	4810	8.1	13.2	9.1
1941	3370	1384	4754	7.8	12.9	8.8
1942	3486	1407	4893	7.9	12.7	8.8
1943	4105	1405	5510	8.1	12.7	8.9
1944	3918	1369	5287	7.7	12.0	8.4
1945	3731	1331	5062	7.0	11.8	7.9
CITY OF HOUSTON						
1930	2346	1255	3601	10.9	16.2	12.3
1940	3157	1306	4463	11.0	13.4	11.6
1941	3088	1339	4427	10.5	13.3	11.2
1942	3139	1343	4482	9.9	12.4	10.5
1943	3612	1328	4940	10.8	11.6	11.0
1944	3544	1321	4865	10.3	11.3	10.6
1945	3324	1275	4599	9.5	10.6	9.8

* Deaths (excluding stillborn) Per 1000 Population

STILLBIRTHS BY RACE

	-----Number of Stillbirths-----			-----Stillbirth Rate*-------		
	White	Colored	Total	White	Colored	Total
HARRIS COUNTY						
1930	151	78	229	30.2	73.9	37.8
1940	191	98	289	23.0	54.8	28.6
1941	209	108	317	22.3	52.3	27.6
1942	223	81	304	20.8	35.7	23.4
1943	292	146	438	24.0	58.6	29.9
1944	259	130	389	21.9	51.2	27.0
1945	223	130	353	16.7	51.9	25.5
CITY OF HOUSTON						
1930	144	77	221	29.7	71.4	37.4
1940	173	94	267	23.1	54.8	29.0
1941	184	107	291	21.7	53.6	27.7
1942	186	75	261	19.7	34.8	22.5
1943	236	126	362	22.2	63.4	27.9
1944	231	127	358	22.4	51.7	28.1
1945	195	119	314	19.6	52.8	25.5

* Stillbirths Per 1000 Live Births

MATERNAL DEATHS BY RACE

	-----Number of Deaths-----			-------Death Rate*-----		
	White	Colored	Total	White	Colored	Total
HARRIS COUNTY						
1940	21	15	36	2.5	8.4	3.6
1941	17	8	25	1.8	3.9	2.2
1942	21	15	36	2.0	6.6	2.8
1943	14	18	32	1.2	7.2	2.2
1944	18	11	29	1.5	4.3	2.0
1945	24	7	31	1.8	2.8	2.0
CITY OF HOUSTON						
1940	17	14	31	2.3	3.1	3.4
1941	17	8	25	2.0	4.0	2.4
1942	18	15	33	1.9	6.9	2.8
1943	10	18	28	0.95	7.6	2.2
1944	16	9	25	1.6	3.7	2.0
1945	22	7	29	2.2	3.0	2.4

* Maternal deaths Per 1000 Live Births.

DEATHS OF INFANTS UNDER ONE YEAR BY RACE

	***Number of Deaths---			---Death Rate*---		
	White	Colored	Total	White	Colored	Total
HARRIS COUNTY						
1930	263	95	358	50.7	82.0	56.4
1940	324	151	475	39.1	84.4	47.1
1941	351	131	482	37.4	63.4	42.1
1942	382	133	515	35.6	58.7	39.7
1943	528	168	696	43.5	67.4	47.6
1944	415	168	583	35.1	66.2	40.6
1945	373	185	558	27.9	73.9	40.3
CITY OF HOUSTON						
1930	293	142	435	60.6	131.72	73.58
1940	301	142	443	40.04	82.18	47.92
1941	318	129	447	37.34	64.40	42.50
1942	357	128	485	43.06	58.99	41.6
1943	470	157	627	44.93	66.41	48.9
1944	358	151	509	34.77	61.58	39.9
1945	316	169	485	31.73	71.58	39.4

* Deaths per 1000 Live Births.

DEATHS FROM PRINCIPAL CAUSES
STATE OF TEXAS

	1945	1944	1943	1942	1941	1940	1935
DEATHS							
Heart Disease	13,060	13,328	13,115	12,647	12,420	11,981	9,259
Cancer	5,943	5,626	5,557	5,405	5,200	5,052	4,163
Apoplexy	4,980	4,785	4,864	4,718	4,532	4,604	3,939
Nephritis	3,430	3,809	4,120	3,964	3,928	4,215	3,525
Tuberculosis	2,923	3,065	3,287	3,568	3,684	3,797	4,202
Pneumonia	2,557	2,959	2,840	2,779	3,288	3,611	5,094
Diarrhea, Enteritis	1,441	1,898	1,797	1,580	1,308	2,366	2,264
Senility	1,023	1,119	1,141	1,095	969	1,145	1,087
RATE*							
Heart Disease	132.4	193.7	188.1	188.2	188.7	186.5	151.2
Cancer	87.6	81.8	79.7	80.4	79.0	78.6	68.0
Apoplexy	73.4	69.6	69.8	70.2	68.9	71.7	64.3
Nephritis	50.5	55.4	59.1	59.0	59.7	65.6	57.6
Tuberculosis	43.1	44.6	47.1	53.1	56.0	59.1	68.6
Pneumonia	37.7	43.0	40.7	41.4	50.0	56.2	83.2
Diarrhea, Enteritis	21.3	27.5	25.8	23.5	19.8	36.8	37.0
Senility	15.1	16.3	16.4	16.3	14.7	17.8	17.8

*Rate per 100,000 Population.

DEATHS FROM PRINCIPAL CAUSES BY RACE AND SEX
1945

	---White---		---Colored----		
	Male	Female	Male	Female	Total
HARRIS COUNTY					
Heart Disease	648	318	279	158	1245
Cancer	260	258	43	51	612
Apoplexy	161	153	59	60	433
Nephritis	96	68	49	42	255
Tuberculosis	100	49	34	40	223
Pneumonia	63	73	34	31	201
Diarrhea, Enteritis	19	18	12	6	55
Senility	38	18	15	5	76
Syphilis					50
Poliomyelitis					23
Diptheria					8
Whooping Cough					3
Typhoid					7
Typhus					5
CITY OF HOUSTON					
Heart Disease	577	288	154	115	1134
Cancer	230	236	42	48	556
Apoplexy	141	134	56	52	383
Nephritis	89	64	45	41	239
Tuberculosis	84	42	30	38	194
Pneumonia	35	62	28	29	154
Diarrhea, Enteritis	19	17	10	5	51
Senility	32	14	17	13	63
Syphilis					46
Poliomyelitis					22
Diptheria					8
Whooping Cough					1
Typhoid					3
Typhus					4

FIVE LEADING CAUSES OF DEATH BY AGE GROUPS
1940
STATE OF TEXAS

--Cause of Death---	----Number of Deaths------			---Percent of all Causes---		
	Total	White	Other Races	Total	White	Other Races
Under 1 Year:						
All Causes	8,685	7,344	1,341	100.0	100.0	100.0
Premature birth	2,015	1,700	315	23.2	23.1	23.5
Diarrhea, enteritis, etc.	1,598	1,451	147	18.4	19.8	11.0
Influenza and pneumonia	1,298	1,054	244	14.9	14.4	18.2
Injury at birth	591	529	62	6.8	7.2	4.6
Congenital Malformations	437	402	35	5.0	5.5	2.6
Other Causes	2,746	2,208	538	31.6	30.1	40.1
1-4 Years:						
All Causes	2,321	2,005	318	100.0	100.0	100.0
Diarrhea, enteritis, etc.	460	416	44	19.8	20.7	13.9
Influenza and pneumonia	448	367	81	19.3	18.3	25.6
Dysentery	162	143	19	7.0	7.1	6.0
Measles	127	119	8	5.5	5.9	2.5
Diphtheria	87	74	13	3.7	3.7	4.1
Other Causes	1,037	886	151	44.7	44.2	47.8
5-14 Years:						
All Causes	1,491	1,205	286	100.0	100.0	100.0

FIVE LEADING CAUSES OF DEATH BY AGE GROUPS
1940
STATE OF TEXAS

---Cause of Death---	----Number of Deaths-----			---Percent of all Causes---		
(Continued)	Total	White	Other Races	Total	White	Other Races
5-14 Years:						
Influenza and pneumonia	162	117	45	10.9	9.7	15.7
Motor-vehicle accidents	134	122	12	9.0	10.0	4.2
Tuberculosis	108	87	21	7.2	7.2	7.3
Appendicitis	94	77	17	6.3	6.4	5.9
Accidental Drowning	75	60	15	5.0	5.0	5.2
Other Causes	918	742	176	61.6	61.6	61.5
15-24 Years:						
All Causes	3,209	2,367	842	100.0	100.0	100.0
Tuberculosis	799	594	205	24.9	25.1	24.3
Motor-vehicle accidents	369	341	28	11.5	14.4	3.3
Diseases of pregnancy, childbirth, puerperium	223	149	74	6.9	6.3	8.8
Influenza and pneumonia	209	127	82	6.5	5.4	9.7
Appendicitis	124	95	29	3.9	4.0	3.4
Other Causes	1,485	1,061	424	46.3	44.8	50.4
25-44 Years:						
All Causes	8,914	6,292	2,622	100.0	100.0	100.0
Tuberculosis	1,553	1,195	358	17.4	19.0	13.7
Diseases of the Heart	977	601	376	11.0	9.6	14.3
Cancer	679	545	134	7.6	8.7	5.1
Motor-vehicle accidents	580	512	68	6.5	8.1	2.6

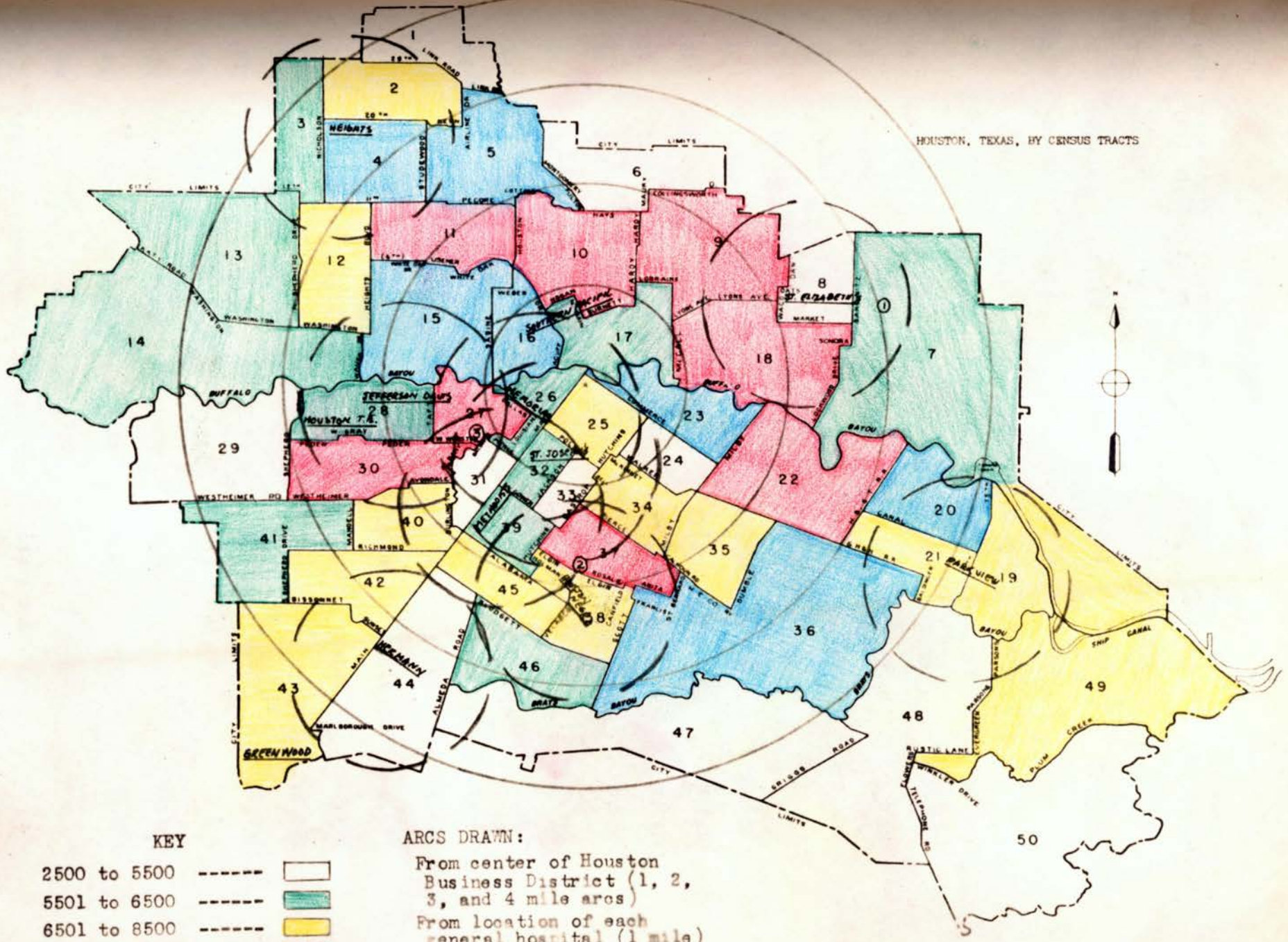
FIVE LEADING CAUSES OF DEATH BY AGE GROUPS
1940
STATE OF TEXAS

---Cause of Death---	----Number of Deaths-----			---Percent of all Causes---		
(Continued)	Total	White	Other Races	Total	White	Other Races
25-44 Years:						
Influenza and pneumonia	532	315	217	6.0	5.0	8.3
Other Causes	4,593	3,124	1,469	51.5	49.7	56.0
45-64 Years:						
All Causes	15,419	11,993	3,426	100.0	100.0	100.0
Diseases of the Heart	4,133	3,271	862	26.8	27.3	25.2
Cancer	2,083	1,785	298	13.5	14.9	8.7
Intracranial lesions of vascular origin	1,474	1,050	424	9.6	8.8	12.4
Nephritis	1,203	836	367	7.8	7.0	10.7
Influenza and pneumonia	910	642	268	5.9	5.4	7.8
Other causes	5,616	4,409	1,207	36.4	36.8	35.2
65 Years and over:						
All causes:	22,386	19,644	2,742	100.0	100.0	100.0
Diseases of the Heart	6,611	5,933	678	29.5	30.2	24.7
Intracranial lesions of vascular origin	2,782	2,397	385	12.4	12.2	14.0
Nephritis	2,471	2,064	407	11.0	10.5	14.8
Cancer	2,167	2,013	154	9.7	10.2	5.6
Influenza and pneumonia	1,776	1,540	236	7.9	7.8	8.6
Other Causes	6,579	5,697	882	29.4	29.0	32.2

DISTANCE FROM MAJOR CITIES OF OUTER AREA TO HOUSTON

County	City	Distance
Anderson	Palestine	150.7
Angelina	Lufkin	118.2
Austin	Sealy	49.2
Brazoria	Freeport	62.1
Brazos	Bryan	98.9
Burleson	Caldwell	103.1
Calhoun	Port Lavaca	148.3
Chambers	Anahuac	74.2
Cherokee	Jacksonville	177.4
Colorado	Columbus	80.3
Feyette	La Grange	95.8
Fort Bend	Rosenbarg	37.8
Galveston	Galveston	48.1
Grimes	Navasota	70.4
Houston	Crockett	113.2
Jackson	Edna	104.6
Lavaca	Hallettsville	104.0
Leon	Centerville	121.3
Liberty	Liberty	40.8
Madison	Madisonville	99.3
Matagorda	Bay City	74.6
Montgomery	Conroe	39.0
Nacogdoches	Nacogdoches	138.2
Polk	Livingston	71.5
Robertson	Hearne	119.6
San Jacinto	Cold Spring	55.3
Trinity	Groveton	104.9
Victoria	Victoria	129.3
Walker	Huntsville	73.7
Weller	Hempstead	50.1
Washington	Brenham	71.2
Wharton	Wharton	63.8

HOUSTON, TEXAS, BY CENSUS TRACTS



KEY

2500 to 5500	------
5501 to 6500	------
6501 to 8500	------
8501 to 11000	------
Above 11000	------

ARCS DRAWN:

From center of Houston Business District (1, 2, 3, and 4 mile arcs)

From location of each general hospital (1 mile)

EXHIBIT 1

CENSUS TRACT DATA

Tract	---Area--- (Sq. Mi.)	------Population 1940------ White	Non-White	Total	Pop. 1943 (Estimate)*	Pop. Density (Per Sq. Mi.)
1	1.017	949	3,523	4,472	5,356	5,266
2	0.998	7,195	6,954	7,216	8,642	8,659
3	0.802	4,678	971	5,649	6,765	8,435
4	1.046	10,485	34	10,519	12,598	12,044
5	1.437	10,439	140	10,579	12,669	8,816
6	1.164	2,897	360	3,257	3,901	3,351
7	5.956	6,326	38	6,364	7,622	1,280
8	0.710	242	3,572	3,814	4,568	6,434
9	1.750	4,082	10,318	14,400	17,245	9,854
10	1.410	14,099	255	14,254	17,190	12,191
11	1.097	11,459	41	11,500	13,772	12,554
12	1.101	4,834	2,283	7,117	8,523	7,741
13	2.277	6,855	239	6,855	8,210	3,606
14	4.070	6,593	372	6,965	8,341	2,049
15	1.829	8,144	2,099	10,243	12,267	6,707
16	0.703	7,535	1,835	9,370	11,222	15,963
17	1.001	4,537	1,051	5,588	6,692	6,685
18	1.800	999	12,039	13,038	15,614	8,674
19	1.016	8,369	102	8,471	10,145	9,985
20	0.944	9,507	110	9,617	11,517	12,200
21	0.725	7,691	10	7,701	9,223	12,721
22	1.858	11,925	21	11,946	14,307	7,700
23	0.912	7,487	1,074	8,561	10,253	11,242
24	0.495	3,728	543	4,271	5,115	10,333
25	0.607	8,134	249	8,383	10,039	16,538

Estimate prepared by Houston Department of Utilities

CENSUS TRACT DATA

EXHIBIT 2

Tract	Area (Sq. Mi.)	Population 1940 White	Population 1940 Non-White	Population 1940 Total	Pop. 1943 (Estimate)*	Pop. Density (Per Sq. Mi.
26	0.456	5,845	401	6,246	7,480	16,404
27	0.613	1,765	11,502	13,267	15,889	25,920
28	0.940	5,621	394	6,015	7,204	7,664
29	2.462	4,161	546	4,707	5,637	2,290
30	1.096	13,382	694	14,076	16,857	15,380
31	0.414	5,013	205	5,218	6,249	15,094
32	0.362	6,391	316	6,707	8,032	22,188
33	0.285	4,053	1,288	5,341	6,396	22,442
34	0.710	1,741	5,614	7,355	8,808	12,406
35	0.881	6,702	50	6,752	8,806	9,178
36	4.380	9,588	315	9,903	11,860	2,708
37	0.758	200	12,592	12,792	5,320	20,211
38	0.771	80	6,453	6,533	7,824	10,148
39	0.497	5,748	1,100	6,848	8,201	16,501
40	0.775	6,961	646	7,607	9,110	11,755
41	1.376	6,039	173	6,212	7,439	5,406
42	1.028	6,894	456	7,350	8,802	8,562
43	2.194	5,337	409	6,746	8,079	3,682
44	2.045	3,331	146	3,477	4,164	2,036
45	0.675	6,555	134	6,689	8,011	11,868
46	1.187	6,476	440	6,916	8,283	6,966
47	3.257	2,439	152	2,591	3,103	953
48	3.443	3,358	35	3,393	4,063	1,180
49	3.416	6,024	1,051	7,075	8,473	2,480
50	4.261	4,305	143	4,448	5,327	1,250
Total	75.009	297,959	86,555	384,514	460,493	475,700

*Estimate prepared by Houston Department of Utilities.

EXHIBIT 3

DEFINITION OF ECONOMIC AREAS BY COMPARATIVE DATA

ECONOMIC DATA	TOTAL	I	II	III	IV	V	VI	VII
CENSUS TRACT DISTRIBUTION	1-50 Incl.	29,42,43 46 & 47	30,39,40 41,44,45, 48 & 50	2,3,4, 5,6,7, 11,12, 13,19, 21,22,28, 31,32,36 & 49	24, 25, 26	10,14 15,16	1,8,9, 18,27, 33,34, 35,37, 38	17,20, 23
Number of Major Structures	88,574	7,153	12,611	31,092	2,716	9,216	20,658	5,128
Number of Residential Structures	81,191	6,707	11,824	28,824	1,609	8,380	19,422	4,430
Median Year Built for Resid. Str.	1920	1933	1926	1924	1902	1915	1920	1918
Number of Dwelling Units	104,480	7,966	16,051	36,587	3,998	11,344	22,721	5,813
% of Dwelling Units Owner Occupied	34.2	53.8	31.1	38.9	7.0	27.1	24.0	20.7
% of Households Other than White	25.9	8.9	7.8	7.0	13.5	18.3	76.0	39.8
% of Dwelling Units Substandard	37.4	1.0	11.9	30.8	70.4	55.5	56.1	61.5
% of Dwelling Units with Inadequate Plumbing	25.2	1.0	6.2	21.2	55.6	34.7	38.4	45.5
% Needing Major Repairs or Unfit for Use	21.6	0.3	7.7	14.2	49.6	39.9	30.5	45.0
% with More Than 1.5 Pers.per Room	9.2	0.3	1.9	7.1	27.1	14.9	11.5	21.6
Median Monthly Tenant Rent	$23.28	$48.41	$38.69	$30.80	$21.91	$20.07	$18.26	$16.12
Land in Permanent Use- Exclusive of thoroughfares) & Memorial Park) Acres %	19,451.87 55.1	2,667.44 55.2	3,135.27 44.9	6,379.93 47.3	509.29 86.7	3,376.28 82.6	2,513.55 61.2	870.11 70.4

Prepared by Houston Department of Utilities

HOSPITAL SKETCH

NAME: GOOSE CREEK HOSPITAL

LOCATION: GOOSE CREEK, TEXAS

SUPERINTENDENT: MRS. E. GRANTHAM

GENERAL:

This is a 40 bed general hospital located two blocks from the center of the Goose Creek business district. It was originally incorporated in 1931 for profit by physicians C. H. Langford, L.A. Hankins, and J.C. Holsomback. The building presently occupied was built in 1936 with a capacity of 11 beds and expanded in 1942 to 40 beds for adults and 10 bassinets.

ACCREDITATIONS, APPROVALS, AND MEMBERSHIPS:

The hospital is registered with the American Medical Association and is licensed by the State for maternity care but has no other accreditations and no memberships except with the State Hospital Association.

MEDICAL STAFF:

In addition to the three physician owners, 6 physicians in and near Goose Creek regularly bring patients to this hospital and may be deemed to have courtesy privileges. Occasionally consultants and in fact specialists

have come from Houston on behalf of specific patients. The owners and courtesy staff members are all general practitioners with the exception of one Eye, Ear, Nose and Throat specialist.

FACILITIES AVAILABLE:

As previously mentioned there are 40 beds and 10 bassinets available in this general hospital and when possible they are distributed 18 medical, 10 Surgical, and 12 Obstetrical. Furthermore they are divided into 17 single rooms, 20 patients in double rooms and there is one room of three beds. Mexican patients are admitted but not Negro.

Almost all types of medical cases are admitted, if able to pay, and those such as Contagious, Nervous and Mental, and Tuberculosis are admitted but transferred to Houston hospitals at the earliest possible time.

Diagnostic X-Ray is available, as is laboratory work and some Physical Therapy.

The building itself is stucco and the older section less than fireproof.

USE OF FACILITIES:

Only limited statistics on patient service data were available, but it was learned that in the past year there were 2,138 adult discharges with 12,045 patient days. Also there were 28 Deaths and no autopsies performed. The average length of stay would therefore be 5.6 days.

The superintendent attested that waiting rooms frequently

became labor rooms and make-shift arrangements in hallways were not unusual.

There is of course no Out Patient service but the doctors' offices in the building treat private ambulatory patients. There is a large traffic in industrial work.

TRAINING FACILITIES:

There are no training facilities at Goose Creek Hospital.

FINANCIAL:

No information on the financial structure of this hospital was available.

PERSONNEL:

The hospital reports total personnel to be 42 divided by departments as follows:

Administrative	3
Dietary	2
Laundry	1
Housekeeping	5
Maintenance	2
Nursing	27
X-Ray & Laboratory	2
TOTAL	42

In addition 4 nurses are assigned to Doctors' Offices. Of the 27 in the Nursing Department there are reputedly 18 graduates and 1 supervisor.

The hospital seems to have no plans for expansion.

HOSPITAL SKETCH

NAME: HEIGHTS HOSPITAL

LOCATION: 1917 ASHLAND

GENERAL MANAGER: MR. W. A. PETERSON

GENERAL:

This is a general hospital of 74 beds and 24 bassinets located at a distance of 5 miles from the business center of Houston on a plot of ground 220' x 205'. This hospital was constructed and opened in 1923 and was incorporated in 1927 for profit by the Heights Hospital Corporation. It is presently operated by this corporation under the control of a Board of Trustees of 5 members, the president of which is Mrs. T. A. Sinclair. It is stipulated in the Charter of the corporation that the hospital may not own its present site, but must rent this property from present owners, who in turn are members of the Heights Hospital Corporation. The trustees operate under By-Laws and Rules and Regulations which are on file. Mr. W.A. Peterson, General Manager of the Hospital, has had two years hospital experience and is chairman of the City of Houston Hospital Council.

ACCREDITATIONS, APPROVALS, AND MEMBERSHIPS:

Heights Hospital is registered with the American Medical Association. At the present time this hospital has no other approvals, but the General Manager advised that general approval by the American

College of Surgeons was being applied for and that the hospital would be inspected some time during this month. It has memberships in the American Medical Association, American Hospital Association, and Local Hospital Council.

MEDICAL STAFF:

This organization operates under formal By-Laws and holds monthly meetings. It is an "open" staff permitting any Harris County Medical Society member use of the facilities. The greater proportion of the 23 active staff members are general practitioners, but there are 3 Dental Surgeons, 1 Pathologist, 1 Pediatrician, 1 Rentgenologist, 1 Eye, Ear, Nose and Throat, and 1 Obstetrician.

FACILITIES AVAILABLE:

The present hospital has a capacity of 74 adult beds and has been expanded three times since its opening as a 48 bed hospital. The last expansion was begun in March, 1946 and certain phases of this work are not yet completed. In addition to the number of beds added in this most recent expansion, more adequate facilities for laboratory, X-ray, and offices are being made available as well as kitchen and dining room facilities. When this work is completed, no further expansion is planned for the near future.

There is considerable interchangeability of beds for the various medical services, and 14 beds set aside for all pediatric work is the only service which may be reflected accurately. The 60 remaining are given over to care following the pattern of any general hospital. There is an occasional tuberculosis patient, a few chronic cases, but there are no nervous and

mental cases accepted, nor are there addicts, alcoholics, or incurables.

The following table reflects type of accommodation into which the plant is divided:

TYPE OF ACCOMMODATION

TYPE	ROOMS	BEDS
1 Person	37	37
2 Persons	11	22
3 Persons	5	15
TOTAL		74
Bassinets		24

No free or part-pay patients are accepted at the hospital and there are no cases requiring City, County, State or Federal Payment. This hospital has not contracted with the Emergency Maternity and Infant Care Program, inasmuch as the financial information required by that agency could not be complied with by this hospital. Blue Cross and other insurance covered patients are admitted.

Facilities available in this general hospital are slightly less than adequate in that there is no Therapeutic X-ray equipment, no Radium Therapy, and Physical Therapy is limited to Heat and Diathermy work, nor is Fever Therapy offered. There is no Pharmacist and medications of all types must be purchased by patients through the hospital. There is no employees health clinic, nor is any particular attempt made to urge subscription with a group insurance plan, and in general the administration fills no responsibility toward personnel care, however it was stated that in the near future practice of X-raying and requiring periodic blood tests will be made

a hospital routine.

No Out-Patient Clinic is operated, but several of the attending staff have offices in the building and carry out limited private ambulatory practice using hospital facilities and allowing their patients to be billed for such by the hospital.

USE OF FACILITIES:

There is no great wealth of statistical information of a patient service nature available, but the following figures have been assembled and are believed to be accurate. Adult patients admitted in 1945 totaled 3,071, while in 1944 there were 2,700 and 2210 in 1943. The corresponding patient days were 14,260; 13,394; and 12,940. The highest occupancy was reached in 1945 and was 52.8%.

The average adult patient stay deserves special mention in that it was 3.5 in 1943, 5.1 in 1944, and was reduced to 4.6 in 1945. This is by far the shortest length of stay encountered in the survey and it was discussed with the General Manager at some length. It appears that a very large number of tonsil and adenoid operations are performed and that a substantial number of minor emergencies are held 12 to 24 hours and become in-patients.

The number of births, excluding 8 stillborn in 1945 was 581, against the 712 recorded in 1944 and the 731 in 1943. The number of newborn days was not recorded, but length of stay is known to be in line with over-all length of stay, so that the newborn days would run between 1750 and 2000 per year.

In 1945 there were 77 deaths while in 1944 there were 69, both excluding newborn.

An active emergency unit is in operation, as mentioned above and in 1945 3,163 patients were treated. There are no established rates for emergency services.

TRAINING FACILITIES:

There are no training facilities of any type in this hospital.

FINANCIAL:

Not too much could be learned of this hospital's financial structure. It is understood to be making a profit which is ample to meet their occassional building and renovation costs.

In 1945 their income tax report showed gross receipts of $203,995, which reflected only income in hand from patients. The cost of operation for the period was $166,842. Allowable deductions were in the amount of $18,000 rent, $7,994 representing salaries to officials, taxes in the amount of $2,211 and depreciation on equipment of $2,364, the four items totaling $30,575.

PERSONNEL:

There is no particular personnel shortage, although there are a few unfilled graduate nurses' positions, which when filled will supplement the 12 nurses now on roll. The hospital has no full time anesthesist on roll, but has three such trained persons on call with established commissions based on the amount of work done. The hospital's laundry work is contracted for at the rate of 3.3/4¢ per pound, all maintenance work is likewise sub-let. Their salaries follow scales agreed to by the

Local Hospital Council which grants $175 per month for graduate nurses on day duty and $185 per month for night duty. The only perquisite granted is one meal per working day. Vacations and sick leave follow established practices.

This would appear to be a well organized and operated hospital, with generous physical quarters for patients and personnel. The General Manager, although lacking experience, seems interested in the operating of the hospital and its advancement toward satisfactory compliance with known measurements.

The following table reflects personnel in the various departments:

1.	Administration	12
2.	Dietary	11
3.	Household and Property	
	a. Laundry and Linen	1
	b. Housekeeping	13
	c. Maintenance	1
4.	Nursing	
	a. Graduates	12
	b. Other	50
5.	Professional	
	a. Records and Library	2
	b. X-ray, Lab, Radium	3
	Total	105

HOSPITAL SKETCH

NAME: HERMANN HOSPITAL

LOCATION: HERMANN PARK DRIVE

SUPERINTENDENT: MR. R. OSWALD DAUGHETY

GENERAL:

This is a 294 bed general hospital situated on a ten acre site at the edge of Hermann Park approximately 3 1/2 miles from the center of the Houston business district. Hermann Hospital was constructed in 1925 under the will of Mr. George H. Hermann and is owned and operated by a self-perpetuating Board of Trustees of the Hermann Hospital Estate. It is operated not for profit and is not incorporated. There are 7 members of the Board of Trustees, the president of which is Mr. James Anderson. Copies of their by-laws are on file. The will of the late George H. Hermann stipulates that "---the indigent, sick and infirm of the City of Houston shall be taken care of in said Hospital in preference to any others, but if there is at any time sufficient accommodation for others then that the indigent, sick, and infirm of Harris County shall by accommodated in said Hospital." There seems to be some question as to whether this interpretation of the will could be somewhat loosened if necessary, by court action. This point might prove important if and when the amount of free work at the hospital increases through expansion and a teaching program of greater scope is instituted.

APPROVALS, ACCREDITATIONS, AND MEMBERSHIPS:

Hermann Hospital is approved by the American College of Surgeons as meeting unconditionally its minimum requirements and is one of the six hospitals of the Survey Area so approved. It is also approved for the training of Interns, of Residents, and of Fellows. It is one of three hospitals of the area so approved for Intern training and one of five approved for Residencies and Fellowships. The American College of Surgeons has additionally approved it as a hospital capable of offering graduate training in Surgery and it is one of three such approved hospitals in the area.

Its School of Nursing is approved by the State Nurses Board but not by The National League of Nursing. It is understood that the latter approval has never been applied for but will be when the new Superintendent of Nurses has been at the hospital a sufficient time to make the changes necessary to conform to the League standards.

MEDICAL STAFF:

The Medical Staff at Hermann Hospital is organized and has formal by-laws, rules and regulations. Qualifications for membership to the Staff consists of having graduated from an approved Medical School, having

been licensed to practice in Texas and to be qualified for membership in a local Medical Society or to be a qualified specialist in an allied field. The grades of active staff membership follow:

Number of Active Staff Memberships;

Senior	25	Assistant	63	Consulting	11
Associate	13	Courtesy	50	Honorary	14
Junior	43				

The number of physicians in the various professional departments and the number of such physicians having National Board Certification follows:

Number of Staff Holding National Board Certification:

	No. on Staff	No. with N. B. C.		No. on Staff	No. with N. B. C.
Allergy	2	2	Opthamology	14	14
Anesthesia	5	4	Orthopedics	4	3
Bio-chemistry	1		Oto-Laryngology	11	11
Dental Surgery	6		Pathology	2	2
Dermatology	6	2	Pediatrics	17	15
Gynecology	31	16	Plastic Surgery	1	1
Medicine	28	17	Proctology	3	
Neurology	3	3	Radiology	2	2
Neuro-Psychiatry	2	2	Surgery	19	10
Neuro-Surgery	2	1	Thoracic Surgery	1	1
			Total	148	111

FACILITIES AVAILABLE:

I. In Patient:

As shown in the following tables, Hermann Hospital has an adult bed capacity of 294 and an additional 30 bassinets. There is considerable interchangeability and flexibility in the allocation of beds within certain of the services so that the table showing Medical Service can show assignment to only five major services although in addition to these, care is given to Orthopedic, Eye, Ear, Nose and Throat, and Cardiac. It was learned that two beds only have been set aside for Tuberculosis operative cases and no other Tuberculosis patients are accepted. No contagious cases are received but contagion developing after admission or as a secondary diagnosis is treated in the hospital. A few Nervous and Mental cases are admitted but these are limited to patients of the three Neuro-Psychiatrists on the staff and the judgment of these men as to whether the cases can be properly handled with the facilities available is the basis for admission. Venereal Disease, unless related to another condition normally treated in the hospital is not a basis for admission. The hospital does not treat Alcoholics, Incurables, Epileptics, Chronics or Convalescents.

In the following table, the 294 available beds are shown by type of medical service as well as by the type of accommodation into which the physical plant is divided.

--------MEDICAL SERVICE--------

Type	Number
Medical	65
Surgical (Inc. Gyn)	141
Obstetrics	31
Pediatric (All Children)	37
Skin and Cancer	20
Adult Total	294
Bassinets	30

---TYPE OF ACCOMMODATION---

Type	Rooms	Beds
1 person	59	59
2 Persons	8	16
3 Persons	15	45
4 Persons	8	32
5 Persons	8	40
6 Persons	17	102
Adult Total		294
Bassinets		30

It is noted that the number of beds set aside for colored patients is at the present 49. There have been no recent changes in this bed capacity or in the over-all capacity although following the building of the Nurses' Home in 1941 and the Interns' Quarters in 1944, a certain few beds were released for patient care.

A study of the mid-night census as of July 15th, 1946 indicated that there were two Tuberculosis patients, 25 Cancer patients, and one Mental Deficient patient in the hospital.

II. Out Patient:

Facilities of the Out Patient Department at Hermann Hospital are under the supervision of a Registered Nurse thoroughly trained in Public Health and Nursing Education and with eight years experience in Out-Patient work. Admission to the clinic is restricted to those of a given economic status and to residency in Harris County. The list of clinics available and the use of these facilities are shown in the following table:

OUT-PATIENT DEPARTMENT VISITS

CLINIC	VISITS 1943	1944	1945
Medical		2670	
Ear, Nose and Throat		1203	
Obstetrics and Post Partum		2967	
Surgery		1466	
Pediatrics		1537	
Dermatology		616	
Gynecology		2267	
Proctology		351	
Urology		1168	
Eye		802	
Dental		516	
Neurology-Psychiatry		136	
Heart		474	
Orthopedics		443	
Metabolic		518	
Total	15,310	17,134	20,235

USE OF IN-PATIENT FACILITIES:

Patient Days and Discharge information for the year 1945 indicate that there were 7,026 discharges with a total of 76,917 patient days and that there were 837 new born discharges with a corresponding 6,053 patient days. The adult length of stay would therefore be 10.9 while the per cent occupancy of all adult beds would for the year 1945 be 71.7%. It is to be noted that the number of discharges referred to above and appearing as the total in the following table is 1325 lower than that used in the analysis of admissions for the calendar year ending June 30, 1946, which we used in Exhibit 1. This was discussed with the hospital superintendent and the accuracy of both figures confirmed. From this it could be judged that the last six or eight months of operation at Hermann Hospital has been under a

substantially higher rate of occupancy.

DISCHARGES AND DAYS BY MEDICAL SERVICE

Type Service	Discharges 1943	Discharges 1944	Discharges 1945	Days 1943	Days 1944	Days 1945
Medical	1,353	1,693	1,713	14,533	20,594	20,645
Surgical Inc. Gyn.	2,878	2,941	3,575	30,986	32,378	38,287
Obstetrics	867	927	985	5,472	5,846	6,685
Pediatric (All Child)	217	447	433	5,051	6,151	6,414
Orthopedic	288	328	320	4,361	4,998	4,886
Total	5,573	6,336	7,026	60,403	69,967	76,917
Newborn	776	817	837	5,282	6,100	6,053

The 71.7% occupancy is somewhat lower than the "expected occupancy" figure suggested by the Commission on Hospital Care, but of course does not weigh the pressure created during peak census periods nor does it measure the occupancy of the individual service, which would have a bearing on deciding the adequacy of facilities.

The facilities available to in-patients such as diagnostic and therapeutic, X-ray, Radium, General Laboratory, Oxygen and Fever Therapy are all available at Hermann Hospital and in an adequate amount, but housed in areas that by size are seriously inadequate and create many operational problems.

It is to be mentioned that there is no Private Ambulatory service in the strict sense of the word but that pay patients requiring superficial physician's care are treated in the emergency unit.

They have no routine practice of X-raying all incoming patients for Tuberculosis case finding and no high-geared diagnostic service that would permit of short stay, intensive laboratory and X-ray work.

The type of patients analyzed by "pay classification" would indicate 44.5% self-pay or Blue Cross, 44.3% non-paying and the balance of 11.2% representing a few State and Federal pay patients from the Rehabilitation Division of the State, from the EMIC Program and from the M. D. Anderson Hospital for Cancer Research.

There were 254 deaths, excluding still-births, during 1945, and 134 autopsies were performed, or a necropsy rate of 52.5% which is rather low in comparison with what might be achieved through greater diligence in seeking permission for autopsies, to further this important teaching function.

There were 834 births, excluding still-born, in 1945 and this figure, together with the deaths, is used in a following section of the report in establishing figures on bed facilities necessary.

TRAINING FACILITIES:

As in almost all hospitals, the educational facilities offered and those in use have been seriously dislocated by the war and from certain indications, will remain so for some time to come. However, there are at the present time 13 Interns, 2 Fellows, and 11 Residents in training. Also there are 110 Student Nurses, 4 Student X-ray Technicians, and 1 Resident in Anesthesia. No program exists for the training of nurses in specialties or for training of Dietitians, Laboratory Technicians, Record Librarians, Pharmacists, or Physical Therapy Technicians.

The superintendent indicated an interest in the training of Student Dietitians and Physical Therapy Technicians but for the former indicated an understanding that the American Dietetic Association was not prepared to approve additional hospitals for training at the present time. He also advised that an application for an approved teaching program for Laboratory Technicians has been submitted and is pending.

This brings to 141 the number of persons in the various training programs conducted by Hermann Hospital with affiliations with Baylor University and the University of Houston. Basic sciences for Residents are given at Baylor University, the length of the course being from three to six months as required by the particular specialty. Basic sciences for student nurses are conducted by The University of Houston for which the student receives two years of college credit and a degree of Associated Arts upon satisfactory completion.

It was learned that the June 1945 class of student nurses fell 13 short of the 30 desired and as a result of this it is considered necessary to plan for the admission of a group in February, 1947 as well as the normal June, 1947 class.

The policy of the hospital is not to accept Negroes in the student nurses group and there are no Negro graduate nurses on the staff.

FINANCIAL:

Considerable information concerning the financial structure of the hospital was made available for study, the majority of which is on file for future reference. It is not considered necessary to give detailed study to the assets, liabilities, operating expenses, and incomes, however, a few of the more important points will be considered.

1. Valuation of Buildings, Land and Equipment total $1,675,552 of which $273,195 reflects evaluation of movable equipment; $74,139 evaluation of land occupied by the hospital site and the balance as value of the main group of hospital buildings.

2. Liabilities in connection with plant funds show an indebtedness of $486,000 divided between buildings and grounds and equipment. This amount represents the loan made during previous programs and is actually to be repaid to the capital funds of the Hermann Hospital Estate.

3. During the fiscal year ending December 31, 1945, their records show gross earnings from In-Patients day rates to be $231,111 with an additional income from various special charges of $211,467, while Out-Patient earnings amounted to $19,493. This brought to $462,071 the total In-Patient and Out-Patient gross earnings. With deductions from gross earnings and certain miscellaneous income items, the grand total operating income is shown as $493,814.

4. Income from endowments, largely derived from the rental of metropolitan real estate amounts to $338,479.

5. The total In-Patient operating expense amounted to $674,665, while the total operating expenses, including that of the Out-Patient amounted to $682,878.

6. Their record shows an In-Patient per capita cost of $8.77, 48% representing salary cost. This figure of $8.77 gave no consideration to the new-born days of care rendered, but is an expression of the adult patient days divided into the total In-Patient operating expense. A total of $8,213, or 41¢ per Out-Patient visit, 69% of which is the expense in connection with salary costs, is recorded.

PERSONNEL:

The feeling has been expressed that a general over-all personnel shortage exists. The greatest seriousness is in the graduate nurses group, where it is estimated that there is a shortage of 30.

The personnel problems are emphasized by the present turn-over existing in this hospital as in most all hospitals, and this coupled with certain administrative and supervisory short-comings on which a good deal of thought and work is at present being expended will help in answering the turn-over and shortage problems.

The salary scales in use follow closely those adopted by the Hospital Council and used in general by all hospitals of the area. This specifies a general duty nurse rate of $160 - $185 with increases from the base being given at six month intervals in the amount of $5.00 per month. Head nurses' rate is from $185 to $210 with similar periodical increases. Nursing and dietary maids have a beginning salary of $90.00 per month and a top of $115.00 per month. Orderlies receive a minimum rate of $145.00 per month. In addition to the expressed salaries, the non-professional help receive two meals per day, while the professional salaries bear no perquisites. Meals are valued at $30.00 and room at $20.00, laundry never being an optional consideration.

Vacations and sick leave follow the pattern existing in most hospitals in the area which establishes a minimum vacation of two weeks after one year. Department heads and supervisors receive three and four weeks vacation per year. Sick leave is given in the amount of fourteen

days with pay and hospitalization is given free of charge as needed. The personnel has not had an opportunity to enroll with the Blue Cross Plan or other non-profit insurance plans.

Working hours throughout the hospital are stipulated as 44 hours per week, with only a few employees working 48 hours per week and there are no split shifts in connection with any departmental operation.

Special attention is directed to the following conditions in the personnel count:

1. The number involved in the laundry and linen service are those engaged in sorting and distributing the linen throughout the hospital inasmuch as laundry work itself is contracted for at a cost of 5¢ per pound and at the rate of 25¢ to 40¢ for various types of uniforms.

2. The total of 81 shown opposite nursing and operating rooms is further broken down to reflect 5 Administrative Supervisors, 12 Head Nurses, 17 Graduate Nurses, 28 Maids and Orderlies. The number of Graduate Nurses is judged to be at a dangerously low point.

3. The 12 under Nursing School indicates 10 matrons and maids engaged in the operation of the Nurses Dormitory in addition to 2 instructors.

The schedule that follows, reflecting 389 personnel is slightly higher than the more current count as a result of unfilled positions in certain departments.

-----DEPARTMENT------	NUMBER EMPLOYED
1. Administration	26
2. Dietary	59
3. Household & Property	
A. Laundry & linen	3
B. Housekeeping	26
C. Maintenance	24
D. Automotive	0
4. Professional	
A. Medical &Surgical	21
B. Nursing & Operating Room	61
(1) Students	110
C. Nursing School	12
D. Records & Library	4
E. Social Service	5
F. X-Ray, Lab., Radium	20
G. Pharmacy	3
H. Anesthesia	3
I. Physical Therapy	8
5. Out-Patient	4
Grand Total	389

HOSPITAL SKETCH

NAME: HOUSTON NEGRO HOSPITAL

LOCATION: 2900 ELGIN

SUPERINTENDENT: J. E. PERRY, M.D.

GENERAL:

This is a general non-profit hospital with 34 adult beds and 20 bassinets that treats only Negro patients. It is situated on a three acre site approximately three miles from the center of the Houston business district.

The hospital was founded in 1926 with provision in the charter for replacement, after completion of organizational work, of the five white directors by the same number of colored directors, and an advisory committee of 13 white members assisted the 5 colored directors in all matters of hospital policy.

In 1938 the charter was amended to the degree that the Board of Directors became 13 in number of which not less than 4 are at all times colored and the original advisory committee idea was abandoned.

Principal support has come through endowments made to the hospital by Mr. J. S. Cullinan during his life and later in his will. The first amounted to approximately $10,000 in principle, while the provisions of the will amounted to approximately $350,000 with specific terms of the bequeath stating that interest from the money could not be used to meet operating expense.

The observer has had some difficulty in obtaining complete data on this hospital in that the Superintendent, Mr. McAllister, resigned his post and left Houston soon after the survey started and Dr. Perry has only taken over the superintendency as of September 1st.

We have talked to the President of the Board of Trustees, Mr. John R. Young, who contributed certain financial data and to the Superintendent of Nurses, Miss L. M. Langford, who made a tour of the hospital with us, and added pertinent information.

APPROVALS, ACCREDITATIONS AND MEMBERSHIPS:

Houston Negro Hospital is registered with the American Medical Association but has no accreditations, or approvals other than being licensed by the State for maternity care.

MEDICAL STAFF:

Their medical staff organization requires that members of the staff must likewise be members of the Medical Forum, the Negro Medical Society or the Harris County Medical Society. There are 13 active staff members and 26 courtesy staff members.

FACILITIES AVAILABLE:

As previously mentioned, this hospital has an adult bed capacity of 64 and they are divided by medical service and by type of accommodation into which the physical plant is divided as follows:

-----MEDICAL SERVICE-----		-----TYPE OF ACCOMMODATION-----		
Type of Service	Beds	Type	Rooms	Beds
Obstetrics	10	1 Person	3	3
Medical (Female)	17	Wards & Porch		61
Medical (Male)	17			
Surgery	20			
Total	64	Total		64
Bassinets	20	Bassinets		20

There are inadequacies and hazardous conditions existing in the physical plant. Some of these are due to the original planning of the buildings. The conditions under which patient care is given and the conditions under which personnel give it, should be remedied.

The first floor houses various cramped business offices, whose work is hampered by the overflow of visitor traffic which reaches the point of having to use the porch and adjacent grounds of the building. On this floor are located the dining rooms and kitchens. Steam tables are in the dining rooms and there is no exhaust fan operating to relieve the excessive heat.

On the first floor, in addition to the above and to the emergency receiving section, is the Obstetric ward of 10 beds and the nursery with 20 bassinets. Access to the latter is through the labor rooms, and all three -- the ward, the nursery, and the labor room -- are so closely knit that safe nursing technique is jeopardized. This unit has also a small delivery room and adjoining scrub-up room.

On the second floor of the building are 34 medical beds divided equally between male and female. In addition there is a small laboratory built on the porch of the female ward, and very limited space available for the room which is combined with the Nursing Superintendent's office. The utility rooms are combined with the patient's toilet facilities and there is no method of sterilizing anything larger than instruments. The ice for patients drinking water stands in wooden tubs on the floor.

On the third floor are beds for 20 surgical patients and the X-Ray Department, diagnostic only, where plates are made and developed, later to be interpreted by a radiologist on the staff at Jefferson Davis Hospital. An operating suite with adjoining central supply and instrument room completes the third floor.

The fourth floor is an unfinished attic unused even for storage, at the advice of the Fire Department.

The hospital does undertake some pediatric care but no contagious care and for the most part both types are sent to Jefferson Davis Hospital

USE OF FACILITIES:

Patient days and discharge information for the year 1945 indicate that there were 2,530 adult discharges and 14,568 days of care with a resulting length of stay of 5.7 days. There were 727 newborn discharges and 2,181 new-born patient days.

Of the 2,530 discharges only one was a member of a Blue Cross Plan, 58 were State Payment cases, and 20 were shown as non-paying cases. All others were Self-Paying.

There were 106 deaths, 93 termed institutional deaths. 29 still-births were recorded and there were no autopsies performed.

With the patient day load of 14,568, occupancy could be judged to be 62.3%.

TYPE OF SERVICE	1945 Discharges	1945 Days
Medical	762	3580
Surgical	733	3659
Obstetrical	734	2936
Pediatric	154	770
Orthopedic	133	3544
Cancer	14	79
Total	2530	14568
Newborn	727	2181

FINANCIAL:

Current figures on plant evaluation fix the buildings at $115,000 and equipment at $38,389. Net income from operation for 1945 amounted to $92,409 while expenses totaled $107,132 or an operating loss of $14,723 in

a large part offset by receipts from the Community Chest Fund of $12,000 and other donations amounting to $1,471.

PERSONNEL:

The staff of Houston Negro Hospital consists of 78 employees and the departments in which these people work is reflected in the following:

-----Department-----	-----Number-----
Administration	10
Dietary	11
Household and Property	
A. Laundry	6
B. Linen	1
C. Housekeeping	8
D. Plant Operation & Maintenance	2
Professional Services	
A. Nursing Service	
1. Chief Nurse	1
2. Graduate Nurses & Supervisors	19
3. Practical Nurses - Unlicensed	5
4. Nurses Aides	16
B. Medical Records	
1. Record Librarian	1
C. X-Ray and Laboratory	1
Total	78

HOSPITAL SKETCH

NAME: JEFFERSON DAVIS HOSPITAL

LOCATION: 1801 BUFFALO DRIVE

SUPERINTENDENT: MR. A. S. REAVES

GENERAL:

This is a 422 bed general hospital situated on a ten acre tract approximately 1 1/2 miles from the center of the Houston business district.

The present buildings were constructed in 1938 under a project approved and carried forth by the Works Project Administration and is presently owned and operated jointly by the City of Houston and the County of Harris.

It is controlled by a Board of Managers consisting of 13 members appointed for varying terms of two, four and six years. Members of this board are appointed by a mayor of the City of Houston and Mr. Ben Taub is the president of this board. The present superintendent of the hospital who has been in the position only one year shares the responsibility and authority for administrative control of the hospital with Medical Director Dr. W. W. Coulter.

APPROVALS, ACCREDITATIONS AND MEMBERSHIPS:

Jefferson Davis is approved by the American College of Surgeons as meeting unconditionally its minimum requirements and is one of six hospitals in the area so approved. It is also approved for intern training

and for residency and fellowship training by the Council of Medical Education in Hospitals of the American Medical Association.

Its School of Nursing is accredited by the State Board of Nursing Examiners and is one of five schools in the area so accredited. It is also approved by the National League of Nursing and is the only Harris County hospital school of nursing having applied for and received this approval. It is not approved by the American College of Surgeons for graduate training in surgery.

Its memberships are with the American Hospital Association, the State Hospital Association and the Local Hospital Council and discussions with the superintendent suggest interest on his part in hospital problems and education on both a local and national plane. Mr. Reaves has had three years previous experience in hospital work in another city controlled institution.

MEDICAL STAFF:

The medical staff at Jefferson Davis is organized and conducted under formal by-laws and rules and regulations and as an "Open Staff" any physician in good standing with the Harris County Medical Society may practice in the hospital. The grades of active staff membership follow:

Associate	50	Assistant	33	Consulting	19
Visiting	71	Emeritus	10	Other	34

The number of physicians in the various professional departments are listed below but we have been unable to determine the number of such physicians having National Board Certification. The superintendent has

agreed that this information is important, is frequently requested, and is planning on having this information solicited from the staff.

STAFF MEMBERS IN PROFESSIONAL DEPARTMENTS

Medicine	32	Ear, Nose, and Throat	10
Surgery	24	Proctology	4
Obstetrics	24	Urology	19
Pediatrics	16	Neuro-Psychiatry	3
Dental	22	Neuro-Surgery	5
Dermatology	7	Eye	15
Gynecology	19	Orthopedic	24

FACILITIES AVAILABLE:

As shown in the following tables, Jefferson Davis has an adult bed capacity of 422 with an additional 56 bassinets. It should be mentioned that the hospital was constructed as a 500 bed unit but has never been used as such and at present there is not on hand the equipment necessary to increase the capacity by 78 beds. It is understood that some of this equipment is on order.

In addition to the medical services listed in the following table, which are those with fixed bed capacities, care is extended to orthopedic, eye, ear, nose and throat, dermatology, and occasionally tuberculosis and venereal disease patients. The contagious unit of 57 beds includes the only polio beds in the area. The pediatric allotment of 49 beds includes orthopedic cases. A few veneral disease cases are admitted but the majority of cases, even those being given penicillin for rapid treatment

are handled in the Out-Patient Department and as a result only rarely is venereal disease the primary diagnosis indicating hospitalization. No facilities are provided for nervous and mental, chronic, convalescent, or incurables.

In the following table the 422 available beds are shown by "type of medical service" as well as by the "type of physical accommodation" into which the hospital is divided.

----------MEDICAL SERVICE---------		----TYPE OF ACCOMMODATION---		
Type	Number	Type	Rooms	Beds
General Medical	114	1 Person	27	27
General Surgical (Inc. Gyn.)	114	2 Persons	42	84
Obstetrical	34	3 Persons	7	21
Pediatric (All Children)	49	4 Persons	59	236
Contagious	57	6 Persons	1	6
Other*	54	8 Persons	6	48
Total	422	Total		422
Bassinets	56	Bassinets		56

* Mixed medical and surgical for white pay patients.

It is to be noted that there is no discrimination against Negroes or Mexicans, but the problem of segregation does exist and renders somewhat lower than potential the 422 beds. No absolutely fixed number of beds are allotted to Negro patients, but the number approximates 190.

A study of the mid-night census of July 15, 1946 indicated that there were 2 primary tuberculosis cases, nine cancer cases and no mental, chronic, or convalescent cases.

USE OF FACILITIES:

Patient days and discharge information for the year 1945 indicates that there were 10,237 discharges with a total of 115,551 patient days and that there were 1162 new-born discharges with a corresponding 8,053 patient days. The adult length of stay would therefore be 11.2, while the percent occupancy of all adult beds would be for the year 1945, 75%. This shows an increase over 1944 during which year the discharges amounted to 8981; patient days 107,465, and an average length of stay of 11.9. The corresponding figures for the year 1943 show 8,267 discharges, 99,931 patient days, and an average length of stay of 12.0.

In 1945 there were 188 autopsies performed, 87 of which were coroner's cases out of a total of 898 deaths excluding still-born. A surprisingly high proportion of these deaths, 316, resulted within 48 hours after admission. The rate of autopsies performed per death is very low for a teaching hospital of this size.

There were 1182 births and an additional 70 still-born in 1945 and this figure, together with deaths just recorded are to be used in the following section of the report in establishing bed facilities necessary.

There follows a table of Patient Days and Discharges for the years 1943-44 and 45.

PATIENT DAYS & DISCHARGES

Type of Service	Patients Discharged			----Patient Days----		
	1943	1944	1945	1943	1944	1945
General Medical	1381	1638	2301	22,874	28,655	31,760
General Surgical	1131	1617	1671	15,466	19,353	20,132
Obstetrical	1396	1305	1452	7,203	7,847	8,892
Pediatric	824	739	1090	12,994	10,836	17,205
Orthopedic	346	370	489	8,692	9,308	9,806
Dental	28	47	51	373	612	711
Plastic	113	61	60	3,866	2,307	1,170
Gynecology	763	806	790	9,576	9,478	9,347
Urology	217	240	296	7,334	6,029	4,876
Proctology	109	92	95	1,685	1,627	1,431
Eye	284	285	250	3,432	3,700	3,410
Ear, Nose, Throat	396	460	422	2,510	3,092	2,989
Dermatology	43	34	29	896	541	601
Observation	1183	1184	1171	2,078	2,089	1,947
Neuro Surgery	53	94	130	974	1,431	1,274
Total	8267	8981	10297	99,931	107,485	115,551
Newborn	1159	1041	1182	6,859	7,795	8,053

It is believed that the information in the above table is in itself self-explanatory and instructive. It is to be pointed out that under General Medicine would come all neurological, nervous, mental, tuberculosis

and contagious cases that are cared for.

All the facilities necessary for the complete care of in-patients in a general hospital are found at Jefferson Davis with the exception of limited facilities for physical therapy, occupational therapy and employees health. They do not make routine chest examinations for tuberculosis case findings upon admission. Their X-Ray Department, laboratory units, and operating rooms were originally constructed to care for 500 patients and are slightly more than ample under present conditions.

It is to be noted that approximately 15 months ago the hospital agreed under pressure exerted on public opinion by non City-County hospitals to set aside a number of beds for care of private patients to relieve the crowded conditions in other hospitals. In the beginning admissions were limited to emergency care only but now the facilities are available to any pay patient. There are no plans to relinquish this service in the near future, in fact it is now considered to be a desirable source of revenue. For this group of patients they have established room rates ranging from $4.50 for four-bed room accommodations to $6.00 per day for a private room; in addition there is in existence a flat rate of $10.00 per day for the care of polio cases. The number of patient days of private patient care and the income from such patients is not recorded separately and could not be learned.
(Income from private patients determined subsequently, and appears in Financial Section.)

Service is provided for accident and emergency cases in the hospital and the amount of work rendered in this connection is shown in the following table:

EMERGENCY ROOM CASES

	1943	1944	1945
White	14,778	10,481	12,387
Colored	19,775	13,369	13,321
Total	34,553	23,850	25,708

There follows a table showing visits to Out-Patient Clinic in the years 1943-1944 and 1945.

OUT-PATIENT DEPARTMENT VISITS

Service	1943	1944	1945
Bone	2573	1871	1947
Boot	88	125	128
Dental	3531	2515	3096
Diagnostic	945	710	1123
Dressing	2771	2539	2564
Ear, Nose, Throat	2721	2255	2186
Eye	2427	2236	2532
G.U.	1957	1566	1449
Gyn.	4389	3127	3064
Injection	1896	1147	1374
Medical	10868	9146	10198
Menses	1333	958	371
Neuro-Surg.	81	69	67
Neuro.	172	292	363
Pediatric	4710	2815	3554
Well Baby	1876	1193	1136
Plastic	6	33	0
Polio.	32	364	435
Prenatal	5054	3690	4076
Post-Natal	724	340	361
Rectal	563	392	422
Skin	1626	1178	1115
Surgery	2142	1819	1992
Minor-Surg.	509	269	213
Tumor	819	830	1020
Vein	477	353	266
Total	54,383	41,832	45,108

OUT-PATIENT DEPARTMENT VISITS

(Continued)

	1943	1944	1945
Miscellaneous Visits	13,475	8,383	6,666
Total Visits To Clinic	~~108,311~~ 67,858	50,221	51,774

Facilities of the Out-Patient Department at Jefferson Davis at present are under an acting director who is a graduate nurse of seven years experience in out-patient work. Admission to the clinic is restricted to those of a given economic status but in general following the pattern that the earning capacity per month must be under $100.00 for a family of two with an additional $10.00 per month allowance for each child up to a maximum of $160.00 and that this be coupled with a six months residency in Harris County. Clinics available have been reflected in the preceding table showing the number of visits to out- patient clinic department.

TRAINING FACILITIES:

Jefferson Davis is approved for the training of 24 Interns and 12 Residents and at the present has the full quota of Interns and 15 Residents. There are also 120 student nurses at Jefferson Davis School of Nursing and an additional 22 colored students affiliated with the hospital. The hospital operates a course for laboratory technicians and at present has eight in the one year course. The program originally called for twelve. There is one student X-ray technician in a course set up for 2 such students.

These are the education facilities offered at the hospital, there being no course of instruction for the nursing specialties, for intern

pharmacists, record librarians, student dietitians, or anesthestists. This brings to 168 the number of persons in various training programs, plus 22 receiving affiliated training.

The policy of the hospital is not to accept Negroes in their student nursing group.

FINANCIAL:

The Mayor of the City of Houston in analyzing the 1946 budget of Jefferson Davis Hospital as submitted by the City Manager, expressed concern over the mounting cost of operation and drew attention to the 1942 expenditures of $390,000, and 1943 expenditures of $519,000, 1944 expenditures of $637,000 and an expenditure of $700,000 plus an undetermined amount of outstanding obligations in 1945.

He suggests that a top limit, representing the 1946 budget of $745,000 be established. On the other hand, the original 1946 budget request by the hospital was in the amount of $873,000, later revised by the superintendent to $761,000.

As it now stands the 1946 expenditures are supposedly limited to $745,000 divided by major classifications as follows:

Salaries	$482,240
Supplies	217,994
Contractual	27,124
Maintenance	14,635
Capital Outlay	3,007
Total	745,000

OPERATING EXPENSE 1945

Administration	$91,366	Plant Operation	$37,041
Dietary	160,041	Med. & Surg.	152,351
Laundry	26,312	Nursing Div.	128,612
Housekeeping	64,334	Out Patient Div.	8,786
		Total	$ 699,143

INCOME 1945

Emergency Treatments	$11,548
Polio Patients	37,283
Out Patients D.	932
Pay Patients	138,817
Total	$188,630

It is to be noted that Harris County contributed $125,443 to the operation of Jefferson Davis in 1945 which brought to $385,070 the net cost to the City of Houston. Also it was learned that by September 1, 1946 more than $200,000 in revenue had been secured against the 1945 earnings of $188,630. For purpose of record, the original cost of land, buildings, and equipment was met by allotments of $900,000 from the City, $450,000 from the County, and $1,104,000 from the Federal Government.

PERSONNEL:

The schedule that follows reflecting 539 personnel is a very close approximation of the present staffing and includes the 120 students in nursing training but not the 22 affiliated students. No particular weaknesses are noticed except possibly the social service work that must be carried by five individuals.

It is to be noted that only 17 general duty nurses are available with an additional 7 in the operating rooms and delivery rooms. This would indicate a very low ratio of graduate nurses bedside hours of care per patient day.

DEPARTMENTS AND NUMBER OF PERSONNEL

Department	Number
Administration	34
Dietary	51
Household and Property	
1. Laundry	24
2. Linen	7
3. Housekeeping	62
4. Plant Operation	12
5. Maintenance & Repairs	13
6. Chauffer	1
Professional Services	
1. Medical & Surgical	35
2. Nursing Service	
a. Chief Nurse	1
b. Assistants	4
c. Graduate Charge Nurses	30
d. Graduate General Staff Nurses	24
e. Student Nurses	120
f. Nurses' Aides	5
g. Attendants	25
h. Orderlies	8
3. Nursing School	
a. Instructresses	5
4. Nurses Quarters	13
5. Medical Records	
a. Librarian	1
b. Assistants & Clerks	8
6. Medical Library	1
7. Medical Social Service	5
8. X-Ray and Radium	8
9. Clinical Laboratories	19
10. Pharmacy	4
11. Anesthesia	3
12. Physical Therapy	1
13. Other Professional Services	3
General Out-Patient Service	12
Total	539

HOSPITAL SKETCH

NAME: LILLIE AND DUKE HOSPITAL

LOCATION: GOOSE CREEK, TEXAS

SUPERINTENDENT: MRS. McFADDEN

GENERAL:

This is a 30 bed general hospital located 4 blocks from the center of the Goose Creek business district. The partnership was formed in 1936 for profit by physicians Lillie and Duke. The building presently occupied was built at that time with the present capacity of 30 beds and 6 bassinets. It is a brick two-story building in excellent condition of repair and maintenance.

ACCREDITATIONS, APPROVALS, AND MEMBERSHIPS:

The hospital is registered with the American Medical Association and is licensed by the State for Maternity care but has no other accreditations and no memberships except with the State Hospital Association.

MEDICAL STAFF:

In addition to the two physician partners, 5 physicians regularly bring patients to this hospital and may be deemed to have courtesy privileges. Occasionally consultants and in fact specialists have come from Houston on the behalf of specific patients. The partners and courtesy staff members are all general practitioners.

FACILITIES AVAILABLE:

As previously mentioned there are 30 beds and 6 bassinets available in this general hospital and they are used with almost complete interchangeability in regard to medical service. This is because of the small number of patients and the fact that only three rooms have two patients while the balance are in single rooms.

About all types of medical service are admitted, if able to pay, and those such as contagious, nervous and mental, and tuberculosis are transferred to Houston hospitals at the earliest possible time.

Diagnostic x-ray is available as is laboratory work and some physical therapy.

There is one bed assigned to negroes, but mexicans are admitted in any number.

USE OF FACILITIES:

In 1945 there were 1034 admissions, the average length of stay approximated 5 days, or 5170 adult patient days. There were 176 births and 20 deaths in the year with 880 newborn days.

There is, of course, no Out Patient Service, but the doctors' offices in the building treat private ambulatory patients. There is a large traffic in industrial work.

TRAINING FACILITIES:

There are no training facilities at Lillie and Duke Hospital.

FINANCIAL:

There was no financial information available on this hospital.

PERSONNEL:

The hospital reports 6 graduate nurses including the superintendent. In addition 3 nurses are assigned to Doctors' Offices.

MISCELLANEOUS:

The hospital seems to have no plans for expansion and adds that this is in view of the San Jacinto Memorial Hospital program.

HOSPITAL SKETCH

NAME: MEMORIAL HOSPITAL

LOCATION: 602 LAMAR STREET

SUPERINTENDENT: JOHN G. DUDLEY

GENERAL:

This is a 277 bed general hospital, with an additional 34 bassinets, situated five blocks from the center of the Houston business section and occupying a large part of a city block. It is a non-profit church operated corporation. In 1907 a two story building was purchased by the Baptist Convention, and Memorial Hospital had its beginning with a modest 18 patient bed hospital. Additions were made in 1911, 1914, 1924, and the present unit as it now stands was completed in 1942. The hospital is controlled by a Board of Trustees consisting of 18 members, elected for terms of three years each. Mr. A. D. Foreman is Chairman of the Board. Meetings are held six times each year with an average attendance of 14.

APPROVALS, ACCREDITATIONS, AND MEMBERSHIPS:

Memorial Hospital has been approved by the American College of Surgeons as meeting unconditionally its minimum requirements and is one of six hospitals in the area so approved. Memorial is registered with the American Medical Association and its School of Nursing is accredited by the State Board of Nursing Examiners and is one of five schools in the area so accredited.

Memorial holds memberships in American Hospital Association, State Hospital Association, Local Hospital Council, and Protestant Hospital Association of America.

MEDICAL STAFF:

The Medical Staff of Memorial is organized and is conducted under Formal By-Laws. It is an open staff, but staff members must be members of Harris County Medical Association. The grades of active staff members are a s follows.

Senior	115	Courtesy	1
Associate	41	Consulting	19

The number of physicians in various professional departments are listed below, but we have been unable to determine the number of such physicians having National Board Certification:

Bio-chemistry	1	Radiology	1	Dermatology	2
Surgery	33	Medicine	13	Urology	12
Neurology	2	Obstetrics	14	Pathology	1
Radium Therapy	2	Pediatrics	12	Ear, Nose, Throat	4
Broncho-Esophagoscopy	2				
				Total	99

FACILITIES AVAILABLE:

In the following table, the 270 bed capacity of the hospital is shown both by type of medical service and by the type of accommodation

into which the physical plant is divided. There are 26 beds reserved for Negro patients of the total 270.

-----Medical Service-----		----Type of Accommodation----		
Type	Number	Type	Rooms	Beds
General Medical	67	1 Person	178	178
General Surgical	136	2 Persons	24	48
Obstetrical	35	3 Persons	8	24
Pediatric	14	4 Persons	5	20
Nervous & Mental	18			
Total	270	Total		270
Bassinets	35	Bassinets		35

The hospital operates a Psychiatric unit consisting of 18 beds under control of Dr. Hauser. The unit is self-contained, well equipped but only since the end of the war and return of the medical staff is it being used for its intended purpose, hence no amount of data on its use and demand can be established. No doubt exists as to the need in the community of much more extensive facilities of a like nature.

Memorial Hospital does not operate an out-patient clinic but considers such a necessity in rounding out its teaching facilities.

USE OF FACILITIES:

Inconsistencies in the statistical data could not be corrected although much time was spent in the effort and the hospital was very co-operative. Therefore the statistics are used only in total.

	1944		1945	
	Patient Days	Patient Discharges	Patient Days	Patient Discharges
Adult	92,380	10,615	94,467	10,314
Newborn	8,946	1,964	9,080	1,907

The 10,314 adult discharges in 1945 are analyzed by Pay Status.

CLASSIFICATION OF PATIENT	PATIENT DISCHARGES
Blue Cross	496
State Pay	14
Federal Pay	143
Non-Payment	1139
Self-Pay	8522
Total	10,314

A study of the midnight census of July 15, 1946 indicated that there were 3 tuberculosis patients, 11 cancer patients and 12 mental disease patients.

In 1945 there were 1907 births excluding 29 stillbirths and

30 newborn deaths. Patient days for newborn amounted to 9,080.

There were 269 deaths, excluding stillbirths, 73 of which occurred 48 hours after admissions, and only 31 autopsies were performed. This reflects an autopsy rate of 11.5% performed in connection with all deaths excluding stillborn and is far below the percentage indicating clinical awareness of the teaching value of postmortems.

In the 37 years this hospital has operated its records indicate $1,500,000 in free care to this community. In 1945, 1139 non-paying cases were accepted -- or slightly over 9% of its patient load and presumably about the same proportion of its bed capacity. If, through its participation in the Texas Medical Center an allotment of 20% teaching beds are exacted and these in turn are limited to non-paying cases, the financial structure of the hospital will need careful study.

From the above table we know that the adult length of stay has increased from 8.7 in 1944 to 9.1 in 1945 and that the 1945 occupancy was 95.8%.

It is pointed out that the average stay of 9.1 is not unreasonably high, and any substantial reduction to reduce the high occupancy might work to the disadvantage of the patient.

It was learned that Memorial Hospital does a considerable amount of emergency work particularly in the field of traffic accidents, resulting no doubt from their down town location. They have advised private ambulance owners that only a limited number of cases will be

accepted and that the remaining must be distributed among the other hospitals as they feel that their facilities are being over-taxed.

TRAINING FACILITIES:

Memorial Hospital is approved for the training of student nurses and at present has an enrollment of 141, with a class of 32 expected September 1, 1946. There are no Interns at the present time at Memorial, but there are 4 Residents and 8 Fellows. There is no training program for laboratory technicians, record librarians, etc. Negroes are not accepted in the student nursing group.

FINANCIAL:

Analysis of the hospital's financial picture as of August 31, 1945 showed current assets of $196,864 after deductions of $50,175 of accounts payable and other liabilities. They show $225,647 in endowment investments and $2,072,437 as the value of present hospital site, buildings and equipment.

They show Gross Income as $1,257,998 including patient income, donations, and income from trust funds, while their total expenses are shown at $1,088,365, including $34,385 of free and complimentary service.

PERSONNEL:

The schedule which follows reflects a total personnel count of 434.

----------DEPARTMENT----------	#---NUMBER EMPLOYED---
1. Administration	7
2. Dietary	87
3. Household and Property	
A. Laundry & Linen	36

----------DEPARTMENT--------	---NUMBER EMPLOYED---
(Continued)	
B. Housekeeping	82
C. Maintenance	16
D. Automotive	1
4. Professional	
A. Medical & Surgical	4
B. Nursing & Operating Room	121
C. Nursing School	17
D. Nurses' Quarters	10
E. Records & Library	5
F. X-Ray, Lab., Radium	21
G. Pharmacy	9
H. Anesthesia	3
I. Physical Therapy	2
J. Electrocardiology	1
Total	434

There are no serious shortages of personnel, and we point out that Memorial's Nursing Staff would numerically seem to be geared higher than any other Houston hospital. They have no social service department.

The hospital operates a group hospitalization plan allowing family participation and coverage to white employees for $1.50 per month and colored enrollment of employees for 75¢ per month. Benefits are of

the usual pattern except that a 75% discount is granted on X-Rays, etc. rendered on a Private-Ambulatory basis. These would usually be rendered free through an Employees Health Clinic.

HOSPITAL SKETCH

NAME: METHODIST HOSPITAL

LOCATION: 3020 SAN JACINTO STREET

SUPERINTENDENT: MRS. JOSIE M. ROBERTS

GENERAL:

This is a 136 bed non-profit general hospital occupying a half city block about one and a half miles from the center of the Houston business district. It consists of four separate units. The original brick building was erected in 1910 but purchased by the Texas Conference of Methodist Churches in 1924. The building is now used as an obstetric unit of 17 beds and a male ward unit of 10 beds.

The hospital uses two floors of the Bell Home adjacent to the main building and in return for its use maintains and gives necessary medical care to 9 elderly ladies housed on the first floor. The hospital's portion consists of 30 beds.

A frame building housing 29 pediatric beds is a temporary structure erected in recent years to tide the hospital over until a new building could be constructed.

The main building of the group is a five story building constructed in 1923 with a capacity of 50 beds and these four units thereby comprise the 136 beds shown as the over-all capacity.

The Hospital is owned by the Texas Conference of Methodist Churches and operated by the Board of Trustees appointed by the Methodist Conference. There are 21 members on the Board of Trustees, 18 being active and 3 on leave of absence. The President of the Board is Mr. Raymond P. Elledge.

APPROVALS, ACCREDITATIONS AND MEMBERSHIPS:

The Methodist Hospital is approved by the American College of Surgeons as meeting unconditionally its minimum requirements. The Hospital is also approved by the American Medical Association for the training of Interns and Residents in Obstetrics, Surgery, Medicine, Radiology and for X-Ray Technicians. It is understood that the Hospital has requested approval for graduate training in Neuro-Surgery.

Its School of Nursing is accredited by the State Board of Nurse Examiners, but not by the National League of Nursing Education.

Methodist Hospital holds memberships in the American Hospital Association, State Hospital Association, and the Local Hospital Council. The Superintendent, Mrs. Josie M. Roberts, a Fellow in the American College of Hospital Administrators, has for many years been active and interested in National and Local Hospital matters.

MEDICAL STAFF:

The medical staff of Methodist Hospital is organized, and there are formal By-Laws, Rules and Regulations which have been placed on file. Qualifications for Staff Membership consist of, first, membership in the Harris County Medical Society; second, either certified by their Board

or qualified in their service. The grades of Staff members follows:

Senior	78	Consulting	24
Associate	42	Visiting	307
Emeritus	2		

The number of physicians in the various Hospital departments follow, but we have been unable to determine the number of such physicians having National Board Certification, as these records are not available.

STAFF MEMBERS IN VARIOUS DEPARTMENTS

Gynecology	10	Urology	4
Medicine	11	Proctology	2
Dermatology	1	Anesthesia	4
Neuro-Surgery	2	Surgery	12
Neurology	2	Dentistry	3
Orthopedic	4	Obstetrics	6
Plastic	1	Allergy	1
E.E.N.T.	4	Radiology	1
Ophthalmology	4	Pathology	1
Pediatric	5	Electrocardiogram	1
		Total	79

FACILITIES AVAILABLE:

As shown on the following table, Methodist Hospital has an adult bed capacity of 138 with an additional 22 bassinets. There are no colored patients admitted to the hospital, nor are there colored physicians on the staff nor colored nurses, either graduate or students.

There is considerable interchangeability in the allocation of beds within services so in the following table we can show assignment to Obstetric, Pediatric, and "Other" only. The latter classification includes Medical, Surgical, Gynecology, Orthopedic, Eye, Ear, Nose and Throat, Dermatology, Cancer, and Cardiac, all of which are routinely accepted for care. In addition, there is an occasional tuberculosis surgical case admitted and infrequent treatment of venereal disease as a secondary diagnosis. There are no facilities for handling contagious cases, chronics, or convalescents. No nervous or mental cases are accepted if it seems likely that restraint must be used but a fair number of mild cases are accepted.

An analysis of the mid-night census of July 15, 1946 indicated 32 patients termed as "chronic" by reason of hospital stays in excess of 14 days. It is questionable whether this number are chronic in the strict sense of the word. There were no tuberculosis cases and no nervous and mental.

In the following table, the 136 available beds are shown by type of medical service as well as by the type of accommodation into which the physical plant is divided.

--------MEDICAL SERVICE----------		----TYPE OF ACCOMMODATION-----		
Type	Number	Type	Rooms	Beds
Obstetric	17	1 Person	52	52
Pediatric (All Child.)	29	2 Persons	6	12
Other	90	4 Persons	9	36

---------MEDICAL SERVICE----------		----TYPE OF ACCOMMODATION-----		
Type	Number	Type	Rooms	Beds
(Continued)				
		5 Persons	2	10
		6 Persons	1	6
		10 Persons	2	20
Total	136	Total		136
Bassinets	22	Bassinets		22

It is to be mentioned in passing that the frame building previously mentioned as being used for the care of 29 children is a non fire-resistant one story building and it is considered neither safe nor adequate and should be abandoned for the care of any bed patients as soon as possible Likewise the original building built in 1910 and now housing 27 patients is somewhat less than semi fire-proof and the use of its upper floor for bed patients should be discontinued.

In general, the plant shows a lack of maintenance but it is believed that in a large part this is a result of having under consideration the building of a new building and abandonment of the old. However, it should be mentioned that the superintendent has suggested to the trustees of the hospital that upon completion and occupation of their new buildings in the Texas Medical Center the present buildings could be remodeled and used for chronic care. Careful study should be given to this consideration, and the cost of remodeling weighed against cost of new construction, as it is felt that nothing short of re-building will render these units modern hospital facilities.

At present their facilities include therapeutic and diagnostic x-ray, general laboratories, radium therapy, and electrocardiography, but all in an amount somewhat less than adequate. Physical therapy is limited to light treatment only, and no fever therapy equipment is on hand. This hospital does x-ray for tuberculosis, all incoming patients, and is the only hospital in the area with this case finding routine. The superintendent is now organizing an employees health clinic for the first time. There is some emergency service being done, and the out-patient department is just being expanded to include gynecology, medicine, and surgery. No statistics on the number of visits to these clinics are yet available, but in 1945 there were 1,475 visits to the obstetric clinic and 546 visits to the crippled childrens clinic.

USE OF FACILITIES:

A table of patient days and discharges for the years 1943, 1944, and 1945 follows and reflects an increasing length of stay per adult patient from 8.5 in 1943 to 8.7 in 1944 and 9.3 in 1945. Also it reflects in 1945 the hospital's highest occupancy of 86%.

TYPE OF SERVICE	PATIENTS DISCHARGED			----PATIENT DAYS----		
	1943	1944	1945	1943	1944	1945
General Medical	804	751	790	6337	7123	7399
General Surgical	747	645	565	7663	5437	6082
Obstetrical	955	884	807	3858	4032	4514
Pediatric	300	276	388	2553	1339	3188
Orthopedic	272	234	185	6019	6503	5972

TYPE OF SERVICE	PATIENTS DISCHARGED			----PATIENT DAYS----		
(Continued)	1943	1944	1945	1943	1944	1945
Nervous and Mental	18	221	346	461	2673	3941
Tuberculosis	19	32	33	325	400	908
Others	1067	1275	1352	8538	10413	10738
Total	4182	4318	4566	35564	37920	42742
Newborn	827	346	690	3637	3762	4508

In addition we have been able to study the type of patients by "Pay Classification" and from the following observe the small number of non-pay and part-pay as well as the marked shortage of Blue Cross as compared to "self-pay".

	----NUMBER PATIENTS----			----PATIENT DAYS----		
	1943	1944	1945	1943	1944	1945
Self-Paying	3508	3625	4036	26,803	28,596	35,900
Blue Cross	101	115	166	632	843	1,165
State Paying	173	238	163	2,428	2,804	2,922
Federal Paying	2	4	3	11	26	22
Other Paying (Part Pay)	371	304	169	5,427	5,327	2,330
Non-Paying	27	32	29	263	324	403
Total	4182	4318	4566	35,564	37,920	42,742

In 1945 there were 129 deaths excluding stillborn and 47 autopsies performed, which closely parallels the number done in years 1943 and 1944 although in the previous years there was a lower death rate. The number of autopsies performed could be greatly improved upon, although the rate per death is slightly higher than in certain other of the hospitals in the area. There were 690 births, excluding stillborn in 1945 and a corresponding 4,508 patient days.

TRAINING FACILITIES:

Although approved for the training of Interns, there are none at the present moment due to inability to draw satisfactory candidates. They are hoping that next year a total of four Interns may apply and prove acceptable. The hospital has a total of 5 Residents at the moment and 50 student nurses, as well as 2 X-Ray technicians. This brings to 57 the number in training at Methodist Hospital. Their student nurses are given basic sciences by the University of Houston and receive an Associated Arts Degree upon satisfactory completion of the two year course. The University of Texas School of Medicine uses the facilities of the Methodist Hospital for the training of senior medical students in Obstetrics. They are sent to the hospital two at a time and stay a period of 2 weeks. Residents receive their basic sciences at Baylor Medical School, the length of study being determined by their specialty.

FINANCIAL:

At the close of the hospital's Fiscal Year September 30, 1945, they reflect accounts receivable from patients of $41,270, 35% of which is over one year of age, yet active through routine small payment. Actual patient bad-debt loss is nil, according to the Superintendent.

Present property is evaluated at $379,400.00, bringing to $1,749,000 the Total Hospital Assets, including $1,233,348.00 endowments. Patient earning for the fiscal year 1945 amounted to $438,800, boosted to $502,050 by miscellaneous income.

Operating expense on the other hand amounted to $468,234.00

resulting in a profit for the year of $33,816. It is to be noted that $222,000 of the expense was for salaries, while $188,700 was for supplies and the balance for contractual and miscellaneous expenses.

PERSONNEL:

There are 19 graduate nurses on the staff at Methodist Hospital, 50 student nurses, a chief nurse assisted by 7 supervisors, and 5 head nurses, as well as 7 nurses assisting in the delivery and operating rooms, of which two are supervisors. The staff of the nursing school consists of four, the director and three instructresses.

There are 13 people in the administrative department of Methodist Hospital and 36 in the dietary department. Laundry is done by an outside concern but three people sort and distribute linen. There is a medical librarian and 3 assistants, and there are 28 janitors, orderlies, and maids, and five men in charge of plant operation and maintenance. Salaries are in line with those paid by other hospitals in the area.

Vacations and sick leave policies follow those of other Hospital Council members, and membership in a compulsory hospitalization plan operated by the Hospital at the rate of $1.50 per month for white personnel and 60¢ per month for colored, is required.

HOSPITAL SKETCH

NAME: PARK VIEW HOSPITAL

LOCATION: 7444 HARRISBURG DRIVE

SUPERINTENDENT: DR. J. S. OLIVER

GENERAL:

This is a 35 bed general hospital located 5 miles from the Houston business section on a site 150 ft. by 100 ft. It was established by Dr. E. B. Venner in 1929 and is now owned by Drs. Oliver, Rader, Berry and Madsen and operated by the same group with Dr. J. S. Oliver acting as superintendent. It is incorporated for profit. The same group operates a small clinic at 1810 Milam.

ACCREDITATIONS, APPROVALS, AND MEMBERSHIPS:

The hospital is registered with the American Medical Association but has no other approvals, or accreditations, although for several years it tried to obtain same from the American College of Surgeons and reportedly missed approval as a result of some minor weakness.

It has memberships in the American Hospital Association, the State Hospital Association and the Local Hospital Council.

MEDICAL STAFF:

The medical staff is organized and operated under a set of Rules and Regulations. It is an "open" staff and allows properly trained

physicians to attend their patients in the hospital when bed facilities are available.

The staff consists of general practitioners, who are likewise the owners of the hospital and there are no grades of staff membership and no departmentalization.

FACILITIES AVAILABLE:

As stated above this is a 35 adult bed general hospital with 6 additional bassinets, the last addition to which was made in 1936 increasing the capacity by 12 and increasing nursery and delivery rooms.

At present only 6 beds are available to male Negroes, and the balance reserved for white male and female.

Only "Pay" patients are accepted and considerable industrial work under contract is done, primarily because of their location in a growing industrial area and their proximity to the shipping area around the "Turning Basin".

There follows the bed capacity divided into the type of accommodations into which the physical plant is divided:

TYPE OF ACCOMMODATIONS

Type	Rooms	Beds
1 Person	12	12
2 Persons	2	4
4 Persons	2	8
5 Persons	1	5
6 Persons	1	6
Total		35

The hospital accepts orthopedic, pediatric, eye-ear-nose and throat, dermatology and cancer cases in addition to general medical, surgical, and obstetrical cases, so no hard and fast assignment of beds can be made.

There is no out-patient clinic but a substantial number of private ambulatory industrial cases are treated through the doctor's offices in the hospital in the Park View Clinic.

USE OF FACILITIES:

Records of patient service data at this hospital indicate that in 1945 there were 1092 admissions and 5110 adult patient days, reflecting an average stay of 4.6 days. There were 243 births and 34 deaths recorded. Newborn days amounted to 1104 and the percent occupancy would be about 40%.

General impressions gained in discussions with those in charge indicate a high occupancy at times, suggesting a wide fluctuation in patient census.

The hospital has nearly adequate x-ray diagnostic units and laboratories as well as limited physical therapy. Anesthetics were given by the physicians and there is no pharmacist on the pay roll.

TRAINING FACILITIES:

There is no training program.

FINANCIAL:

Park View Hospital's auditor's report was studied and although it is not set up in accordance with accepted hospital accounting practices,

it was possible to determine that for the year ending June 30, 1946, income amounted to $105,700, while expenses were shown to be $103,900. The cost of land, buildings, and equipment is set at $102,730.

PERSONNEL:

Analysis of personnel shows a total of 54 not including two nurses assigned to doctors' offices. There are 11 graduate nurses including supervisors and the following table shows staffing in the major departments.

-----DEPARTMENT-----	----NUMBER EMPLOYED----
Administration	11
Dietary	7
Housekeeping	2
Maintenance	4
Medical & Surgical	3
Nursing Service	19
X-Ray Laboratory	8
Total	54

HOSPITAL SKETCH

NAME: PASADENA HOSPITAL AND CLINIC

LOCATION: PASADENA, TEXAS

BUSINESS MANAGER: MRS. M. BRIGGS

GENERAL:

The Pasadena Hospital is located about 2 blocks from the center of the Pasadena business district, while the clinic is some 7 blocks from the hospital. The hospital and clinic are owned by a partnership of Drs. W. B. Wild and E. E. Conner and are organized for profit. The main hospital building was erected in 1937 and the clinic which houses the doctors' offices, 11 obstetric beds and 12 bassinets was purchased two years ago but only two months ago was remodeled so that the obstetric work could be done there. This was previously known as the Baird Clarkson Clinic.

MEDICAL STAFF:

In addition to the partners, three local physicians have offices in the clinic and there is a total of fifteen courtesy staff physicians routinely caring for patients in the hospital. The partners have a large industrial practice and accept both Negro and Mexican patients.

APPROVALS, ACCREDITATIONS, AND MEMBERSHIPS:

The hospital is registered with the American Medical Association

and has membership with the Texas Hospital Association. It is licensed by the State for maternity work.

FACILITIES AVAILABLE:

This is a general hospital with 11 obstetric beds and 12 bassinets available in the clinic and 37 adult beds available in the main hospital building. There are 15 single rooms, 12 double rooms and 3 three-bed rooms, but 37 beds are unassigned and used interchangeably for medical, surgical, pediatric, and orthopedic patients.

USE OF FACILITIES:

There are no records available that reflect Patient Discharges and Patient Days by Type of Medical Service, nor by Pay Status. However, in 1945 there were 2,582 adult discharges and 9,490 patient days. There were 647 new-born discharges and 2,696 new-born days of care. This would reflect on occupancy of only 54% and an average adult length of stay of 3.6. There were 70 deaths recorded exclusive of still births, of which there were six.

FINANCIAL:

Nothing could be learned of the financial structure of this hospital and clinic.

PERSONNEL:

The personnel of Pasadena Hospital and Clinic includes 42 persons, and the following table will indicate the distribution of these employees by departments:

Administration	2
Dietary	5
Housekeeping	3
Maintenance & Repairs	2
Nursing Service	
A. Chief Nurse	1
B. Asst. & Supervisors	2
C. Graduate Nurses	9
D. Practical Nurses	17
X-Ray and Laboratory	1
Total	42

No Anesthetists are employed, and this work is done by the physicians themselves. There are no Social Workers on the staff of the hospital, and the work of the medical librarian is done by the business office.

HOSPITAL SKETCH

NAME: ST. JOSEPH'S INFIRMARY

LOCATION: 1910 CRAWFORD STREET

SUPERINTENDENT: SISTER M. FIDELIS, SUPERIOR

GENERAL:

This is a 377 bed general hospital located at 1910 Crawford. The hospital occupies 1 1/2 city blocks, and is 20 blocks from the center of the Houston business district.

St. Joseph's Infirmary was organized in 1887, but the present building was constructed in 1920 and added to in 1937 and again in 1940. It is controlled by a non-profit Church Organization, established by the Sisters of Charity of the Incarnate Word and is owned and operated by the same organization.

There are seven members of the Board of Trustees. These members are appointed by the Chairman of the Board after election by members of the sisterhood, and serve a term of six years. There are monthly meetings with an average of six members in attendance. The president of the board is Mother M. Elizabeth, R. N. There are formal By-Laws and Rules and Regulations.

ACCREDITATIONS, APPROVALS, AND MEMBERSHIPS:

St. Joseph's Infirmary is registered with the American Medical Association and is approved by the American Medical Association for the

training of six Residents in Surgery and Obstetrics and is one of five hospitals in the Survey Area so approved. The hospital has met unconditionally the minimum requirements of the American College of Surgeons, and is one of the six hospitals in the Survey Area so approved. The American College of Surgeons has additionally approved it as a hospital capable of offering graduate training in Surgery and Obstetrics and it is one of three such approved hospitals in the area.

Its School of Nursing is approved by the State Nurses Board but not by the National League of Nursing. The Maternity work is licensed by the State of Texas.

The memberships of St. Joseph's Infirmary are in the American Hospital Association, State Hospital Association, Local Hospital Council and Catholic Association.

MEDICAL STAFF:

The medical staff of St. Joseph's Infirmary is organized and is an "open" staff. Staff members are appointed by the executive staff with approval of the administrator, for a period of one year. Qualifications for Staff Membership state that members must be a graduate of a recognized medical school, legally licensed to practice medicine in Texas and hold membership in the Harris County Medical Association. Grades of active staff members follow:

NUMBER OF ACTIVE STAFF MEMBERSHIPS

Senior	82	Associate	39	Courtesy	302
Consulting	2			Emeritus	2

Staff Members in the various professional departments are listed below but we were unable to determine those with National Board Certification.

STAFF MEMBERS BY DEPARTMENTS

Department	No. on Staff	Department	No. on Staff
Medicine	12	Plastic Surgery	2
Surgery	12	Ophthalmology	8
Obstetrics	12	Psychiatry	2
Pediatrics	12	Pathology	1
Neurosurgery	4	Othorhinolaryngology	5
Roentgenology	2	Bronchoesophagology	1
Anesthesia	3	Urology	6
Dermatology	3	Proctology	3
Radiology	1	Neurology	1
Orthopedic Surgery	7		
		Total	106

Staff members doing major surgery must have their credentials approved by the Executive Committee. Staff members doing operative obstetrics, if on active or associate staff must have membership in the American Board of Obstetrics and Gynecology or be eligible for same, if on courtesy staff consultation is required by a member of active or associate staff. American Board certification is gradually being required, and is a definite requirement of young specialists.

FACILITIES AVAILABLE:

As shown in the following tables, St. Joseph's Infirmary has an adult bed capacity of 377 with an additional 92 bassinets. The table below is divided into medical service, but does not give a complete breakdown in that only obstetric and pediatric cases have exact bed allotments while other services are proportioned according to the need and there is considerable interchangeability. This table also shows the type of accommodation into which the physical plant is divided:

----MEDICAL SERVICE----

Type	Number
Obstetrical	93
Pediatric	38
Unassigned	246
Total	377
Bassinets	92

----TYPE OF ACCOMMODATION----

Type	Rooms	Beds
1 Person	181	181
2 Persons	51	102
3 Persons	7	21
4 Persons	12	48
5 Persons	3	15
8 or More	1	10
Total		377
Bassinets		92

It is to be mentioned that no Nervous or Mental patients, Chronic, Convalescent, or Incurables are admitted to the hospital. No contagious facilities are available except for children and no Tuberculosis patients are routinely accepted.

All the facilities necessary for the complete care of patients in a general hospital are found at St. Joseph's Infirmary with the exception

of physical therapy, which is quite limited at the present time. No routine test is made for Tuberculosis in patients admitted to the hospital.

No colored patients are accepted.

The out-patient department functions only for care and instructions of Pre-Natal and Post-Natal mothers and there are clinics held two days for the former and for the latter three days each week.

USE OF FACILITIES:

Patient Days and Discharges for 1943-44-45 are shown in the following tables. It will be noted that the adult length of stay has remained approximately the same for a three year period, advancing slightly from 7.1 in 1943 to 7.3 in 1945.

The highest percent occupancy was in 1945, approximately 95%, which is a decided handicap in the rendering of efficient care.

DISCHARGES AND DAYS BY MEDICAL SERVICE

Type Service	Discharges			Days		
	1943	1944	1945	1943	1944	1945
Medical	1757	1280	1580	15914	11574	8745
Surgical (Ex.Obth.)	3353	4456	4574	30077	40104	45404
Obstetrics	5860	5646	5958	32028	31486	41702
Pediatrics	2256	3082	2984	8844	13680	20850
Orthopedics	1554	1408	1357	15890	12672	8765
E. E. N. T.	814	957	921	7326	8615	2441
Contagious	667	445	412	5989	4005	2704
Total Adult	16,261	17,274	17,786	116,068	122,136	130,691
Newborn	4,987	4,957	4,879	27,440	26,148	31,836

We have been able to record the Discharges and Patient Days for 1945 by Pay Status and this appears in the following table.

Classification of Patient	Patients Discharged	Patient Days
Self-Paying	13,335	94,441
Blue Cross Plan	600	3,760
City Payment	5	51
State Payment	470	2,730
Federal Payment	61	625
Other Payment	2,824	23,263
Non-Payment	521	5,821
Total	17,786	130,691

There were 374 deaths exclusive of 62 stillbirths for the year 1945, 101 of which died within 48 hours after admission. 172 autopsies were performed.

There were 4,366 births excluding stillborn, and 87 newborn deaths in 1945.

Out-Patient Visits totalled 1978 for 1945 divided 1800 Pre-Natal and balance Post-Natal.

TRAINING FACILITIES:

St. Joseph's Infirmary has six Residents at the present time. Three are specializing in surgery and 3 in obstetrics and these residents assist in teaching student nurses.

St. Joseph's Infirmary has a School of Nursing with 168 students enrolled. The school is affiliated with the University of Houston and students completing the course receive an Associated Arts Degree. An X-ray technicians training course is offered and there are two students now

being trained. Also there are two students at the present time training to be Laboratory Technicians. Both courses are for one year.

FINANCIAL:

Plant assets amount to $2,404,094 with land valued at $94,300, buildings at $2,053,758 and the balance representing equipment and fixtures.

In 1945 Gross Income from patients amounted to $748,239 and net income $706,371, while operating expense amounted to $566,876 of which $8980 was expended in the operation of their out-patient department.

There was shown an additional $129,248 non-operating expense which brought to $696,124 the total expense and resulted in a profit of $10,247 for the year.

PERSONNEL:

As reflected in the following table, the personnel of St. Joseph's shows definite shortage in certain departments, but is no more acute than the situation in most hospitals during and since the war. The entire personnel of the hospital numbers 671.

PERSONNEL

Department	Number Employed
1. Administration	30
2. Dietary	65
3. Household and Property	
A. Laundry & Linen	34
B. Housekeeping	122
C. Maintenance	9

Department	Number Employed
D. Automotive	1
4. Professional	
A. Medical & Surgical	6
B. Nursing Service	
(1) Chief Nurse	1
(2) Supervisors	35
(3) Graduate Nurses	81
(4) Student Nurses	190
(5) Attendants	24
C. Nursing School	24
D. Nursing Quarters	7
E. Records & Library	3
F. X-ray & Laboratory	21
G. Pharmacy	4
H. Other	2
5. Out Patient	7
Total	671

HOSPITAL SKETCH

NAME: GREENWOOD'S SANITARIUM

LOCATION: MAIN STREET ROAD

SUPERINTENDENT: DR. JAMES GREENWOOD, JR.

GENERAL:

This is a Nervous and Mental hospital located five miles from the center of the Houston business district on a 6 1/2 acre plot. This hospital was established and opened in 1912 by Dr. and Mrs. James Greenwood. It is incorporated for profit and operated, owned, and controlled by the above mentioned doctor, wife and son.

ACCREDITATIONS, APPROVALS, AND MEMBERSHIPS:

Greenwood's Sanitarium is registered with the American Medical Association, but has no further approvals, accreditations, or memberships.

MEDICAL STAFF:

All patients admitted to this hospital become through referral the patients of Dr. Greenwood, Sr. Local Physicians making these referrals have the privilege of visiting and consulting but are referred to in no other capacity.

FACILITIES AVAILABLE:

This is a nervous and mental hospital with a rated capacity of 40 adult beds, but with a census now being maintained at about 25 because of the present health of Dr. Greenwood. However, the unit has facilities for potential expansion to 80 patients beds which would all be in single rooms sharing a total of 24 baths. Only mild nervous and mental

cases are now being accepted and a few carefully selected addicts and alcoholics are cared for. No colored or Mexican patients are accepted.

All patients are on a pay basis and it is currently being considered that the weekly rate will be increased to $50.00 with certain better accommodations reflecting rates of $60-65. This includes room, meals, laundry, and hall-nursing, but any patient needing special nursing care is required to obtain and pay for this over and above the weekly rate. The hospital has no facilities for X-raying, for complicated laboratory work, or Fever or Shock Therapy. When it is deemed necessary, the facilities of other Houston hospitals are called into use. There is no occupational therapy available to patients.

USE OF FACILITIES:

In 1945 there were 9430 patient days with 130 patient discharges and an average length of stay of 73 days. The average hospital occupancy was 65%. There were 8 institutional deaths.

TRAINING FACILITIES:

There is no training of any type offered.

FINANCIAL:

No accurate information could be obtained other than the fact that the hospital is being run for a profit and that one has been made year after year. The present valuation of land, property, and equipment placed on it by the owner approximates $180,000.

PERSONNEL:

There is no particular shortage of personnel, and not a great deal could be learned of the details of the staffing, however they do have 12 practical nurses and no graduate nurses. Total personnel approximates 25.

HOSPITAL SKETCH

NAME: HOUSTON TUBERCULOSIS HOSPITAL

LOCATION: 3602 WEST DALLAS

SUPERINTENDENT: MISS MAE ALDRIDGE

GENERAL:

This is a tuberculosis hospital located 4 miles from the center of the Houston business district on a well landscaped tract of 32 acres. It is owned and operated by the City of Houston but with support from the County in a fixed sum of $18,000 per year. Control is through a Board of Trustees of 10 members, president of which is Mr. R. H. Spencer. These members are appointed by the Mayor of Houston for a period of two years and there are monthly board meetings attended by an average of 9. The present superintendent, Miss Mae Aldridge has held this capacity since the opening of the hospital in 1918 and is adjudged a capable and most sincere superintendent.

ACCREDITATIONS, APPROVALS, AND MEMBERSHIPS:

The Hospital is approved by the American Medical Association only and has membership in the Texas Hospital Association only.

MEDICAL STAFF:

The medical staff at Houston Tuberculosis Hospital is organized and conducted under formal by-laws and rules and regulations. Appointment of the staff is made by the Board of Trustees and no other physicians bring patients to the hospital. There are no grades, as such, of staff membership

but the number of physicians in the various professional departments are shown below:

STAFF MEMBERS IN PROFESSIONAL DEPARTMENTS

Medicine	16	Radiology	1
Surgery	4	Pathology	1
Pediatric	3	Anesthesia	1
Endoscopy	3		
		Total	29

FACILITIES AVAILABLE:

This hospital was founded in 1918 with 20 hospital beds and through the years has been expanded so at present it has 124 hospital beds and 50 beds located in the Autrey Memorial School Building. Also they are building a pavillion that will house about 20 Negro cases, which represents the major bed shortage as only 22 beds are available to Negroes at present.

It was originally planned that surgical work would be done at Jefferson Davis Hospital inasmuch as it was likewise City-County operated, however there seems to be a history of medical conflict in which the staff at Houston Tuberculosis Hospital was not allowed to operate at Jefferson Davis Hospital meaning that patients had to be referred to a Jefferson Davis physician for surgical work. This never proved satisfactory and is now at the point where physicians at Houston Tuberculosis Hospital do not refer cases to Jefferson Davis Hospital, but try to get the surgical work done in whatever private hospital will take them. Hermann Hospital has assigned two beds and Methodist and Memorial occasionally accept open tuberculosis cases for chest surgery. This would seem the greatest weakness in the overall picture.

The hospital accepts no pay work if it is known that family can pay for care elsewhere and all admissions are received through Houston Anti-Tuberculosis League, where indigency is supposedly determined. However, it frequently happens that Houston Tuberculosis Hospital social workers make an additional determination.

Funds for a school building were given to the city by Mr. and Mrs. Autrey and about 9 years ago a building was erected at the site of the Houston Tuberculosis Hospital. The city is now under contract to operate this preventorium for children between the ages of 4 and 12. Its primary purpose is to take the children from homes where active Tuberculosis has been found and to keep them in this school until the home condition is remedied, or in a few instances until active tuberculosis becomes apparent in the child.

Facilities are available whereby all admissions are held in isolation until the necessary examinations and laboratory work has been completed and proven negative. If during the course of a child's stay in the school, tuberculosis is recognized, the child is moved to other units in the hospital.

In addition to the lack of facilities for surgical work mentioned above there are at the hospital only adequate facilities for chest X-ray work and no facilities for laboratory work, which is done at Jefferson Davis.

Buildings are in good state of repair and well maintained. The independent school system carries out regular instruction during the school term in the Autrey building.

It is the superintendent's opinion that the 300 bed capacity of the proposed Tuberculosis Hospital will satisfactorily meet the needs of Houston.

USE OF FACILITIES:

In 1945 there were 54,042 Patient Days including those of Autrey Memorial with 235 admissions, 160 Discharges and 53 Deaths.

The daily average census for the year was 148, 41 of which were in the Autrey School. This reflects an average occupancy of 85%.

TRAINING FACILITIES:

There are no training facilities available.

FINANCIAL:

The total expenses for the year 1945 amounted to $105,986 being divided as follows and shown in comparison with 1944 actual and with 1946 proposed:

	Actual 1945	Actual 1944	Budget 1946
Salaries	$69,392	$63,273	$72,900
Supplies	28,284	26,535	29,185
Contractual	2,608	2,658	2,815
Maintenance	4,963	1,608	1,600
Capital Outlay	739		1,000
Total	$105,986	$94,074	$107,500

There was an appropriation of $10,000 made to expand facilities for the care of colored Tuberculosis patients in 1945 but this was not expended.

Over a period of years the County has contributed $18,000 a year for the support of patients in this hospital but has no part in policy making.

Patient day cost for 1945 was $1.95.

PERSONNEL:

Analysis of personnel shows a total of 50 including the superintendent, a part time Resident physician and a part-time Rentgenologist. There are 15 graduate nurses, a senior nurse and a nurse X-ray Technician.

HOSPITAL SKETCH

NAME: KEIGHTLEY HOSPITAL

LOCATION: ALMEDA, TEXAS

SUPERINTENDENT AND OWNER: MRS. VIVIAN KEIGHTLEY

GENERAL:

This is a 50 bed nervous and mental hospital located approximately 1 1/2 miles from the Almeda business district. This hospital is privately owned by Mrs. Vivian Keightley on a site of 31 acres and is a semi-fire-proof one story building erected in 1940.

APPROVALS, ACCREDITATIONS, AND MEMBERSHIPS:

Keightley Hospital is registered with the American Hospital Association and has membership with the State Hospital Association. It has no other accreditations, approvals, or memberships.

MEDICAL STAFF:

Dr. Joel Hill and Dr. E. W. Appleby are the two psychiatrists most interested in the hospital and the majority of patients are under their care although a total of approximately 15 physicians from time to time have patients in the hospital.

FACILITIES AVAILABLE:

As previously mentioned, there are 50 beds in the hospital, all in single rooms and these are available to any nervous and mental patient,

however the majority of cases are mild and there is a tendency away from acceptance of chronic cases. There is careful selection of alcoholics and addicts but some are treated. There is available fever therapy and shock therapy equipment but no laboratory, X-ray or other diagnostic services are rendered. The hospital does not accept Negro patients.

USE OF FACILITIES:

It could only be learned that there were approximately 9,125 patient days in 1945 which reflects 50% occupancy and inasmuch as there were 102 admissions, the average length of stay would approximate three months.

FINANCIAL:

No financial information is available except that present weekly charge for inclusive service is $67.50.

TRAINING FACILITIES:

There are no training facilities at Keightley Hospital.

PERSONNEL:

There are three graduate nurses in addition to the owner and there is a total of seven hospital personnel.

HOSPITAL SKETCH

NAME: SOUTHERN PACIFIC HOSPITAL

LOCATION: 2015 THOMAS STREET

SUPERINTENDENT: MR. RAY WILLMISMEIR

GENERAL:

This is a 129 bed general hospital situated on two square blocks located at 2015 Thomas Street, approximately 1 1/2 miles from the center of the Houston business district. Southern Pacific Hospital was constructed in 1910 by Southern Pacific Railroad Company. The building is owned by Southern Pacific Railroad Equipment Company, which is in turn owned by Hospital Association of the Southern Pacific Lines. The hospital is operated by the Southern Pacific Railroad. It is operated not for profit and is not incorporated.

Southern Pacific Hospital is controlled by a Board of Trustees consisting of 7 members, which until recently comprised 3 management representatives, 3 labor representatives and the chief of staff. This was recently changed so that two officers are from management and four in effect represent the unions to which the employees are members. We dwell upon this revision because it has the potentiality to make certain basic changes which might alter the picture presented. First, it might be decided that hospital coverage should be extended to families of employees and this would approximately treble the enrollment and the "need" for facilities. Secondly, it could be determined that in addition to family coverage, choice of hospital should be a part of the contract, and through such a move undermine completely

the present hospital and system. Neither of these moves seems immediately contemplated, but on the other hand, neither are implausible and both are in line with established trends.

Copies of their by-laws are on file and in great part explain the general terms of the contract as it exists.

APPROVALS, ACCREDITATIONS AND MEMBERSHIPS:

Southern Pacific Hospital is approved by The American College of Surgeons as meeting unconditionally its minimum requirements and is one of the six hospitals of the Survey Area so approved. It is also approved for Resident Training by the American Medical Association. There is no School of Nursing at Southern Pacific Hospital.

Its memberships are in American Hospital Association, State Hospital Association, and Local Hospital Council.

MEDICAL STAFF:

The Medical Staff at Southern Pacific Hospital is organized and has formal By-Laws and Rules and Regulations. Appointments to the staff are made by the Chief Surgeon. Membership at present includes:

Senior	14	Courtesy	17	Consulting	36

The number of staff members having National Board Certification could not be determined, but the number of physicians in the various departments follows:

Dermatology	1	Gynecology	1	Medicine	3
Neuro-Psy.	1	Genito-Urinary	1	Neuro-Surg.	1
Opthalmology	2	Plastic Surgery	1	Surgery	2
E. N. T.	2				
				Total	15

The staff organization in Southern Pacific Hospital varies from others in the area, as could be expected, in that all Residents are in full time attendance, and all other including the Chief Surgeon are on a salary or fee basis paid entirely by the hospital and called into attendance or consultation as the patient need demands.

FACILITIES AVAILABLE:

Admissions are limited to employees in good standing of the Southern Pacific Railroad in Texas and Louisiana. These currently total 23,000 and pay $1.60 per month if their salary is less than $200 per month and $2.00 per month if earnings are more than $200.

As shown in the following table, the 129 adult beds comprising the bed complement of this general hospital can be shown only by the Type of Accommodations into which they physical plant is divided.

TYPE OF ACCOMMODATION

Type	Rooms	Beds
1 Person	26	26
2 Persons	3	6
3 Persons	1	3
4 Persons	3	12
6 Persons	1	6
8 Persons	2	16
10 Persons	6	60
	Total	129

There is considerable interchangeability due to small wings which lend themselves to use as the need requires so that no fixed allotment by Medical Service could be determined.

In general, service is rendered following the pattern of a general hospital except no Obstetric, Pediatric, Contagious, or Venereal Disease patients are accepted and these are prohibited by well defined regulations set forth in employees contracts. In the past the few cases of contagious disease have been sent to Jefferson Davis Hospital and satisfied admission regulations of that hospital.

Tuberculosis cases are not admitted routinely, but an allowance of $50.00 per month for one year is made to help in the care of the employee in a sanitarium.

On the other hand a limited number of chronic cases are hospitalized, the maximum length of stay being one year. A somewhat larger number of convalescents are cared for.

There are 22 beds assigned to Negroes and a like amount to Mexicans with the balance reserved for white patients.

An active Out-Patient Department exists, admission to which is by recommendation of Railroad Department head or railroad "surgeon".

This hospital, although 36 years of age, reflects far above average care and maintenance, has facilities adequate for the present patient load with the possible exception of Dietary facilities and the definite exception of physical therapy and radium therapy.

USE OF FACILITIES:

Patient Days and Discharge information for the years 1943-44-45 follow but could be developed in total only:

PATIENT DAYS AND DISCHARGES

	-----Discharges-----			-----Patient Days-----		
	1943	1944	1945	1943	1944	1945
Adult	2290	2414	2419	25,764	29,108	31,063

These reflect avarage length of stays mounting from 11.2 in 1943, 10.2 in 1944 to 12.88 in 1945. Percent occupancy in addition increased to a peak of a comfortable 66% in 1945.

In order to have some idea of the type patient cared for the admissions for August 1946 were studied and there follows a tabulation of the major services.

Medicine	83	E. E. N. T.	21	Proctology	17
Surgery	42	Genito-Urinary	30	Dermatology	4
Gynecology	4	Orthopedic	12	Other	27
				Total	240

Occupancy by Pay Status is, of course, unnecessary, but a few self pay patients do appear on their records, reflecting admissions of injured passengers wherein the hospital was reimbursed by the Railroad Company in a manner over and above usual payment.

There were 32 deaths in 1945 and 16 autopsies performed or a rate of 50%, higher than in any other Harris County hospital except Hermann Hospital.

The Assistant Chief Surgeon is responsible for supervision of the medical staff in the Out-Patient Department. The clinic is restricted to employees of the Southern Pacific Railroad Company. Clinics available to these employees are listed below, as well as the number of visits to the clinics during 1945.

CLINIC DIVISION	VISITS
Medical	10,483
Surgical	6,499
Gynecology	488
E. N. T.	1,463
Genito-Urinary	409
Eye	158
Orthopedic	45
Dermatology	203
Total	19,748

TRAINING FACILITIES:

Training facilities exist solely in connection with the four currently in training and in connection with the sporadic affiliation with Hermann Hospital in the training of Interns. The practice of sending Interns to Southern Pacific Hospital for training in Surgery and Medicine for a total of three months seems on the wane in that the number of Interns has decreased and Hermann Hospital has found need and teaching material to suffice.

FINANCIAL:

Only the barest essentials of the financial structure could be determined in that the hospital records indicate (as a home office) expenditures throughout Texas and Louisiana for drug costs, miscellaneous cost of home calls by physicians and emergency hospitalization where the Company has contractural relations. These and Out-Patient Department costs not segregated renders impossible accurate determination of in-patient costs which are estimated to be between $6.00 and $6.50 per day of care.

The evaluation of land, building, and equipment were obtainable, and totaled $167,400 representing $96,000 in Land and Building, including the adjoining Nurses' Home, and $71,400 in Equipment. The Nurses' Home represents $26,000 in Land and Building and $1900 in Equipment of the total.

It is known that this hospital operates at a slight profit month after month and only recently has a high salary and supply cost cut into this profit. As explained to the observer, this can and will be met through establishing a higher premium to employee subscribers.

PERSONNEL:

The schedule which follows reflects a total number employed of 74, and the table reflects number of employees in each department.

DEPARTMENT	NUMBER EMPLOYED
1. Administrative	5
2. Dietary	11
3. Household and Property	
a. Housekeeping	8
b. Boiler Room Helpers	1
c. Maintenance & Repairs	3
d. Ambulance Driver	1
4. Professional Services	
a. Medical and Surgical	10
b. Nursing Service	
1. Graduate Nurses	13
2. Nurses' Aides	8
3. Orderlies	2
c. Medical Records	1
d. X-Ray, Lab, Radium	2
e. Operating Room	3
f. Pharmacist	1
g. Other Professional Services	1
5. General Out-Patient Service	4
Total All Departments	74

No shortages of personnel exist and the rates paid guarantee filling of budgeted quotas. Graduate nurses receive $182.00 per month plus rooms, meals, and laundry for a straight shift of 8 hours. Other salaries are commensurate.

CITY OF HOUSTON HEALTH DEPARTMENT

The City Health Department serves the 73 square miles within the corporate limits of the City of Houston with a population estimated to be 471,187 in 1945. The health officer is Dr. Austin E. Hill and offices are at 900 Brazos, the address of the City Hall of Houston. In addition to this office area, it occupies space in the Old Jefferson Davis Hospital at 1100 Elder for laboratories and for clinics in Maternal, Child Health and Veneral Diseases. Also it maintains a Venereal Disease detention ward in the County Jail.

A considerable wealth of material on this unit's activity, even performance rating, is available to interested persons, so that we have not spent an undue amount of time in observing and reporting on this organization. We find it to be seriously aware of its responsibilities, competently directed and at a disadvantage because of lack of funds.

In 1945 the Committee on Administrative Practice of the American Public Health Association published a collection of charts showing the range of accomplishment in various field of community Health Service. These represent data collected from 243 communities spread over 32 states and 4 provinces of Canada. The "Evaluation Schedules" were designed to reveal the health protection of the community as a whole including the activities of private practitioners, voluntary nursing and other agencies, not just the work of the health department alone. However it quickly reflects items of service which are below average and upon which emphasis for improvement must be placed.

The charts have been studied and are herein summarized with notes of explanation as deemed necessary. It is to be remembered that the tables are of "ratios" and that "good performance" or "best condition", whichever is being reflected by the ratio, is to be found in the upper quartile and "poor performance" or "adverse condition" in the lower quartile.

For example, the first tabulation is the ratio of "Population Per Full Time Medical Officer" and we see that 242 agencies reported. The median was established by the 121st and 122nd agencies while the lower quartile represents all agencies falling between 183 and the base which of course is the 242nd agency. The lower quartile in this instance would reflect the "adverse condition" of too large a population per health officer and we see that Houston is in this quartile, in fact only 27 removed from the base.

Organization:

The Mayor of Houston appoints the Board of Health, comprising six physicians and one dentist. The physicians are selected with the approval of the Harris County Medical Society and are appointed for a term of two years. This board acts in an advisory capacity to the Health Officer and has the power to make health rules and regulations not in conflict with the laws and ordinances of the City and of the State.

The department as now organized consists of nine divisions with two additional, namely dengue fever and malaria control, coming under the direct supervision of the State Health Department. A new organization is now being planned to add tuberculosis, mental hygiene, adult hygiene and communicable disease control to the existing nine divisions. There is also a proposed Health Center Program which has in mind the establishment of five outlying health clinics, the first to be erected in 1947 on Lyons Avenue in

in the colored district.

The 1946 Budget calls for expenditures of $377,851 by the City against an actual 1945 expense of $328,827. The latter figure was lower than budgeted, as a result of the department's inability to fill all budgeted positions. The 1946 figures again provide for an Assistant Director of Health, a Director of Health Education and a Sanitary Engineer. No increase in the number of Nurses is provided as there are at present ten vacancies.

In April 1946 the preliminary budget including State, United States Public Health Service, and Other agency support was submitted by Dr. Hill and shows expenses borne as follows:

City of Houston	$384,069
State of Texas	1,860
United States Public Health Service	44,180
Other agencies	3,960
Total	$434,069

Of this amount, $370,080 was salary expense and $63,989 covered supplies, travel, contractual and maintenance expenses. In neither budget was there an allowance for the captial outlay for the first of five clinics to be started in 1946 and in neither budget was there provision for employment of a director to head the Tuberculosis Control Division.

Communicable Diseases:

In the following tables indices of the progress and success of the Health Department, in fact of the community, in its battle against communicable disease may be drawn. We find that despite low death rates, improvement can still be expected if standards of other cities are set as the goal.

Further we draw attention to the fact that reporting methods for

the Communicable Diseases leaves something to be desired in that for every typhoid death it is usual to have at least 10 cases reported while for every tuberculosis death at least five active cases are usually reported. A more complete registration system for communicable disease control must be attempted with greater pressure being exerted upon private physisians and their reporting practices.

CASES REPORTED AND DEATHS FROM SELECTED CAUSES

	1943		1944		1945	
	Cases Reported	Deaths	Cases Reported	Deaths	Cases Reported	Deaths
Tuberculosis	425	221	387	217	321	194
Diphtheria	86	6	101	5	118	8
Polio	79	10	19	5	116	22
Typhoid	22	6	25	5	18	3
Typhus	124	1	145	6	103	4
Malaria	1	0	1	1	3	2
Measles	140	1	440	2	24	0

RATES PER 100,000 POPULATION

	1943		1944		1945	
	Cases Reported	Deaths	Cases Reported	Deaths	Cases Reported	Deaths
Tuberculosis	95.01	49.45	84.13	47.17	68.13	41.17
Diphtheria	19.11	1.33	18.04	1.09	25.04	1.70
Polio	17.55	2.22	4.13	1.09	24.62	4.67
Typhoid	4.89	1.33	5.43	1.09	3.82	.64
Typhus	27.55	.22	31.52	1.30	21.86	.85
Malaria	.22	.00	.22	.22	.64	.42
Measles	31.11	.22	95.65	.43	5.09	.00

In addition to the above and to the deaths reported under the section on Vital Statistics there was in 1945 1 death recorded for Whooping Cough, 7 for Tetanus, 7 for Dysentery, Syphilis 46 and Pellagra 6.

To all Communicable Disease cases reported in 1944 and 1945 the nursing staff of the Health Department made 1534 and 2094 visits

In general, service is rendered following the pattern of a general hospital except no Obstetric, Pediatric, Contagious, or Venereal Disease patients are accepted and these are prohibited by well defined regulations set forth in employees contracts. In the past the few cases of contagious disease have been sent to Jefferson Davis Hospital and satisfied admission regulations of that hospital.

Tuberculosis cases are not admitted routinely, but an allowance of $50.00 per month for one year is made to help in the care of the employee in a sanitarium.

On the other hand a limited number of chronic cases are hospitalized, the maximum length of stay being one year. A somewhat larger number of convalescents are cared for.

There are 22 beds assigned to Negroes and a like amount to Mexicans with the balance reserved for white patients.

An active Out-Patient Department exists, admission to which is by recommendation of Railroad Department head or railroad "surgeon".

This hospital, although 36 years of age, reflects far above average care and maintenance, has facilities adequate for the present patient load with the possible exception of Dietary facilities and the definite exception of physical therapy and radium therapy.

USE OF FACILITIES:

Patient Days and Discharge information for the years 1943-44-45 follow but could be developed in total only:

PATIENT DAYS AND DISCHARGES

	-----Discharges-----			-----Patient Days-----		
	1943	1944	1945	1943	1944	1945
Adult	2290	2414	2419	25,764	29,108	31,063

These reflect avarage length of stays mounting from 11.2 in 1943, 10.2 in 1944 to 12.88 in 1945. Percent occupancy in addition increased to a peak of a comfortable 66% in 1945.

In order to have some idea of the type patient cared for the admissions for August 1946 were studied and there follows a tabulation of the major services.

Medicine	83	E. E. N. T.	21	Proctology	17
Surgery	42	Genito-Urinary	30	Dermatology	4
Gynecology	4	Orthopedic	12	Other	27
				Total	240

Occupancy by Pay Status is, of course, unnecessary, but a few self pay patients do appear on their records, reflecting admissions of injured passengers wherein the hospital was reimbursed by the Railroad Company in a manner over and above usual payment.

There were 32 deaths in 1945 and 16 autopsies performed or a rate of 50%, higher than in any other Harris County hospital except Hermann Hospital.

The Assistant Chief Surgeon is responsible for supervision of the medical staff in the Out-Patient Department. The clinic is restricted to employees of the Southern Pacific Railroad Company. Clinics available to these employees are listed below, as well as the number of visits to the clinics during 1945.

CLINIC DIVISION	VISITS
Medical	10,483
Surgical	6,499
Gynecology	488
E. N. T.	1,463
Genito-Urinary	409
Eye	158
Orthopedic	45
Dermatology	203
Total	19,748

TRAINING FACILITIES:

Training facilities exist solely in connection with the four currently in training and in connection with the sporadic affiliation with Hermann Hospital in the training of Interns. The practice of sending Interns to Southern Pacific Hospital for training in Surgery and Medicine for a total of three months seems on the wane in that the number of Interns has decreased and Hermann Hospital has found need and teaching material to suffice.

FINANCIAL:

Only the barest essentials of the financial structure could be determined in that the hospital records indicate (as a home office) expenditures throughout Texas and Louisiana for drug costs, miscellaneous cost of home calls by physicians and emergency hospitalization where the Company has contractural relations. These and Out-Patient Department costs not segregated renders impossible accurate determination of in-patient costs which are estimated to be between $6.00 and $6.50 per day of care.

The evaluation of land, building, and equipment were obtainable, and totaled $167,400 representing $96,000 in Land and Building, including the adjoining Nurses' Home, and $71,400 in Equipment. The Nurses' Home represents $26,000 in Land and Building and $1900 in Equipment of the total.

It is known that this hospital operates at a slight profit month after month and only recently has a high salary and supply cost cut into this profit. As explained to the observer, this can and will be met through establishing a higher premium to employee subscribers.

PERSONNEL:

The schedule which follows reflects a total number employed of 74, and the table reflects number of employees in each department.

DEPARTMENT	NUMBER EMPLOYED
1. Administrative	5
2. Dietary	11
3. Household and Property	
a. Housekeeping	8
b. Boiler Room Helpers	1
c. Maintenance & Repairs	3
d. Ambulance Driver	1
4. Professional Services	
a. Medical and Surgical	10
b. Nursing Service	
1. Graduate Nurses	13
2. Nurses' Aides	8
3. Orderlies	2
c. Medical Records	1
d. X-Ray, Lab, Radium	2
e. Operating Room	3
f. Pharmacist	1
g. Other Professional Services	1
5. General Out-Patient Service	4
Total All Departments	74

No shortages of personnel exist and the rates paid guarantee filling of budgeted quotas. Graduate nurses receive $182.00 per month plus rooms, meals, and laundry for a straight shift of 8 hours. Other salaries are commensurate.

CITY OF HOUSTON HEALTH DEPARTMENT

The City Health Department serves the 73 square miles within the corporate limits of the City of Houston with a population estimated to be 471,187 in 1945. The health officer is Dr. Austin E. Hill and offices are at 900 Brazos, the address of the City Hall of Houston. In addition to this office area, it occupies space in the Old Jefferson Davis Hospital at 1100 Elder for laboratories and for clinics in Maternal, Child Health and Veneral Diseases. Also it maintains a Venereal Disease detention ward in the County Jail.

A considerable wealth of material on this unit's activity, even performance rating, is available to interested persons, so that we have not spent an undue amount of time in observing and reporting on this organization. We find it to be seriously aware of its responsibilities, competently directed and at a disadvantage because of lack of funds.

In 1945 the Committee on Administrative Practice of the American Public Health Association published a collection of charts showing the range of accomplishment in various field of community Health Service. These represent data collected from 243 communities spread over 32 states and 4 provinces of Canada. The "Evaluation Schedules" were designed to reveal the health protection of the community as a whole including the activities of private practitioners, voluntary nursing and other agencies, not just the work of the health department alone. However it quickly reflects items of service which are below average and upon which emphasis for improvement must be placed.

The charts have been studied and are herein summarized with notes of explanation as deemed necessary. It is to be remembered that the tables are of "ratios" and that "good performance" or "best condition", whichever is being reflected by the ratio, is to be found in the upper quartile and "poor performance" or "adverse condition" in the lower quartile.

For example, the first tabulation is the ratio of "Population Per Full Time Medical Officer" and we see that 242 agencies reported. The median was established by the 121st and 122nd agencies while the lower quartile represents all agencies falling between 183 and the base which of course is the 242nd agency. The lower quartile in this instance would reflect the "adverse condition" of too large a population per health officer and we see that Houston is in this quartile, in fact only 27 removed from the base.

Organization:

The Mayor of Houston appoints the Board of Health, comprising six physicians and one dentist. The physicians are selected with the approval of the Harris County Medical Society and are appointed for a term of two years. This board acts in an advisory capacity to the Health Officer and has the power to make health rules and regulations not in conflict with the laws and ordinances of the City and of the State.

The department as now organized consists of nine divisions with two additional, namely dengue fever and malaria control, coming under the direct supervision of the State Health Department. A new organization is now being planned to add tuberculosis, mental hygiene, adult hygiene and communicable disease control to the existing nine divisions. There is also a proposed Health Center Program which has in mind the establishment of five outlying health clinics, the first to be erected in 1947 on Lyons Avenue in

in the colored district.

The 1946 Budget calls for expenditures of $377,851 by the City against an actual 1945 expense of $328,827. The latter figure was lower than budgeted, as a result of the department's inability to fill all budgeted positions. The 1946 figures again provide for an Assistant Director of Health, a Director of Health Education and a Sanitary Engineer. No increase in the number of Nurses is provided as there are at present ten vacancies.

In April 1946 the preliminary budget including State, United States Public Health Service, and Other agency support was submitted by Dr. Hill and shows expenses borne as follows:

City of Houston	$384,069
State of Texas	1,860
United States Public Health Service	44,180
Other agencies	3,960
Total	$434,069

Of this amount, $370,080 was salary expense and $63,989 covered supplies, travel, contractual and maintenance expenses. In neither budget was there an allowance for the captial outlay for the first of five clinics to be started in 1946 and in neither budget was there provision for employment of a director to head the Tuberculosis Control Division.

Communicable Diseases:

In the following tables indices of the progress and success of the Health Department, in fact of the community, in its battle against communicable disease may be drawn. We find that despite low death rates, improvement can still be expected if standards of other cities are set as the goal.

Further we draw attention to the fact that reporting methods for

the Communicable Diseases leaves something to be desired in that for every typhoid death it is usual to have at least 10 cases reported while for every tuberculosis death at least five active cases are usually reported. A more complete registration system for communicable disease control must be attempted with greater pressure being exerted upon private physisians and their reporting practices.

CASES REPORTED AND DEATHS FROM SELECTED CAUSES

	1943		1944		1945	
	Cases Reported	Deaths	Cases Reported	Deaths	Cases Reported	Deaths
Tuberculosis	425	221	387	217	321	194
Diphtheria	86	6	101	5	118	8
Polio	79	10	19	5	116	22
Typhoid	22	6	25	5	18	3
Typhus	124	1	145	6	103	4
Malaria	1	0	1	1	3	2
Measles	140	1	440	2	24	0

RATES PER 100,000 POPULATION

	1943		1944		1945	
	Cases Reported	Deaths	Cases Reported	Deaths	Cases Reported	Deaths
Tuberculosis	95.01	49.45	84.13	47.17	68.13	41.17
Diphtheria	19.11	1.33	18.04	1.09	25.04	1.70
Polio	17.55	2.22	4.13	1.09	24.62	4.67
Typhoid	4.89	1.33	5.43	1.09	3.82	.64
Typhus	27.55	.22	31.52	1.30	21.86	.85
Malaria	.22	.00	.22	.22	.64	.42
Measles	31.11	.22	95.65	.43	5.09	.00

In addition to the above and to the deaths reported under the section on Vital Statistics there was in 1945 1 death recorded for Whooping Cough, 7 for Tetanus, 7 for Dysentery, Syphilis 46 and Pellagra 6.

To all Communicable Disease cases reported in 1944 and 1945 the nursing staff of the Health Department made 1534 and 2094 visits

respectively and caused to be admitted to hospitals 115 and 227 cases.

Immunizations in 1948 were in the following numbers:

Smallpox	3279
Diphtheria	6380
Typhoid	5781
Pertussis	3107
All Others	4018
Total	22,565

Environmental Sanitation:

This phase of Public Health Work suggests inspection routines of milk, meat, general foods, general sanitation including inspection of food handlers, as well as property sanitation with its necessary control over rodents, mosquitoes, etc.

The City Health Department has been aggessively active in phases of this work and made substantial inroads against diarrhea and dysentery among the infants in areas blighted by crowded living conditions, inadequate plumbing facilities and ignorance of proper child-feeding methods.

Under the Division of Laboratories expansion has made possible thorough chemical analyses of food, milk, water and communicable disease specimens, in this area so that over 109,000 of the latter specimens were examined in 1945, an increase of 15,000 in a 3 year period.

Food inspection is going forward at a satisfactory rate but there are 1750 food establishments in Houston and the present staff of 12 inspectors is planned to be increased to 15 to handle the problem more expeditiously.

In general, with consideration to approved expenditures under current bond issues for sewage, etc. and with the knowledge that a sincere effort is being made to secure the full-time services of a competent division

head, environmental sanitation would seem destined to be improved and secured.

Veneral Disease Program:

The only clinic sponsored by the Health Department at the present time is at the old Jefferson Davis Hospital inasmuch as two clinics have been closed because of lack of personnel. In addition to this clinic, the health department operates a detention ward in the county jail consisting of seventy beds for incarceration and treatment. In general, case finding is not well developed in this area and it is mentioned that Texas is one of three states that require only the male to be examined for syphilis before marriage. It is the practice to send primary and latent cases to a Rapid Treatment Center, located in San Antonio, some two hundred miles away, the transportation being offered free of charge. Forty to fifty percent of the cases so treated remain under treatment until cured. Informal and education programs for veneral disease control leave much to be desired but a Veneral Disease Committee exists, formed in 1944, and is in part carrying forth this work.

In 1944 there were 73,188 clinic visits coupled with 4,967 field visits while in 1945 there were 70,466 and 5,528 of the corresponding type visit.

Maternal and Child Health Program:

The Health Department sponsors a prenatal clinic at the old Jefferson Davis Hospital. Eight sessions are held weekly, divided equally between white and colored. All white physicians are in attendance. They also maintain a weekly well baby clinic at Jefferson Davis Hospital and another at the Julius C. Hester House. Neither of these latter are centrally located and there seems to be no program for children from the ages of two to six. It is learned that there were 20 midwife meetings sponsored by the

Health Department and that 123 midwives were registered for formal instruction. In 1945 records show attendance to antepartum medical conferences to have been 3306 and to nursing conference 803 while field visits to antepartum cases with venereal disease complications totaled 261 and to all other antepartum cases 285. Field visits to postpartum cases with venereal disease complications numbered 332 and "Other" 246.

In the field of Child Health care we find over 1000 visits to Medical and Nursing Conferences held on infant care and over 350 field visits by City Health Department nurses to homes of infants. In the preschool age group conferences have been abandoned but field nursing visits increased to over 1400 and public lectures had an attendance of over 700.

Dental Program:

There is no dentist on the staff of the Public Health Department, although the budget includes the salary for such an individual, an appointment has not been made as the salary does not tend to draw the properly trained person.

Health Education:

There is money available for the employment of a full time educator to work with the Health Department Staff. No qualified person has been employed but it is considered that it might possibly be a Negro Health Educator and in addition a trained Mexican worker.

Tuberculosis Control:

At present the Health Department functions only in the field of follow up and investigation of family contacts made by those persons having died from tuberculosis. Reporting of these deaths to the Health Department are supposedly made through hospitals and homes. Major responsibility for

tuberculosis control is being borne by the Houston Anti-Tuberculosis League and this relationship and division of responsibility is discussed elsewhere in this report.

It is to be mentioned, however, that in the 1946 Budget no director of Tuberculosis Control has been proposed and that the City recently refused to meet its share of the generous proposal by the Council of Social Agencies that would have enabled the City to make a start toward assuming a more active participation in Tuberculosis Control.

City Health Department Proposals:

Bond issues in the amount of $850,000 have been passed for the erection of five health clinics in the near future. The first of these is to be located on an unselected site on Lyons Avenue in the colored district of the old Fifth Ward and present planning places it near the St. Elizabeth's Negro Hospital being erected. The second clinic is planned for the Houston Negro Hospital on Elgin and beyond those two no definite sites have been chosen.

The Department is aware of its questionable position in the field of Tuberculosis Control in Houston and now pays part of the salary of Miss Renis, Anti-Tuberculosis League director, and plans to send clerical help to the league so that the "Register" of cases may be improved and brought to date. Also the City is now handling all laboratory work for the League but the major step of accepting full responsibility has yet to be undertaken. As mentioned elsewhere, this year's budget does not allow for a director of Tuberculosis Control, as did the 1945 budget. It would seem that the City is as yet unwilling to assume the financial responsibility for care and administrative control of this type of patient.

HEALTH PRACTICE INDICES

	Agencies Reporting	Upper Quartile	Median	Lower Quartile	City of Houston
HEALTH DEPARTMENT PERSONNEL					
A. Population per Full Time Medical Officer (In Thousands)	242	60.5	121.5	182.5	215
B. Population per Full Time Public Health Nurse (In Thousands)	242	60.5	121.5	182.5	230
COMMUNICABLE DISEASE					
(Per 1000 Population-Five Year Period)					
A. Diphtheria - Cases	213	53.5	107	160.5	172
B. Diphtheria - Deaths	212	53.5	106.5	159.5	132
C. Whooping Cough - Deaths	208	52.5	104.5	156.5	55
D. Malaria - Cases	200	50.5	100.5	150.5	93
E. Typhoid Fever - Cases	209	52.5	105	157.5	132
F. Typhoid Fever - Deaths	215	54	108	162	156
TUBERCULOSIS					
A. Deaths Per 1,000 Population, 5 Yr. Per.	203	51	102	153	165
B. Cases Reported Per Death, 5 Yr. Per.	189	47.5	95	142.5	136
C. Newly Reported Cases % in Minimal Stage	197	49.5	99	148.5	71
D. Active Cases on Register - % At Home At End of Year	207	52	104	156	127
E. Newly Reported Cases - Contacts Per Case Reported	194	48.5	97.5	146.5	42
F. Newly Reported Cases - % Visited Within One Month	197	49.5	99	148.5	93
G. Active Cases Reported before Death - % Hospitalized within 2 Mos. of Report	185	46.5	93	139.5	99
SYPHILIS					
A. Cases Reported % in Early & Latent Stages	207	52	104	156	57
B. Early & Latent Cases; Sex Contacts Reported Per 100 Cases	160	40.5	80.5	120.5	42
C. Early & Early Latent Cases under Treatment at Beginning of Year, % Adequately Treated	164	41.5	83.5	123.5	42
GONORRHEA					
A. Cases Reported; Sex Contacts Reported Per 100 Cases	177	44.5	89	133.5	99

HEALTH PRACTICE INDICES

	Agencies Reporting	Upper Quartile	Median	Lower Quartile	City of Houston
MATERNAL HEALTH					
A. Puerperal Deaths Per 1000 Total Births - Ten Year Period	150	37.5	75.5	103.5	41
B. Total Births, % in Hospital	227	57	114	171	63
C. Hospital Births, % in Hospitals Whose Obstetrical Dept. Meets Minimum Standards of American College of Surgeons	190	47.5	95.5	143.5	121
D. Women Delivered: % Known to Have Had Antepartum Medical Supervision	162	40.5	81.5	122.5	41
E. Women Delivered: % Under Antepartum Nursing Supervision	217	54.5	109	164	140
F. Women Delivered at Home: % Known to Have Had Postpartum Nursing Supervision	171	42	86	129	64
INFANT HEALTH					
A. Deaths Under 1 Year of Age Per 1000 Live Births, 5 Year Period	200	50	100.5	150.5	124
B. Deaths Under 1 Month of Age Per 1000 Live Births, 5 Year Period	164	41.5	82.5	123.5	110
C. Diarrhea & Eneritis Deaths Under 1 Year of Age Per 1000 Live Births-2 Yr. Per.	190	47.5	95.5	143.5	151
D. Children Under One Year-% Under Medical Supervision	171	43	86	129	35
E. Children Under One Year, % Under Nursing Supervision	198	49.5	99.5	149.5	92
PRESCHOOL HEALTH					
A. Children Under Five Years, % Under Medical Supervision	179	45	90	135	20
B. Children Under Five Years, % Under Nursing Supervision	211	53	106	159	162

HEALTH PRACTICE INDICES

HEALTH DEPARTMENT BUDGETS					
A. Cents Per Capita from Local Sources Spent by Health Department	225	56	113	169.5	40
B. Cents Per Capita from All Sources Spent by Health Department	227	57	114	171	99
PUBLIC HEALTH AGENCIES					
A. Cents Per Capita from All Sources Spent by Public and Private Health Agencies	227	57	114	114	41

HARRIS COUNTY HEALTH UNIT

The Harris County Health Unit serves an area of 1674 square miles which is the area of Harris County minus the 73 square miles covered by the City of Houston Health Department. Officials of the Unit place the 1948 population served at 204,000, but from estimates made during the survey, the observer believes that the population probably did not exceed 171,000.

Offices of the Unit are in the County Hall in Houston and here also are given a limited number of immunizations. In addition two venereal disease clinics are conducted, one on Bordersville for negroes and one in the Tri-Cities area for white and Negro combining venereal disease treatment and immunizations. Laboratory work is carried out at the City-County Laboratory located in the old Jefferson Davis Hospital.

Organization:

The County Health Unit is responsible to the County Commissioners Court and to the Texas State Health Department. The Director of the Unit is appointed by them, and at present Dr. C. A. Dwyer is the part-time acting director having replaced Dr. H. Wood who resigned June 1 after serving only five months.

The staff consists of a sanitary engineer, 3 sanitarians, 11 Public Health nurses, 2 clinical clerks and 2 office clerks.

The 1946 budget is in the amount of $87,020 of which $74,880 is the responsibility of the County and $12,140 is to be paid by the State. Salaries of Junior Public Health Nurses start at $140 per month with a maximum salary of $165. Senior Public Health Nurses have a starting salary of $165 and a maximum of $185. Travelling allowance of $30.00 per month is granted in addition to the above.

Communicable Disease Control:

Reporting and recording methods for communicable diseases raises doubt as to the accuracy of the figures. Deaths from certain selected causes not shown in the section on Vital Statistics in 1945 were 7 Malaria, 7 Tetanus, and 8 deaths from Dysentery.

To all communicable disease cases reported in 1944 and 1945 the nursing staff of the County Health Unit made 411 and 588 visits respectively and caused to be admitted to hospitals 83 and 117 cases.

Immunizations in 1945 were in the following numbers:

Smallpox	1808	Typhoid	2420
Diphtheria	5169	Pertussis	478
		All Others	11,287
		Total	21,140

Venereal Disease Control:

As previously mentioned, two venereal disease clinics are maintained by the County and in 1944 visits totaled 8001 coupled with field visits in the number of 374; in 1945 clinic visits dropped to 4,888

and field visits increased to 847. Only six lectures were conducted on this important phase of community health and attendance averaged about 100 at each.

Tuberculosis Control:

The same relationship exists with this unit and the Anti-Tuberculosis League as does with the City Health Department, but so far the major activities of the League have been confined to Houston proper with only slightly more than 5,500 examined in 1945 in the County.

Public School Program:

Important is the function of the Health Unit in its contacts with 85 schools within the County but outside the Houston Independent School District. The nursing staff of the unit in 1945 made 8,800 general examinations, 1900 eye examinations and 2400 dental examinations. They lectured to over 15,000 school children in 81 scheduled talks and in effect assumed the responsibility which within Houston is borne by the Health Division of the Independent School System.

General:

In a section of this survey dealing with recommendations and conclusions, the future of the County Health Unit will be discussed at further length.

head, environmental sanitation would seem destined to be improved and secured.

Veneral Disease Program:

The only clinic sponsored by the Health Department at the present time is at the old Jefferson Davis Hospital inasmuch as two clinics have been closed because of lack of personnel. In addition to this clinic, the health department operates a detention ward in the county jail consisting of seventy beds for incarceration and treatment. In general, case finding is not well developed in this area and it is mentioned that Texas is one of three states that require only the male to be examined for syphilis before marriage. It is the practice to send primary and latent cases to a Rapid Treatment Center, located in San Antonio, some two hundred miles away, the transportation being offered free of charge. Forty to fifty percent of the cases so treated remain under treatment until cured. Informal and education programs for veneral disease control leave much to be desired but a Veneral Disease Committee exists, formed in 1944, and is in part carrying forth this work.

In 1944 there were 73,188 clinic visits coupled with 4,967 field visits while in 1945 there were 70,466 and 5,528 of the corresponding type visit.

Maternal and Child Health Program:

The Health Department sponsors a prenatal clinic at the old Jefferson Davis Hospital. Eight sessions are held weekly, divided equally between white and colored. All white physicians are in attendance. They also maintain a weekly well baby clinic at Jefferson Davis Hospital and another at the Julius C. Hester House. Neither of these latter are centrally located and there seems to be no program for children from the ages of two to six. It is learned that there were 20 midwife meetings sponsored by the

Health Department and that 123 midwives were registered for formal instruction. In 1945 records show attendance to antepartum medical conferences to have been 3306 and to nursing conference 806 while field visits to antepartum cases with venereal disease complications totaled 261 and to all other antepartum cases 225. Field visits to postpartum cases with venereal disease complications numbered 332 and "Other" 246.

In the field of Child Health care we find over 1000 visits to Medical and Nursing Conferences held on infant care and over 550 field visits by City Health Department nurses to homes of infants. In the preschool age group conferences have been abandoned but field nursing visits increased to over 1400 and public lectures had an attendance of over 700.

Dental Program:

There is no dentist on the staff of the Public Health Department, although the budget includes the salary for such an individual, an appointment has not been made as the salary does not tend to draw the properly trained person.

Health Education:

There is money available for the employment of a full time educator to work with the Health Department Staff. No qualified person has been employed but it is considered that it might possibly be a Negro Health Educator and in addition a trained Mexican worker.

Tuberculosis Control:

At present the Health Department functions only in the field of follow up and investigation of family contacts made by those persons having died from tuberculosis. Reporting of these deaths to the Health Department are supposedly made through hospitals and homes. Major responsibility for

tuberculosis control is being borne by the Houston Anti-Tuberculosis League and this relationship and division of responsibility is discussed elsewhere in this report.

It is to be mentioned, however, that in the 1946 Budget no director of Tuberculosis Control has been proposed and that the City recently refused to meet its share of the generous proposal by the Council of Social Agencies that would have enabled the City to make a start toward assuming a more active participation in Tuberculosis Control.

City Health Department Proposals:

Bond issues in the amount of $850,000 have been passed for the erection of five health clinics in the near future. The first of these is to be located on an unselected site on Lyons Avenue in the colored district of the old Fifth Ward and present planning places it near the St. Elizabeth's Negro Hospital being erected. The second clinic is planned for the Houston Negro Hospital on Elgin and beyond those two no definite sites have been chosen.

The Department is aware of its questionable position in the field of Tuberculosis Control in Houston and now pays part of the salary of Miss Renis, Anti-Tuberculosis League director, and plans to send clerical help to the league so that the "Register" of cases may be improved and brought to date. Also the City is now handling all laboratory work for the League but the major step of accepting full responsibility has yet to be undertaken. As mentioned elsewhere, this year's budget does not allow for a director of Tuberculosis Control, as did the 1945 budget. It would seem that the City is as yet unwilling to assume the financial responsibility for care and administrative control of this type of patient.

HEALTH PRACTICE INDICES

	Agencies Reporting	Upper Quartile	Median	Lower Quartile	City of Houston
HEALTH DEPARTMENT PERSONNEL					
A. Population per Full Time Medical Officer (In Thousands)	242	60.5	121.5	182.5	215
B. Population per Full Time Public Health Nurse (In Thousands)	242	60.5	121.5	182.5	230
COMMUNICABLE DISEASE					
(Per 1000 Population-Five Year Period)					
A. Diphtheria - Cases	213	53.5	107	160.5	172
B. Diphtheria - Deaths	212	53.5	106.5	159.5	132
C. Whooping Cough - Deaths	208	52.5	104.5	156.5	55
D. Malaria - Cases	200	50.5	100.5	150.5	93
E. Typhoid Fever - Cases	209	52.5	105	157.5	132
F. Typhoid Fever - Deaths	215	54	108	162	156
TUBERCULOSIS					
A. Deaths Per 1,000 Population, 5 Yr. Per.	203	51	102	153	165
B. Cases Reported Per Death, 5 Yr. Per.	189	47.5	95	142.5	136
C. Newly Reported Cases % in Minimal Stage	197	49.5	99	148.5	71
D. Active Cases on Register - % At Home At End of Year	207	52	104	156	127
E. Newly Reported Cases - Contacts Per Case Reported	194	48.5	97.5	146.5	42
F. Newly Reported Cases - % Visited Within One Month	197	49.5	99	148.5	93
G. Active Cases Reported before Death - % Hospitalized within 2 Mos. of Report	185	46.5	93	139.5	99
SYPHILIS					
A. Cases Reported % in Early & Latent Stages	207	52	104	156	57
B. Early & Latent Cases; Sex Contacts Reported Per 100 Cases	160	40.5	80.5	120.5	42
C. Early & Early Latent Cases under Treatment at Begiming of Year, % Adequately Treated	164	41.5	83.5	123.5	42
GONORRHEA					
A. Cases Reported; Sex Contacts Reported Per 100 Cases	177	44.5	89	133.5	99

HEALTH PRACTICE INDICES

	Agencies Reporting	Upper Quartile	Median	Lower Quartile	City of Houston
MATERNAL HEALTH					
A. Puerperal Deaths Per 1000 Total Births - Ten Year Period	150	37.5	75.5	103.5	41
B. Total Births, % in Hospital	227	57	114	171	63
C. Hospital Births, % in Hospitals Whose Obstetrical Dept. Meets Minimum Standards of American College of Surgeons	190	47.5	95.5	143.5	121
D. Women Delivered: % Known to Have Had Antepartum Medical Supervision	162	40.5	81.5	122.5	41
E. Women Delivered: % Under Antepartum Nursing Supervision	217	54.5	109	164	140
F. Women Delivered at Home: % Known to Have Had Postpartum Nursing Supervision	171	42	86	129	64
INFANT HEALTH					
A. Deaths Under 1 Year of Age Per 1000 Live Births, 5 Year Period	200	50	100.5	150.5	124
B. Deaths Under 1 Month of Age Per 1000 Live Births, 5 Year Period	164	41.5	82.5	123.5	110
C. Diarrhea & Eneritis Deaths Under 1 Year of Age Per 1000 Live Births-2 Yr. Per.	190	47.5	95.5	143.5	151
D. Children Under One Year-% Under Medical Supervision	171	43	86	129	35
E. Children Under One Year, % Under Nursing Supervision	198	49.5	99.5	149.5	92
PRESCHOOL HEALTH					
A. Children Under Five Years, % Under Medical Supervision	179	45	90	135	20
B. Children Under Five Years, % Under Nursing Supervision	211	53	106	159	162

HEALTH PRACTICE INDICES

HEALTH DEPARTMENT BUDGETS					
A. Cents Per Capita from Local Sources Spent by Health Department	225	56	113	169.5	40
B. Cents Per Capita from All Sources Spent by Health Department	227	57	114	171	99
PUBLIC HEALTH AGENCIES					
A. Cents Per Capita from All Sources Spent by Public and Private Health Agencies	227	57	114	114	41

HARRIS COUNTY HEALTH UNIT

The Harris County Health Unit serves an area of 1674 square miles which is the area of Harris County minus the 73 square miles covered by the City of Houston Health Department. Officials of the Unit place the 1948 population served at 204,000, but from estimates made during the survey, the observer believes that the population probably did not exceed 171,000.

Offices of the Unit are in the County Hall in Houston and here also are given a limited number of immunizations. In addition two venereal disease clinics are conducted, one on Bordersville for negroes and one in the Tri-Cities area for white and Negro combining venereal disease treatment and immunizations. Laboratory work is carried out at the City-County Laboratory located in the old Jefferson Davis Hospital.

Organization:

The County Health Unit is responsible to the County Commissioners Court and to the Texas State Health Department. The Director of the Unit is appointed by them, and at present Dr. C. A. Dwyer is the part-time acting director having replaced Dr. E. Wood who resigned June 1 after serving only five months.

The staff consists of a sanitary engineer, 8 sanitarians, 11 Public Health nurses, 2 clinical clerks and 2 office clerks.

The 1946 budget is in the amount of $67,020 of which $34,840 is the responsibility of the County and $32,180 is to be paid by the State. Salaries of Junior Public Health Nurses start at $140 per month with a maximum salary of $165. Senior Public Health Nurses have a starting salary of $165 and a maximum of $185. Travelling allowance of $60.00 per month is granted in addition to the above.

Communicable Disease Control:

Reporting and recording methods for communicable diseases raises doubt as to the accuracy of the figures. Deaths from certain selected causes not shown in the section on Vital Statistics in 1945 were 7 Malaria, 7 Tetanus, and 8 deaths from Dysentery.

To all communicable disease cases reported in 1944 and 1945 the nursing staff of the County Health Unit made 411 and 556 visits respectively and caused to be admitted to hospitals 63 and 117 cases.

Immunizations in 1945 were in the following numbers:

Smallpox	1808	Typhoid	2420
Diphtheria	5169	Pertussis	476
		All Others	11,267
		Total	21,140

Venereal Disease Control:

As previously mentioned, two venereal disease clinics are maintained by the County and in 1944 visits totaled 8001 coupled with field visits in the number of 374; in 1945 clinic visits dropped to 4,956

HOUSTON ANTI-TUBERCULOSIS LEAGUE

Organization:

The policies, administrative practices and funds of the Houston Anti-Tuberculosis League are administered by a self-perpetuating Board of Trustees of eleven members. Plans are being made at the present time to increase the number of board members to a maximum of thirty, but the definite number, which may be less than thirty has not been definitely decided upon. At the present time the League is taking full responsibility for many services generally found in the Tuberculosis Division of an official health agency, and this state of affairs has been the subject of considerable discussion in health circles throughout Houston. The surveyor agrees that the practices interlope upon official City-County responsibility yet believes that until the Official Health Agencies prove through budgetary allotments, their potentiality to absorb this work, the status-quo be observed and all available support be given to the Houston Anti-Tuberculosis League.

The League's support comes from the sale of Christmas seals and annual contributions from the Community Chest. In 1944 the budget was $111,000, and in 1945 the figure was increased to $125,000. The Community Chest includes $30,000 for the Anti-Tuberculosis League in its annual drive, and all efforts by the League to secure a higher allotment have failed. In general, funds are inadequate to meet the needs of this organization and this has resulted, among other things, in loss of personnel.

Case Finding:

The organization receives reports of tuberculosis from physicians, social agencies, and hospitals and the following table shows sources and the number of cases which the League received during 1945.

TUBERCULOSIS CASES & CONTACTS

Case Reported By:	Number Cases	Contacts Examined
Physicians	113	422
Health Department	106	235
Welfare Agency	87	327
Vet. Adm.	57	182
Total	363	1196

Men rejected by the draft or discharged from the service because of the disease are contacted to assure proper medical attention.

The League maintains a clinic in the basement of Jefferson Davis Hospital, which is open every day and in 1945 handled 7,864 patient visits. Its services included 1,865 pneumothorax treatments, 1,841 fluroscopies, 4,753 laboratory tests, and 2,927 X-rays. Student nurses of Jefferson Davis Hospital spend one week during their course assisting in the clinic as part of their training.

The size of the staff varies with ability to secure nurses, which at the present time is quite a problem due to increased salaries for City Public Health Nurses. Eight nurses' salaries have been included in the budget, however, only one was on roll at the time the consultant visited the clinic. This shortage has not kept the League from operating in a very commendable manner, for 99% of the 363 cases reported for 1945

were visited within one month of the report.

In 1944 the League reported 172 deaths from Tuberculosis, but only 257 new cases were reported, or approximately 1 1/2 reported cases per death, and it is evident that many early cases are not being discovered. In 1945, there were 363 new cases reported and 137 deaths, or slightly over 2 reported cases per death.

The completeness of the Tuberculosis Register is checked by keeping a daily record of all visits to clinics and homes. The register is reviewed once a month to prepare monthly reports and check cases. In 1944 there were 210 active cases of tuberculosis in hospitals and sanitariums with a total of 728 cases in all while in 1945 there were 235 active cases with 781 cases total. Of the active cases at home, 82.5% in 1944 and 60% in 1945 were there because of lack of hospital facilities. In the city, there are only a few beds provided for Tuberculosis operative cases and this condition is discussed elsewhere in the survey.

In addition to the clinic, the League operates an excellent mobile unit, and in 1945 case findings included 5,055 skin tests, and 37,622 X-rays, with the traveling unit. This unit is made available to the city schools, and to industry. The proposed program of the Houston Anti-Tuberculosis League for April 1-46 to March 31-47 states that it hopes to be able to skin test 30,000 small children during the period and to maintain the procedure of testing about 4,000 persons monthly with the traveling X-ray unit, increasing this number if possible.

Health Education:

The League has in the field a trained Latin-American health worker who is integrating his activities with all Latin-American groups

and is fostering a large-scale program of education.

A full time Negro health worker is fostering similar activities among the Negro population. Several institutes are scheduled to reach various Negro groups with health education. A Negro Health Education Volunteers group has been formed and trained, and will stage a schedule of major health projects for strengthened Tuberculosis control, sanitation and Hygiene, rat eradication and the like.

Student nurses and medical students are receiving regular classes and demonstrations in tuberculosis control although the time spent in Tuberculosis affiliation is still far below the standard for minimum indoctrination.

Many thousands of pamphlets were distributed in selected channels, and the scope of tuberculosis was covered in a series of 13 radio health dramatizations furnished by the National Tuberculosis Association. Various health problems were discussed in 52 Saturday morning broadcasts of THE VOICE OF HEALTH and 53 other health broadcasts were presented in 1948.

Rehabilitation:

The League is working in close cooperation with the State Board of Vocation Rehabilitation to the end of seeing to it that every eligible case secures fullest possible assistance for vocational rehabilitation. During the past year, an institute on the subject of Rehabilitation was held and over 100 representatives from industry and welfare agencies attended. As a result of this institute a citizens' committee on rehabilitation and medical-social service has been formed and is instituting recreational and occupational therapy in Houston Tuberculosis Hospitals.

CITY-COUNTY WELFARE BOARD

The Director of the City-County Welfare Board is Mr. Hollis Clark and offices are maintained in the old Jeff Davis Hospital. Functions of this board are to coordinate city and county relief work not recognized as state responsibility, as in connection with old age assistance. In general, support is received on the ratio of 1/3 county and 2/3 city funds and they have shared in this proportion the support of the chronic program developed as an experiment and continued as a need. This Welfare unit is under the control of a seven member board of trustees, two appointed by the city, two by the county with a citizen elected by each of the two groups and the total of six so elected appoint one additional citizen as Chairman.

At present the Board has under surveillance 671 cases involving 1308 individuals. A greater proportion of their interest involve subsidies for food, shelter, and clothing. This is of course the main responsibility of the board but health care of this indigent group is so frequently encountered that it has become an important if unofficial aspect of their welfare endeavor. The board acts as a referring agency of the City-County indigent ill to Jefferson Davis and to Houston Tuberculosis Hospitals. It does not, however have the standing of a bona-fide referral agency in that indigency is again determined by the admitting and social service workers of the hospitals. This would seem an unnecessary duplication between agencies of the City and County and it is believed that the second determination by the hospitals is more superficial than the original made by the Welfare Board.

In Houston it comes to the point where an indigent family may be subjected to welfare investigation by as many as four or five groups, all learning the same facts but depositing such data in four or five different files. This does not even have the benefit of serving as a cross-check as the conclusions drawn are not compared.

About fifteen months ago the trustees of the Welfare Board approved expenditures to renovate and maintain a hospital unit of 45 beds to be situated on the top floor of the old Jefferson Davis Hospital and to be under the supervision and administration of the executive of the Welfare Board.

This unit was to fulfill in part a need for chronic indigent already listed with the Welfare Board and secondarily to establish a demonstration unit for this type of care in Houston. The original patients were removed from chronic homes where care was considered to be at the lowest ebb. Excerpts from the memorandum submitted to the City and County on July 6, 1943 by the Welfare Board follow:

"This would be a new institution and therefore probably could not be established on the desired scale until after the war. Possibly some plan could be worked out at the present time for a small beginning to partially meet the pressing need and prove the wisdom of the plan. Care of the aged, infirm, senile, and chronically ill people in an institution run with the profit motive will never be satisfactory. These people are now receiving unbelievably poor care and this will always be true when prices are high and labor scarce. No amount of legislation or regulations can materially change this picture.

Such an institution also could be used for the truly convalescent

cases coming from Jefferson Davis and Hermann Hospitals. This would remove patients from very expensive care and reduce the patient days and expenses at the hospitals. A plan could be worked out whereby interns at Jefferson Davis Hospital could be assigned to this institution, thus obtaining additional medical service for the patients at very little cost.

Some amendment might be made in the State law and Social Security regulations to permit people who receive Old Age Assistance to live in such an institution if they desire, or if their needs call for institutional care. This would enable these old people to get the type of care they should have and so desperately need, and at the same time reduce the over-all cost of operating the home by having a number of part pay patients."

It is the surveyor's opinion that Mr. Clark and associates have accomplished both phases of their premise. Although interest in and knowledge of the program by hospitals in the community is of a degree much lower than desirable.

The 45 bed unit has an average daily occupancy of 31 rendered somewhat lower than necessary because of the need for discrimination between male and female, white and colored. 28 beds are assigned to white patients divided equally between male and female, while 17 beds are reserved for Negroes divided nine male and eight female.

Nursing care is administered by ten persons including four graduate nurses, and although this number would appear close to the minimum, it seems entirely adequate for a closely knit unit under good supervision.

Medical care is somewhat less satisfactorily rendered in that no

physician is in attendance or on call. It remains for the patient to be transported to Jefferson Davis Hospital by ambulance in the event of need. This would seem the only weakness of an otherwise excellently maintained and operated chronic unit setting a very low cost per patient day of about $1.50.

1945	Patients: Admitted	Patients: Dismissed	Patients: Died	Av. Number Patients	Per Capita Cost
May (Plus Pt. April)	41	5	2	31	$2.02
June	7	11	0	31	2.31
July	3	11	0	30	2.26
August	6	3	2	27	2.34
September	8	2	4	29	2.40
October*	7	6	2	31	1.52*
November	8	5	4	30	1.64
December	3	5	1	30	1.66
8 1/2 months 1945	93	48	15	30	$2.01
1946					
January	14	10	1	32	$1.49
February	12	5	2	33	1.54
March	5	9	3	34	1.46
April	5	3	0	30	1.73
May	5	2	0	30	1.47
June	1	2	1	28	1.64
July	3	3	1	30	1.68
7 months 1946	51	40	8	31	$1.57**
Total 15 1/2 months	144	88	23	31	$1.80**

* Change in Superintendents on October 1, 1945
** Per Capita cost last 10 months under present Superintendent $1.59 per day.

VISITING NURSES ASSOCIATION

This organization was established in 1909 as a unit of The Home Settlement Association and remained as such until 1938 when it became the autonomous agency it is today. Its policies are controlled by a board of 38 members and it is supported principally by the Community Chest with some small income from "paid" visits.

The role of Visiting Nurses Association in the total public health pattern of the community is dual, in that it combines bed-side nursing, its major and vested function with well-child health clinics, an education endeavor more fittingly a responsibility of the City-County Public Health Units.

The area the Association attempts to cover is primarily that of the City of Houston with "paid" visits being made throughout the Metropolitan Area and with a stipulated limit of ten miles from Houston for visits to members of group insurance plans having contracts with Visiting Nurses Association.

With the present budget of fifteen graduate nurses and a present enrollment of eleven, five of whom are colored, it would seem that a worthwhile contribution is being made under conditions of personnel shortage. The shortage seems to hinge upon a budgetary allowance that requires salaries to be lower than for other Public Health Nurses in the Area. At present a starting rate of $150.00 is used for graduate nurses having no special Public Health experience.

An allowance of $35.00 per month is made for the operation of a car.

In general the Association gives bed-side nursing on a free, part-pay or pay basis and conducts four well child conferences each week. In 1945 its revenue from pay, part-pay and contract visits amounted to only $813.00 against a total expenditure of $47,453 for the period, or a disproportionately high percentage of free work.

Approximately 85% of visits were to Pre-Natal, Post-Partum and Newborn cases and others divided between acute illnesses, chronic illnesses and infant and pre-school ailments. Of the total of 22,000 visits, 21,000 were recorded as "free" visits leaving only 1,000 pay, part-pay and contract. Using the income mentioned above it may be calculated that the average "pay" visit was at the rate of $.91.

The visiting nurse has the authority to adjust established rates of $1.50 for the first hour and $1.00 per hour thereafter if conditions warrant such adjustment and in 1945 over 25% of pay cases were so adjusted.

Visits are primarily confined to private homes but in 1945, 371 were made to hospitals, clinics, laboratories, health centers, and day nurseries but in each instance were to individual patients. Pre-natal cases requiring care are referred from Hermann Hospital and Jefferson Davis Hospital to Visiting Nurses Association and it is believed that through such referrals a hardship is worked upon the Visiting Nurses Association.

Pre-natal visits, (averaging less than two per patient by Visiting Nurses Association) and post-partum visits (averaging 3.5 visits per patient) are rightfully the responsibility of a clinically-interested Out-Patient

Department of a good hospital. Interns and Residency training as well as student nurse training is supplemented by such practice.

In 1945 the report of attendance at the well-baby clinics was shown to be 2,954 representing 923 different patients. There were 896 immunizations given under physicians' supervision.

This year it is planned that students enrolled in the Public Health Nursing course of the Incarnate Word College of San Antonio are to become affiliated with Visiting Nurses Association to give them their necessary field experience. This is the first time such an affiliation has been tried and the number of students as well as the length of time each is to spend with the Visiting Nurses Association has not been decided. In the past an instructor from the above mentioned College has annually presented a course of instruction here in Houston for Public Health Nurses interested in what might be termed post-graduate or refresher courses in one particular phase of Public Health work. This year the course to be given is in Maternal and Child Health.

Department of a good hospital. Interns and Residency training as well as student nurse training is supplemented by such practice.

In 1945 the report of attendance at the well-baby clinics was shown to be 2,954 representing 923 different patients. There were 896 immunizations given under physicians' supervision.

This year it is planned that students enrolled in the Public Health Nursing course of the Incarnate Word College of San Antonio are to become affiliated with Visiting Nurses Association to give them their necessary field experience. This is the first time such an affiliation has been tried and the number of students as well as the length of time each is to spend with the Visiting Nurses Association has not been decided. In the past an instructor from the above mentioned College has annually presented a course of instruction here in Houston for Public Health Nurses interested in what might be termed post-graduate or refresher courses in one particular phase of Public Health work. This year the course to be given is in Maternal and Child Health.

Case Finding:

The organization receives reports of tuberculosis from physicians, social agencies, and hospitals and the following table shows sources and the number of cases which the League received during 1945.

TUBERCULOSIS CASES & CONTACTS

Case Reported By:	Number Cases	Contacts Examined
Physicians	113	422
Health Department	106	285
Welfare Agency	87	327
Vet. Adm.	57	162
Total	363	1196

Men rejected by the draft or discharged from the service because of the disease are contacted to assure proper medical attention.

The League maintains a clinic in the basement of Jefferson Davis Hospital, which is open every day and in 1945 handled 7,864 patient visits. Its services included 1,665 pneumothorax treatments, 1,841 fluroscopies, 4,753 laboratory tests, and 2,927 X-rays. Student nurses of Jefferson Davis Hospital spend one week during their course assisting in the clinic as part of their training.

The size of the staff varies with ability to secure nurses, which at the present time is quite a problem due to increased salaries for City Public Health Nurses. Eight nurses' salaries have been included in the budget, however, only one was on roll at the time the consultant visited the clinic. This shortage has not kept the League from operating in a very commendable manner, for 99% of the 363 cases reported for 1945

were visited within one month of the report.

In 1944 the League reported 172 deaths from Tuberculosis, but only 257 new cases were reported, or approximately 1 1/2 reported cases per death, and it is evident that many early cases are not being discovered. In 1945, there were 363 new cases reported and 187 deaths, or slightly over 2 reported cases per death.

The completeness of the Tuberculosis Register is checked by keeping a daily record of all visits to clinics and homes. The register is reviewed once a month to prepare monthly reports and check cases. In 1944 there were 210 active cases of tuberculosis in hospitals and sanitariums with a total of 728 cases in all while in 1945 there were 235 active cases with 781 cases total. Of the active cases at home, 62.5% in 1944 and 60% in 1945 were there because of lack of hospital facilities. In the city, there are only a few beds provided for Tuberculosis operative cases and this condition is discussed elsewhere in the survey.

In addition to the clinic, the League operates an excellent mobile unit, and in 1945 case findings included 3,055 skin tests, and 37,622 X-rays, with the traveling unit. This unit is made available to the city schools, and to industry. The proposed program of the Houston Anti-Tuberculosis League for April 1-46 to March 31-47 states that it hopes to be able to skin test 30,000 small children during the period and to maintain the procedure of testing about 4,000 persons monthly with the traveling X-ray unit, increasing this number if possible.

Health Education:

The League has in the field a trained Latin-American health worker who is integrating his activities with all Latin-American groups

and is fostering a large-scale program of education.

A full time Negro health worker is fostering similar activities among the Negro population. Several institutes are scheduled to reach various Negro groups with health education. A Negro Health Education Volunteers group has been formed and trained, and will stage a schedule of major health projects for strengthened Tuberculosis control, sanitation and hygiene, rat eradication and the like.

Student nurses and medical students are receiving regular classes and demonstrations in tuberculosis control although the time spent in Tuberculosis affiliation is still far below the standard for minimum indoctrination.

Many thousands of pamphlets were distributed in selected channels, and the scope of tuberculosis was covered in a series of 13 radio health dramatizations furnished by the National Tuberculosis Association. Various health problems were discussed in 52 Saturday morning broadcasts of THE VOICE OF HEALTH and 33 other health broadcasts were presented in 1945.

Rehabilitation:

The League is working in close cooperation with the State Board of Vocation Rehabilitation to the end of seeing to it that every eligible case secures fullest possible assistance for vocational rehabilitation. During the past year, an institute on the subject of Rehabilitation was held and over 100 representatives from industry and welfare agencies attended. As a result of this institute a citizens' committee on rehabilitation and medical-social service has been formed and is instituting recreational and occupational therapy in Houston Tuberculosis Hospitals.

CITY-COUNTY WELFARE BOARD

The Director of the City-County Welfare Board is Mr. Hollis Clark and offices are maintained in the old Jeff Davis Hospital. Functions of this board are to coordinate city and county relief work not recognized as state responsibility, as in connection with old age assistance. In general, support is received on the ratio of 1/3 county and 2/3 city funds and they have shared in this proportion the support of the chronic program developed as an experiment and continued as a need. This Welfare unit is under the control of a seven member board of trustees, two appointed by the city, two by the county with a citizen elected by each of the two groups and the total of six so elected appoint one additional citizen as Chairman.

At present the Board has under surveillance 271 cases involving 1305 individuals. A greater proportion of their interest involve subsidies for food, shelter, and clothing. This is of course the main responsibility of the board but health care of this indigent group is so frequently encountered that it has become an important if unofficial aspect of their welfare endeavor. The board acts as a referring agency of the City-County indigent ill to Jefferson Davis and to Houston Tuberculosis Hospitals. It does not, however have the standing of a bona-fide referral agency in that indigency is again determined by the admitting and social service workers of the hospitals. This would seem an unnecessary duplication between agencies of the City and County and it is believed that the second determination by the hospitals is more superficial than the original made by the Welfare Board.

In Houston it comes to the point where an indigent family may be subjected to welfare investigation by as many as four or five groups, all learning the same facts but depositing such data in four or five different files. This does not even have the benefit of serving as a cross-check as the conclusions drawn are not compared.

About fifteen months ago the trustees of the Welfare Board approved expenditures to renovate and maintain a hospital unit of 45 beds to be situated on the top floor of the old Jefferson Davis Hospital and to be under the supervision and administration of the executive of the Welfare Board.

This unit was to fulfill in part a need for chronic indigent already listed with the Welfare Board and secondarily to establish a demonstration unit for this type of care in Houston. The original patients were removed from chronic homes where care was considered to be at the lowest ebb. Excerpts from the memorandum submitted to the City and County on July 6, 1943 by the Welfare Board follow:

"This would be a new institution and therefore probably could not be established on the desired scale until after the war. Possibly some plan could be worked out at the present time for a small beginning to partially meet the pressing need and prove the wisdom of the plan. Care of the aged, infirm, senile, and chronically ill people in an institution run with the profit motive will never be satisfactory. These people are now receiving unbelievably poor care and this will always be true when prices are high and labor scarce. No amount of legislation or regulations can materially change this picture.

Such an institution also could be used for the truly convalescent

cases coming from Jefferson Davis and Hermann Hospitals. This would remove patients from very expensive care and reduce the patient days and expenses at the hospitals. A plan could be worked out whereby interns at Jefferson Davis Hospital could be assigned to this institution, thus obtaining additional medical service for the patients at very little cost.

Some amendment might be made in the State law and Social Security regulations to permit people who receive Old Age Assistance to live in such an institution if they desire, or if their needs call for institutional care. This would enable these old people to get the type of care they should have and so desperately need, and at the same time reduce the over-all cost of operating the home by having a number of part pay patients."

It is the surveyor's opinion that Mr. Clark and associates have accomplished both phases of their premise. Although interest in and knowledge of the program by hospitals in the community is of a degree much lower than desirable.

The 45 bed unit has an average daily occupancy of 31 rendered somewhat lower than necessary because of the need for discrimination between male and female, white and colored. 28 beds are assigned to white patients divided equally between male and female, while 17 beds are reserved for Negroes divided nine male and eight female.

Nursing care is administered by ten persons including four graduate nurses, and although this number would appear close to the minimum, it seems entirely adequate for a closely knit unit under good supervision.

Medical care is somewhat less satisfactorily rendered in that no

physician is in attendance or on call. It remains for the patient to be transported to Jefferson Davis Hospital by ambulance in the event of need. This would seem the only weakness of an otherwise excellently maintained and operated chronic unit setting a very low cost per patient day of about $1.50.

1945	Patients: Admitted	Patients: Dismissed	Patients: Died	Av. Number Patients	Per Capita Cost
May (Plus Pt. April)	41	5	2	31	$2.02
June	7	11	0	31	2.31
July	8	11	0	30	2.26
August	6	3	2	27	2.24
September	8	2	4	29	2.40
October*	7	6	2	31	1.52*
November	8	5	4	30	1.64
December	8	5	1	30	1.66
8 1/2 months 1945	93	48	15	30	$2.01
1946					
January	14	10	1	32	$1.49
February	12	5	2	33	1.54
March	5	9	3	34	1.46
April	5	8	0	30	1.75
May	5	3	0	30	1.47
June	1	2	1	28	1.64
July	9	3	1	30	1.68
7 months 1946	51	40	8	31	$1.57**
Total 15 1/2 months	144	88	23	31	$1.80**

* Change in Superintendents on October 1, 1945
** Per Capita cost last 10 months under present Superintendent $1.59 per day.

VISITING NURSES ASSOCIATION

This organization was established in 1909 as a unit of The Home Settlement Association and remained as such until 1936 when it became the autonomous agency it is today. Its policies are controlled by a board of 38 members and it is supported principally by the Community Chest with some small income from "paid" visits.

The role of Visiting Nurses Association in the total public health pattern of the community is dual, in that it combines bed-side nursing, its major and vested function with well-child health clinics, an education endeavor more fittingly a responsibility of the City-County Public Health Units.

The area the Association attempts to cover is primarily that of the City of Houston with "paid" visits being made throughout the Metropolitan Area and with a stipulated limit of ten miles from Houston for visits to members of group insurance plans having contracts with Visiting Nurses Association.

With the present budget of fifteen graduate nurses and a present enrollment of eleven, five of whom are colored, it would seem that a worthwhile contribution is being made under conditions of personnel shortage. The shortage seems to hinge upon a budgetary allowance that requires salaries to be lower than for other Public Health Nurses in the Area. At present a starting rate of $150.00 is used for graduate nurses having no special Public Health experience.

An allowance of $35.00 per month is made for the operation of a car.

In general the Association gives bed-side nursing on a free, part-pay or pay basis and conducts four well child conferences each week. In 1945 its revenue from pay, part-pay and contract visits amounted to only $313.00 against a total expenditure of $43,453 for the period, or a disproportionately high percentage of free work.

Approximately 55% of visits were to Pre-Natal, Post-Partum and Newborn cases and others divided between acute illnesses, chronic illnesses and infant and pre-school ailments. Of the total of 22,000 visits, 21,000 were recorded as "free" visits leaving only 1,000 pay, part-pay and contract. Using the income mentioned above it may be calculated that the average "pay" visit was at the rate of $.31.

The visiting nurse has the authority to adjust established rates of $1.50 for the first hour and $1.00 per hour thereafter if conditions warrant such adjustment and in 1945 over 25% of pay cases were so adjusted.

Visits are primarily confined to private homes but in 1945, 871 were made to hospitals, clinics, laboratories, health centers, and day nurseries but in each instance were to individual patients. Pre-natal cases requiring care are referred from Hermann Hospital and Jefferson Davis Hospital to Visiting Nurses Association and it is believed that through such referrals a hardship is worked upon the Visiting Nurses Association.

Pre-natal visits, (averaging less than two per patient by Visiting Nurses Association) and post-partum visits (averaging 3.5 visits per patient) are rightfully the responsibility of a clinically-interested Out-Patient

Department of a good hospital. Interns and Residency training as well as student nurse training is supplemented by such practice.

In 1945 the report of attendance at the well-baby clinics was shown to be 2,954 representing 923 different patients. There were 896 immunizations given under physicians' supervision.

This year it is planned that students enrolled in the Public Health Nursing course of the Incarnate Word College of San Antonio are to become affiliated with Visiting Nurses Association to give them their necessary field experience. This is the first time such an affiliation has been tried and the number of students as well as the length of time each is to spend with the Visiting Nurses Association has not been decided. In the past an instructor from the above mentioned College has annually presented a course of instruction here in Houston for Public Health Nurses interested in what might be termed post-graduate or refresher courses in one particular phase of Public Health work. This year the course to be given is in Maternal and Child Health.

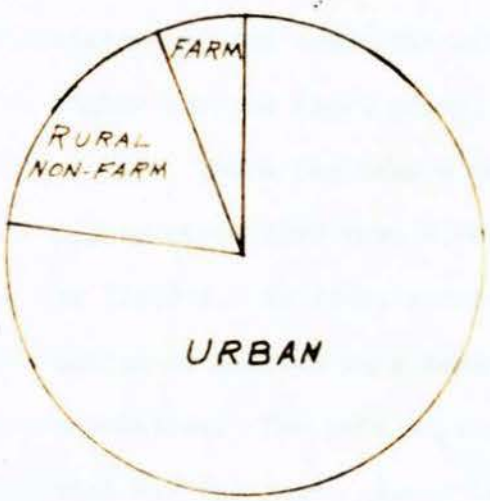
Department of a good hospital. Interns and Residency training as well as student nurse training is supplemented by such practice.

In 1945 the report of attendance at the well-baby clinics was shown to be 2,954 representing 923 different patients. There were 896 immunizations given under physicians' supervision.

This year it is planned that students enrolled in the Public Health Nursing course of the Incarnate Word College of San Antonio are to become affiliated with Visiting Nurses Association to give them their necessary field experience. This is the first time such an affiliation has been tried and the number of students as well as the length of time each is to spend with the Visiting Nurses Association has not been decided. In the past an instructor from the above mentioned College has annually presented a course of instruction here in Houston for Public Health Nurses interested in what might be termed post-graduate or refresher courses in one particular phase of Public Health work. This year the course to be given is in Maternal and Child Health.

POPULATION CHARACTERISTICS
HARRIS COUNTY
1940

URBAN—RURAL

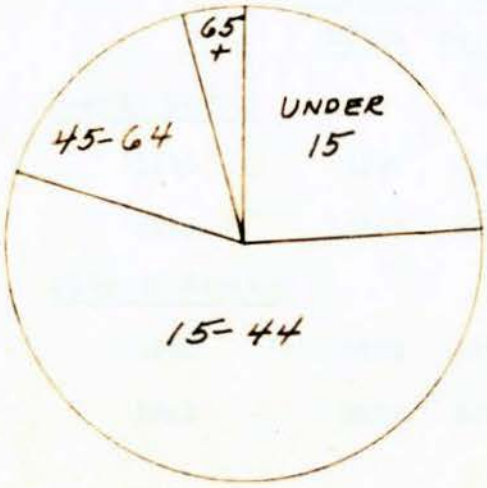


528,961 PERSONS

NATIVITY

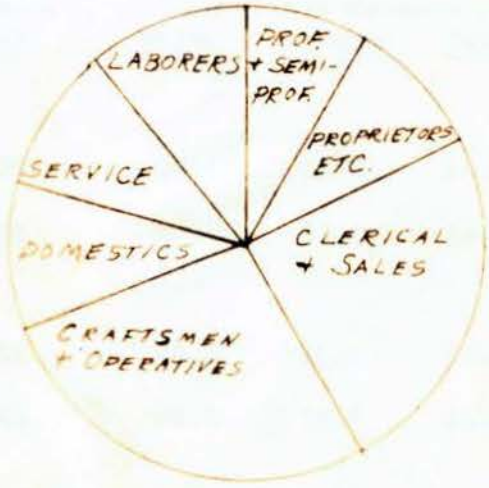
528,961 PERSONS

AGE



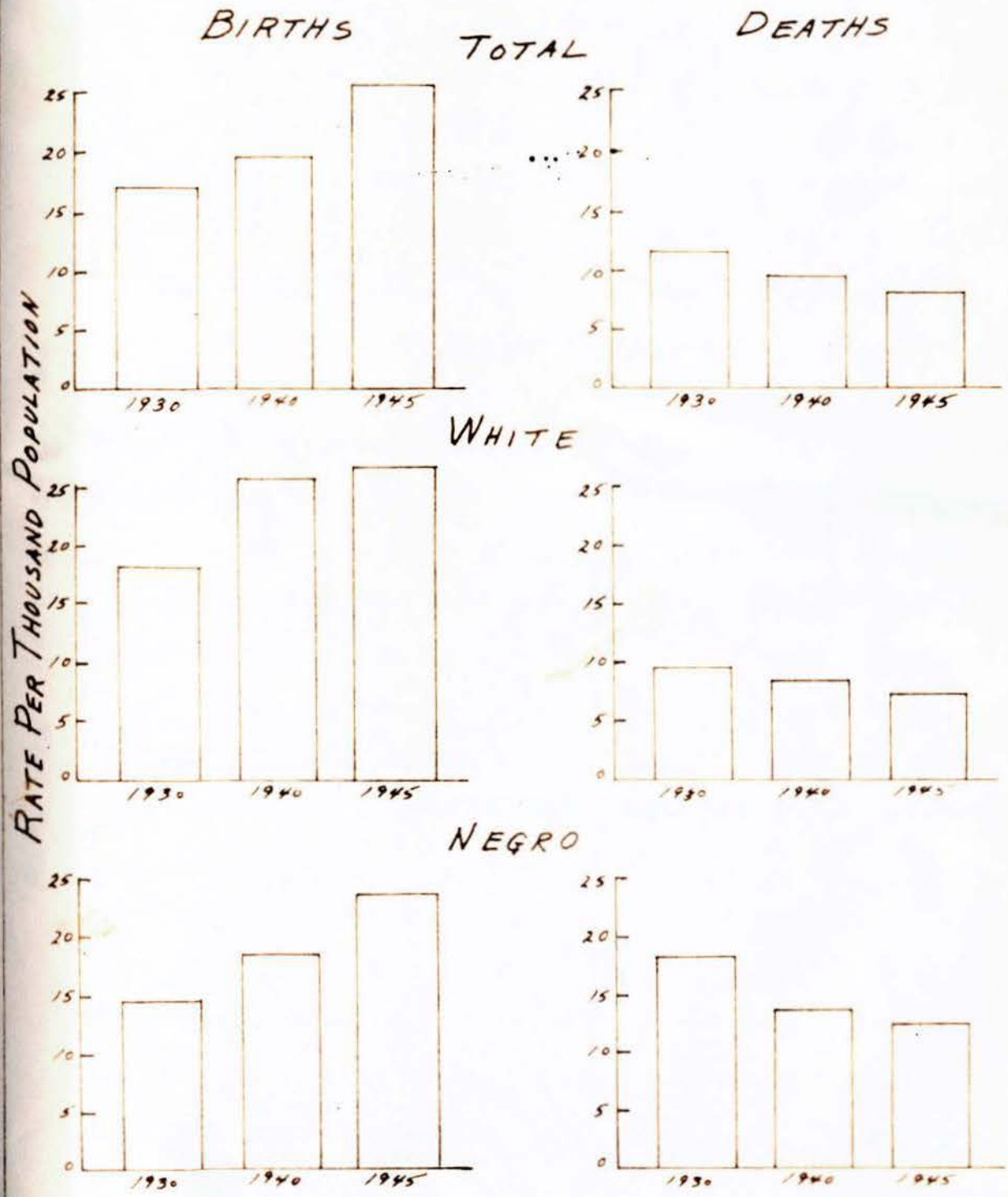
528,961 PERSONS

OCCUPATION

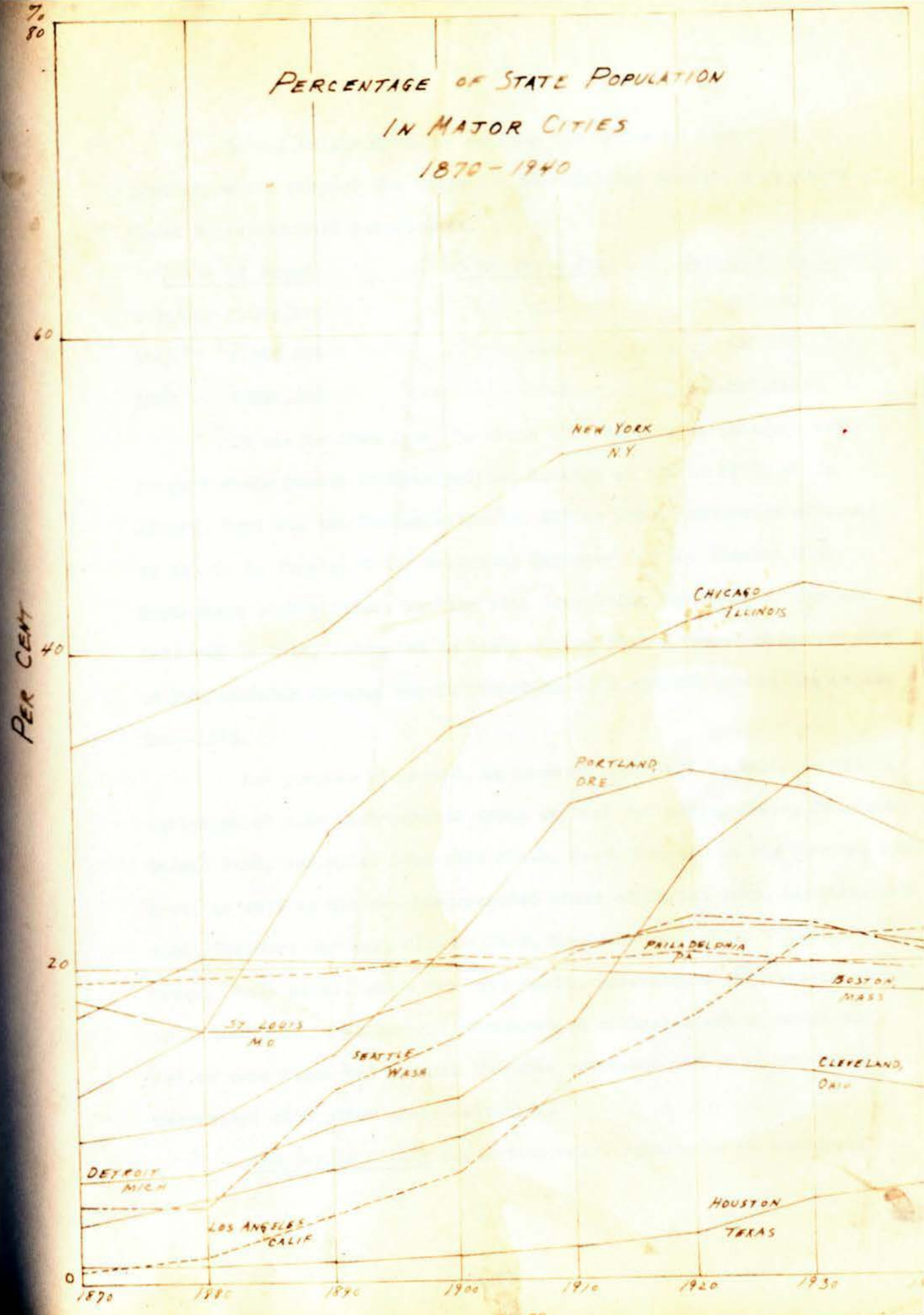


169,161 EMPLOYED PERSONS

BIRTH AND DEATH RATES
HARRIS COUNTY
1930, 1940, 1945



STILLBIRTH, INFANT AND MATERNAL DEATHS
HARRIS COUNTY
1930, 1940, 1945


PERCENTAGE OF STATE POPULATION
IN MAJOR CITIES
1870 - 1940
PER CENT
%
80
60
40
20
0
1870
1880
1890
1900
1910
1920
1930
NEW YORK
N.Y.
CHICAGO
ILLINOIS
PORTLAND
ORE
PHILADELPHIA
PA
BOSTON
MASS
ST LOUIS
MO
SEATTLE
WASH
CLEVELAND
OHIO
DETROIT
MICH
HOUSTON
TEXAS
LOS ANGELES
CALIF

In the following table we show the estimated State population and project the estimated Metropolitan Houston population based on established percentages.

	State Of Texas	% Of State Pop.	Metropolitan Houston
1950	7,126,077	8.0	570,086
1960	7,838,684	11.0	862,255
1970	8,622,552	15.0	1,293,383

It can be seen from the above that we have established the proportionate growth of Metropolitan Houston at 15% in 1970, while Alvord, Burdick, and Howson estimated 18% by 1980. Estimates advanced by Mr. G. L. Fugate, Chief Designing Engineer for the Houston City Department of Utilities, working with Consulting Engineers Horner and Shiffrin in 1942, indicated in their survey that a "reasonable forecast" of Metropolitan Houston population would be 1,000,000 within the decade 1965-1975.

For purpose of record, we deem it important to indicate the inclusion of such incorporated areas as West University Place, Pasadena, Galena Park, Bellaire, Southside Place, South Houston in the Metropolitan Area, as well as the non-incorporated areas of Garden Oaks, Lindale, Oakwood, Kashmere Gardens, Clinton Park, Meadowbrook, Garden Villas, Brookhaven, Shady Acres, and a few very small, undeveloped allotments. It is to be mentioned that several short-ranged estimates coming under our review were discarded because the area covered could in no manner be reconciled with other areas estimated.

The Harris County population only, remains to be measured.

In 1940 the population outside Metropolitan Houston yet with Harris County represented 24% of the Harris County total population and as cited in other sections, this group was showing proportionate loss that seems likely to continue as Metropolitan Houston grows, and through its growth, renders rural property values too high for profitable farming. With this in mind, we show, in the following table, the diminishing percentage of population in other than Metropolitan Houston and the resultant estimated population of Harris County.

	Metropolitan Houston	Added % For Non-Met. Houston	Harris County
1950	570,086	22	695,505
1960	862,255	18	1,017,461
1970	1,293,383	14	1,474,456

Here, we have only the June 30, 1946 composite estimate advanced by the Chamber of Commerce with which to check our efforts and this showed 679,000 as the county population, leaving only a gain of 16,505 over a three year period necessary to render the estimates comparable. We feel that percentages introduced here assure a "factor of safety" in that Non-Metropolitan Houston growth in such areas as Goose Creek, Baytown, Pelly, LaPorte, and Humble may, in part, counter-balance loss in rural areas and therefore render less substantial the losses reflected above.

In conclusion, we might say that through utilization of every known source of information, we confidently believe that Metropolitan Houston will reach a population of one million about 1965 and Harris County will pass the million mark shortly before 1960. These estimates summarized as follows are used elsewhere in our survey in calculations of necessary facilities to be planned for.

	Metropolitan Houston	Non-Metropolitan Houston	Harris County
1950	570,086	125,419	695,505
1960	862,255	155,206	1,017,461
1970	1,293,383	181,073	1,474,456

G -Transportation Facilities

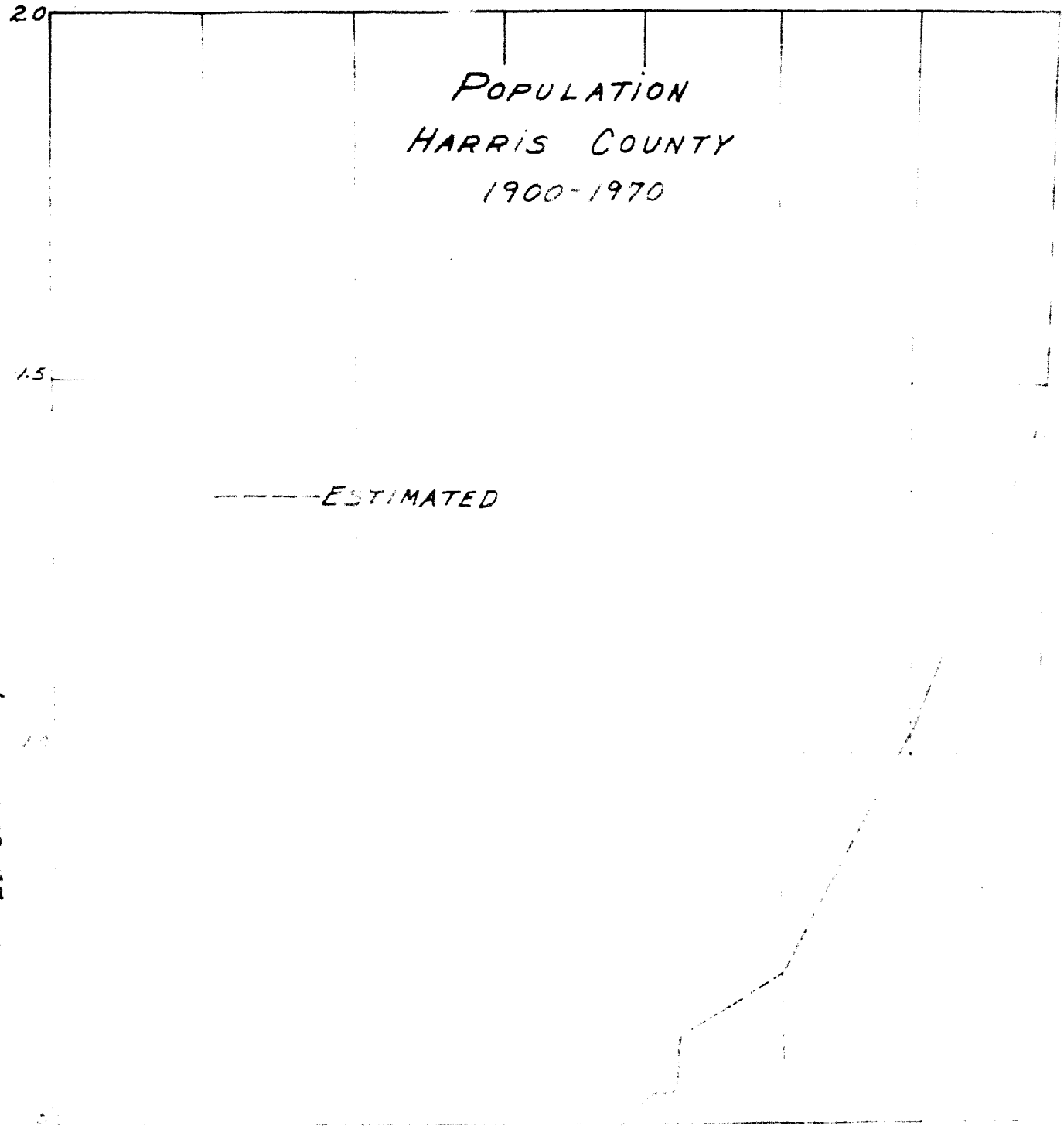
Important to the success of the population and industrial growth of the Area is the continued alertness to problems of travel and transportation. If development of these facilities fails to keep abreast of over-all growth, that growth will cease or be seriously retarded.

Harris County alone with its 1,747 square miles represents a sizable problem in dealing with "accessibility" to hospitals. Add to this the potential drawing-power of a metropolitan medical center upon the outer area and you have a problem which, in itself, would require separate research and survey.

We have listed counties of the Retail Trade Area as used elsewhere in the report and have shown the mileage from that county's principal city to Houston, in order to visualize the scope of the travel problem that some day may face the Center, and even now faces the community. This table appears in Appendix "A" as Exhibit 14.

This places the closest out-of Harris County major town, Rosenberg, Fort Bend County 38 miles away, and establishes Jacksonville, Cherokee County at a distance of 177 miles from Houston.

Serving most of this area and passing or terminating in Houston are 6 Major railway systems composed of 17 separate lines.


POPULATION
HARRIS COUNTY
1900-1970
20
1.5
ESTIMATED

These are shown to be as follows:

Major Railroad Systems

Southern Pacific
Missouri Pacific
Missouri-Kansas-Texas
Burlington
Rock Island
Santa Fe

Dependent Railroad Systems

Missouri-Kansas-Texas to Galveston
Missouri-Kansas-Texas - North to Dallas, etc.
International - Great Northern - to Galveston
International - Great Northern - to Palestine
International - Great Northern - to Freeport
Beaumont - Sour Lake & Western - East
Houston North Shore - to Goose Creek
St. Louis - Brownsville & Mexico - to Rio Grande Valley
Sante Fe - to Galveston and North
Houston - East & West Texas - to Shreveport
Texas & New Orleans - East
Galveston - Houston & San Antonio -to Galveston
Galveston-Houston & San Antonio-to San Antonio & West
San Antonio & Arkansas Pass -to San Antonio
Houston & Texas Central to Fort Worth & Dallas
Burlington-Rock Island - to Dallas & Fort Worth
Rock Island - to Galveston

This network has 66 scheduled passenger train arrivals each day in Houston.

Supplementing the above are several commercial bus lines operating 225 buses in and out of Houston. There are 50 commercial airlines flights daily and there are three international airlines serving the West Indies and South and Central America. This city is internationally served by Braniff Airways, Chicago & Southern Airlines and Pan American Airways System. The city is served nationally by Braniff Airways, Chicago & Southern Airlines, Dal-Air Lines, Eastern Air Lines, Essair Lines and Texas Air Lines. These lines connect with all other major air line systems of the country.

U. S. highways lead out of the city in eleven directions, according to a road map revised by the Chamber of Commerce in June 1946.

H - Hospitals Of The Survey Area

The American Hospital Association Directory* and the Hospital Register of the American Medical Association show Harris County as having nineteen registered hospitals and one related institution**. Of this total, sixteen are located in Houston, two in Goose Creek and one each in Pasadena and Almeda.

For the purpose of our survey, with consideration of time available, the size of the hospital and the adequacy and availability of records, the following were omitted from our efforts toward detailed study:

Home Hospital	23 Beds (Related Institution)
Wright Clinic	28 Beds
Ear, Nose and Throat Hospital	23 Beds
Turner Urological Hospital	17 Beds
Montrose Hospital	35 Beds
Total	126 Beds

*Registration of hospital is governed by the essentials of a registered hospital adopted by the House of Delegates of the American Medical Association as revised in 1939. Registration is a basic recognition extended to each hospital and related institution concerning which American Medical Association has no evidence of irregular or unsafe practices.

**Related institutions include nursing homes, infirmaries, and other institutions designed to give certain medical and nursing care in an ethical and acceptable manner without giving full hospital service.

Also, these non-registered hospitals and clinics were omitted from our study:

Avenue Hospital	12 Beds
Walker Eye, Ear, Nose, Throat	7 Beds
Baytown Hospital	18 Beds
Deaton Hospital	10 Beds
Ilda Memorial	20 Beds
Goose Creek Ear, Nose & Throat	6 Beds
McKay Clinic	4 Beds
Total:	77 Beds

Only in the final projection of hospital needs in relation to population will the 126 beds in registered hospitals not surveyed and the 77 beds in non-registered hospitals be considered.

With these institutions eliminated, we deal in the survey with eleven General Hospitals, one Industrial Hospital, two Nervous and Mental Hospitals, and one Tuberculosis Hospital, of which there is City-County control of two, representing 596 beds; Church control of three with 783 beds; Proprietary control of seven hospitals representing 317 beds; and Non-Profit organization control of three representing 487 beds.

In Appendix "B" we have included a map of the City of Houston divided into nationally recognized "Census Tracts" and thereon we have plotted the locations of 12 Houston hospitals and the present City operated clinics.

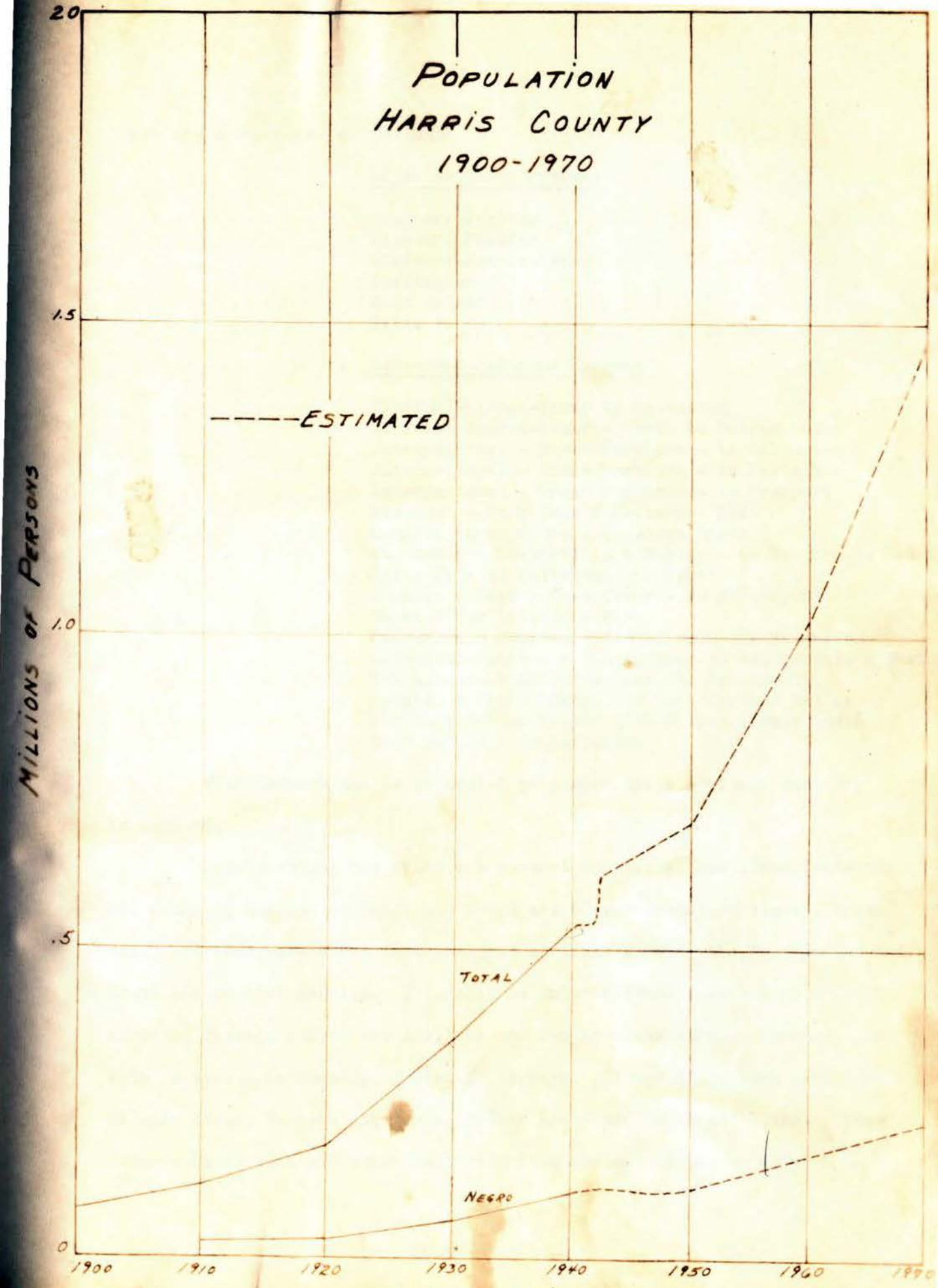
From the center of the Houston Business District, we have inscribed arcs of 1-2-3 and 4 miles and from the location of each general hospital we have also drawn a circle with a radius of one mile.

Each census tract has been shaded in accordance with the "key" shown on the map, so that at a glance, the relation between hospital location and population may be observed. Further study through use of census tract data, reproduced and appearing on Exhibits 1-2 and 3 of Appendix "B", will reveal facts about the characteristics of the population surrounding hospitals and the economic level of such groups.

We realize that hospitals are not "neighborhood" affairs but in a community representing 73 square miles, "accessibility" is a factor.

We believe that this map will tend to bring into "focus" the present "coverage", indicate weaknesses in the "accessibility" and finally suggest modes and methods by which prompt treatment of emergencies, as well as routine "referrals" from isolated areas may be guaranteed.

In Appendix "B" we have included somewhat detailed "Hospital Sketches" on the fifteen hospitals visited and studied, but for our immediate purpose have included at this point very condensed versions aimed at high-lighting characteristics and facilities about which we are most interested. Also in section "B" of the Appendix will be found more lengthy reviews of the activity of the City of Houston Health Department, the Harris County Health Unit, the Houston Anti-Tuberculosis League, the City-County Welfare Board and the Visiting Nurses Association.


POPULATION
HARRIS COUNTY
1900-1970
-----ESTIMATED
TOTAL
NEGRO
MILLIONS OF PERSONS
2.0
1.5
1.0
.5
0
1900
1910
1920
1930
1940
1950
1960
1970

Hospital Bed Requirements
Harris County
1945 - 1970