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.


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 economic factors would indicate that the Survey Area has the potentiality to deserve, appreciate, and support first-class hospitals and health facilities in an amount geared to its population. The County in 1945 expended over 25% of the total retail sales expenditure for the State of Texas, and in the same year registered an "effective buying income" of $3,642 per family.

B - Health Data.

The Vital Statistics of the Area reflect an increase in the ratio of Live Births per 1,000 population (Birth Rate) of 46% in the fifteen year period 1930-1945. The current birth rate of 24.6 may be compared with the State rate of 23.0, and the U. S. rate of 20.9. During the same period the ratio of deaths, excluding stillborn, per thousand population (Death Rate) decreased 26%, and resulted in a 1945 rate (7.9) lower than that for the State of Texas (8.6) and for the U. S. (10.5). Of added significance is the fact that year after year a gradually increasing number of both births and deaths occurred in hospitals until in 1945 the percentages were slightly higher than national averages.

Stillbirth and maternal death rates in the Area reflect progress on both counts, but are high in total as the result of excessive rates among the Negro race. Stillbirth rates (stillbirths per 1,000 live births) for colored were in 1945 three times the rate for white.

In the 15 year period ending 1945 the death rate of infants under one year of age had been decreased 40%, but again the rate among colored infants was two and one-half times that among white infants.

C - Present Hospital Facilities.

The Survey Area has nineteen hospitals and one related institution registered by the American Hospital Association and by the American Medical Association. Sixteen are located in Houston, two in Goose Creek, and one each in Pasadena and Almeda.
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 437 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 internships and for

Abstract I-5
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 internships 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 internships 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-

Abstract I-9
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.

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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.

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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.

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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-

Abstract I-13
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

Abstract I-14
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.


The analysis of requirements and shortages are summarized as follows:

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<tr>
<th>SUMMARY OF BED REQUIREMENTS AND SHORTAGES HARRIS COUNTY</th>
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<tbody>
<tr>
<td>Estimated Beds Required</td>
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<tr>
<td>Estimated Bed Shortage</td>
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<tr>
<td>Acute Diseases</td>
</tr>
<tr>
<td>Tuberculosis</td>
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<td>Communicable Diseases</td>
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<td>Nervous and Mental Diseases *</td>
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<td>Chronic Diseases</td>
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<td>Acute Diseases</td>
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<td>Nervous and Mental Diseases *</td>
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<td>690 800 1,400 2,400</td>
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<td>2,629 2,322 5,206 9,538</td>
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</tbody>
</table>

* Acute short stay only

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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
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
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,
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 neuro-psychiatric 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

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suggested by the Baruch Committee 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

Abstract I-20
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
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
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
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-
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) Internships 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.
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) **Internships and Residencies.** Dental internships 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
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 internships) 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;
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.

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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
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
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.
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
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, internships 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

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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.

II. - 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-
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

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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
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

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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 III - THE TEXAS MEDICAL CENTER

In the past two decades a limited number of medical centers have sprung up in various areas of the country, all seemingly based upon the premise of common support, interest in pooling resources, in sharing facilities, and in exchanging 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. The centers are to be found in large metropolitan areas and in relatively small communities. They are to be found stemming from a single, narrowly controlled organization and also comprised of several, independent and otherwise unrelated organizations. There would seem no hard and fast pattern for organization or development, but all would seem to agree that the keynote is the opportunity of greater community service through cooperative effort.

Without doubt it was the basic values of a center 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. The trustees of this group have done much to pave the way toward its development through conception of the needs of the community and of the Southwest. They have developed interest and support that will be of lasting value, and finally they have envisioned the location and development of a Center in all its ramifications upon which this Study has been superimposed.

A - Bed Requirements.

The bed requirements of the community is but one yardstick by
which the physical scope of the Medical Center can be determined. We were here obliged to rely on allocations based on a desirable concentration of patients for community service as well as for teaching and research; on practical problems of capital finance; and to some extent upon existing patterns.

The 1970 capacity of the Medical Center was recommended to be 5,000 beds. 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 that purpose. Additionally, the 5,000 beds was designed to provide a sufficiently large cross section of patients so that graduate training and research in the specialties, with fewer but adequate patients in each, would be assured the nucleus of their respective program within the Center itself. Naturally, these estimates in the various specialties did not in each instance reflect the same proportion to total acute beds as the formula used in the overall community program would have indicated.

To understand the reason for this apparent "liberty" is to understand the theory of a planned program wherein it is unnecessary that each general hospital fit the overall pattern, that groups of hospitals may even digress, but that the grand total should conform.

For instance, the Medical Center will in all likelihood draw a concentration of certain phases of medical and dental work, but may retain something approximating overall proportion by directing away a portion of the services which have less valuable teaching ramifications. To do this, for the benefit of the community, will require continuous, alert policy control and emphasize public education.

We estimated that the 1950 bed requirement for the Center should be 2,500, increasing to 4,000 by 1960, and reaching 5,000 in 1970,
and we have elaborated upon the type of medical and dental service contributing to the total 2,500 both from the standpoint of patient need and from the standpoint of undergraduate training.

**TEXAS MEDICAL CENTER BED REQUIREMENT**

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: 25, 35, 50

2. **Contagious**
   - Tuberculosis: 250, 400, 400

3. **Tuberculosis**
   - 250

4. **Psychiatric**
   - 100

5. **Chronic**
   - 250

**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

With full consideration of the present building plans, we judge a deficit in the Center of 1,036 beds existing in 1950, shortages in all phases of care except tuberculosis, with major shortages in acute care (other than obstetrics), in pediatric care and in chronic care. Even in the face of what must appear to be generous building programs, we are recommending that consideration be given to increased effort toward enlargement. The three general hospitals with plans still in the formative stage are urged to consider an increase to 500 beds each either in their present development or early future. If this is not feasible, one or two additional hospitals should be sought to locate in the Center.

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If this could be accomplished, and the Children's Hospital mentioned earlier in the discussion, as well as a unit for chronic care, could become a realization, the overall patient needs would be met.

We wish to point out that the acute bed shortage in the Center in 1950 totals 664, while the shortage in the total community of acute beds only amounted to 360. Although this shortage seems disproportionate, we establish the need on the premise that major emphasis and impetus should be directed to the Center upon its inception.

**TEXAS MEDICAL CENTER BED REQUIREMENT AND SHORTAGE**

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<td><strong>1,036</strong></td>
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</tbody>
</table>

We are recommending a central out-patient unit, which has been proposed already by local groups, as an excellent, in fact highly essential, centralization guaranteeing the highest quality of community service and the maximum use of clinical teaching material available.

**B - Bed Requirements for Educational Purposes.**

In general, the original building programs plus the expansions suggested above, although meeting patient needs, fall somewhat short of meeting the teaching requirements of the medical undergraduate school which are the largest. Applying the previously conceived ratio of 20% of total beds available to the proposed Methodist and St. Luke's hospitals, the result so obtained plus the total capacity of the present Hermann Hospital gives us a total of 404 undergraduate teaching beds. By using 100 of the recommended 200 bed Children's Hospital, by establishing an allowance of 50 beds from the recommended 250 bed Chronic Hospital, 50 beds
from the proposed City Tuberculosis Hospital, and 200 beds of the proposed M. D. Anderson Cancer Hospital, as well as 20% of the beds resulting from the proposed expansion of the three general hospitals, there will be available in 1950 approximately 920 teaching beds.

It is 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, which normally does not include such beds in its requirements. From this it is apparent that Baylor University must continue for the next few years to conduct training programs in hospitals of the City, as at present, or diminish its student body. The general clinical material available at Jefferson Davis, the obstetrical material available at St. Joseph's, and the additional material to be offered by Memorial Hospital participating in the educational program of the Center would seem adequate to meet the needs. However, some adjustment of professional staff organizations in these hospitals will be necessary, particularly at Jefferson Davis.

Centralizations

Each of the organizations which comprise the Medical Center are completely autonomous and their units are to be independently owned and operated. However, the unity of major purposes and the proximity of physical location make it advisable to consider a number of joint enterprises or centralizations. 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.

In abstract, 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. An Out-Patient Department, including complete clinics and a central medical record department for statistical analyses, should be owned and operated by The Texas Medical Center. Professional control should be vested in the Baylor University College of Medicine and the University of Texas Dental School. The operating expenses should be shared proportionately by the participating hospitals, the city government, and the Community Chest. Not only will it fill a community need with an improved out-patient service, permit the establishment of a sound professional policy, and guarantee the maximum use of available clinical material for teaching; but it will also save capital investment and operating expense.

2. A Central Laundry and Linen Service, adequate to serve all units located in the Medical Center, should be owned and operated by the Medical Center with the charges for usage to all units on a cost basis. Not only should this result in improved service at lower operating costs; but valuable space now planned in the separate units can be freed and distinct savings can be realized in the capital outlay necessary to equip one laundry instead of several.

3. A Central Maintenance of Buildings and Grounds Service, adequate to serve all units, should be owned and operated by the Medical Center with the charges for service to all units on a cost basis. 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.
If agreement can be reached between the various organizations before construction on uniform standard specifications of fixtures and major equipment, as well as mechanical and electrical installations, considerable savings can be made in future maintenance expense.

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.** As the Medical Center units pass their early stages 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. The service could be operated by the Medical Center. Its cost would be relatively small and could be pro-rated over the supplies used by each unit.

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 pro-rated by payroll per unit or service secured.

7. _Central Public Relations Service_. The public relations aspects of a project as major as this in the health life of this community is 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 for greater public information. Normally, a medium sized hospital cannot afford full-time public relations services of adequate calibre. However, the grouping at the Medical Center affords an unusual opportunity to organize a constructive and continuous program, jointly, which will be helpful not only to the whole but each individual unit as well. This service should be operated by the Medical Center with a pro-rating of the costs to the individual agencies and to the Center itself.

8. _Pharmaceutical Manufacturing Unit_. There are many non-biological preparations used in hospitals which can be manufactured in bulk with improvement in quality and considerable savings in expense. Only one unit in the Medical Center will have volume enough to warrant the investment in equipment and personnel to justify such endeavors. By combination, all could share in this economy, resulting not only in routine compounding of medications but in the manufacture of sterile solutions as well. This more than self-supporting unit should be operated by the
Medical Center as part of its Out-patient Department Building and should be used as a teaching center for hospital pharmacists.

9. - Central Dining Service. Over seven thousand students, personnel and visitors will be partially dependent for meals upon the locality of the Medical Center. Some of this service is and must be planned to be furnished by the hospitals located within the Center. However, a great deal is likely to be left to chance and will be met by commercial firms in a manner entirely incompatible with needs and associated conditions. Moreover, three trends are noticeable in present hospital practices with greater satisfaction to personnel:

(a) A genuine interest to alleviate institutionalism;
(b) An effort to discontinue the "Planned meal" system; and
(c) The replacement of perquisites in the form of meals by cash in the payment of personnel wages.

It is recommended, therefore, that:

(a) Each unit keep to a minimum its dining service and kitchen facilities; and
(b) The Medical Center operate a central restaurant which would furnish meals on a low-profit or cost basis to those connected with participating agencies.

10. - Communications 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.

11. - Organization. Insofar as the agencies which comprise the Medical Center are independently operated and the desirable above 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 abstract 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)

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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 25,000 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. An administration building should be located in the Medical Center to house the main offices of The Texas Medical Center, the central purchasing, personnel and public relations offices (see III, C, 5, 6, 7) and the administrative offices of certain community health agencies.

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).

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 or Nursing, and for those assigned from other schools to the special hospitals which are located at the Medical

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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 of the hospitals 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, postgraduate students, technicians, et cetera, actively engaged in the Medical Center. We recommend such a development in dormitory, single and multiple units, available on a rental or lease basis commensurate with the earning power of the lessor.

20. - Central Restaurant (see III, C, 9).
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 fellow-
ships 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 facili-
ties available for the instruction of skilled hospital personnel other
than medical and nursing groups.

14. That as many hospitals as possible introduce tuberculosis case find-
ing routines on all patient admissions.

15. That designated hospitals assume responsibility for the rapid treat-
ment 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

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 360 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.


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 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 1/3 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

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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,

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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.
61. That every effort be made to correlate the interests and resources of
the Arabia Temple Crippled Children's Organization and the Bureau of Men-
tal 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, hos-
pitals be encouraged to establish teaching programs among private and semi-
private patients, after proper indoctrination of the students and the re-
spective medical staffs.
64. That a complete program of post-graduate training in medicine and
dentistry be developed at The Texas Medical Center.
65. That intern 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 coopera-
tion 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 Cen-
ter.
68. That a School of Public Health be established at the Medical Cen-
ter.
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.
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.

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

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.

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.

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.

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.

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.

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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
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-
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
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
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).