I - Deaths from Chronic Diseases

The five leading causes of death in the State of Texas in 1945 were chronic diseases. They included heart disease, cancer, "apoplexy", nephritis, and tuberculosis. Added together, they accounted for 347 deaths for every 100,000 persons in the population. If we add to them those attributed to "senility" the total is 362 per 100,000 population. These rates, applied to the estimated population of Harris County, indicate that there were approximately 2,400 deaths due to these six causes in Harris County during 1945.

The death rates of the major chronic diseases have been climbing steadily. In the decade from 1935 to 1945, deaths from heart disease in the State of Texas rose from 151 per 100,000 population to 192. Cancer increased from 68 to 88. "Apoplexy" rose from 64 to 74. Loss of life measures only one part of the toll taken by the chronic diseases, however. Weeks, months, or years of invalidism preceding death characterize them. They kill slowly, with extended periods of helplessness for the patient, and of physical and financial burdens for those charged with his care. Some of the chronic diseases rarely kill. This is particularly true of arthritis. It frequently cripples in early adult life, leaving the patient dependent upon others for care. These patients, and those suffering other forms of crippling and severe physical impairments, are not reflected in the death rates. They constitute a considerable part of the population, however, for whose care some provision must be made.

II - Extent of Chronic Illness in Houston and Harris County

It is estimated that there are in Harris County, as of June 30, 1946, at least 114,000 persons suffering some degree of handicap as a result...
of chronic illness or severe physical impairment. Of these, approximately 7,000 are invalids.* The chronic diseases like other forms of illness are no respecters of persons. They strike rich and poor; men, women, and children.

Approximately three-fourths of all invalids in Harris County are under 65 years of age, the majority of them falling within the age groups between 35 and 65. There are slightly more invalids under the age of 35 than there are over the age of 65. More specifically, it is estimated that of the 7,000 invalids in Harris County, approximately 25% are under the age of 35; about 50% are between 35 and 65 years of age; and the remaining 25% are 65 and over. Figures are not available on which to base a detailed breakdown of the age distribution of persons suffering from, or invalided by, chronic diseases as of 1946. The age distribution of these patients as of the 1940 census, however, is shown in Tables I and II.

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

**ESTIMATED NUMBER OF PERSONS HAVING SOME CHRONIC DISEASE OR PERMANENT IMPAIRMENT, HARRIS COUNTY, TEXAS (1) 1940**

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Population</th>
<th>Rate per 1,000</th>
<th>Number of Persons Affected</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Ages</td>
<td>528961</td>
<td>168.16 (2)</td>
<td>88940</td>
</tr>
<tr>
<td>Under 5 years of age</td>
<td>41816</td>
<td>34.2</td>
<td>1430</td>
</tr>
<tr>
<td>5 - 14 years</td>
<td>82134</td>
<td>68.3</td>
<td>5610</td>
</tr>
<tr>
<td>15 - 24</td>
<td>94882</td>
<td>82.9</td>
<td>7866</td>
</tr>
<tr>
<td>25 - 34</td>
<td>113399</td>
<td>159.2</td>
<td>18053</td>
</tr>
<tr>
<td>35 - 44</td>
<td>89770</td>
<td>221.0</td>
<td>19839</td>
</tr>
<tr>
<td>45 - 54</td>
<td>55260</td>
<td>273.4</td>
<td>15108</td>
</tr>
<tr>
<td>55 - 64</td>
<td>30000</td>
<td>314.3</td>
<td>10329</td>
</tr>
<tr>
<td>65 - 74</td>
<td>16053</td>
<td>467.1</td>
<td>7498</td>
</tr>
<tr>
<td>75 and over</td>
<td>5647</td>
<td>567.9</td>
<td>3207</td>
</tr>
</tbody>
</table>

(1) Estimates based on rates established by United States Public Health Service National Health Survey, applied to 1940 census.

(2) National Health Survey figure for all ages in United States as a whole is 177. Adjustment for differences in age distribution of population between Harris County and U. S. as a whole gives Harris County a rate for all ages of 168.16.
TABLE II

ESTIMATED NUMBER OF INVALIDS IN HARRIS COUNTY, TEXAS 1940 (1)

<table>
<thead>
<tr>
<th>ALL AGES</th>
<th>Population</th>
<th>Rate per 1,000</th>
<th>Estimated Number of Invalids</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under 5 years</td>
<td>41,816</td>
<td>1.9</td>
<td>79</td>
</tr>
<tr>
<td>5 - 14 years</td>
<td>821,34</td>
<td>3.1</td>
<td>255</td>
</tr>
<tr>
<td>15 - 24</td>
<td>91,882</td>
<td>4.5</td>
<td>427</td>
</tr>
<tr>
<td>25 - 34</td>
<td>113,399</td>
<td>5.6</td>
<td>635</td>
</tr>
<tr>
<td>35 - 44</td>
<td>89,770</td>
<td>10.4</td>
<td>934</td>
</tr>
<tr>
<td>45 - 54</td>
<td>55,260</td>
<td>15.7</td>
<td>868</td>
</tr>
<tr>
<td>55 - 64</td>
<td>30,000</td>
<td>27.8</td>
<td>834</td>
</tr>
<tr>
<td>65 - 74</td>
<td>160,53</td>
<td>53.5</td>
<td>859</td>
</tr>
<tr>
<td>75 and over</td>
<td>56,47</td>
<td>93.1</td>
<td>526</td>
</tr>
</tbody>
</table>

(1) Estimates based on National Health Survey rates applied to 1940 census figures.

(2) N. H. S. figures for all ages for U. S. as a whole is 11.4. Adjustment for differences in age distribution of the population between Harris County and the U. S. as a whole shows rate of 10.24 for all ages in Harris County.
It is strongly to be hoped that successful efforts will be made to counteract the persistently upward trend in the amount of chronic illness and invalidism. There are two chief factors which explain this upward trend: (1) the increasing age of the population plus the higher incidence of the chronic diseases in the upper age groups; and (2) the steadily increasing rates of illness and death from heart disease, other circulatory disorders, cancer, and crippling arthritis. Little can be done directly to change the first of these. The hope for control of the problem must, therefore, lie in efforts to prevent and control the specific diseases. How much can - and will - be accomplished in this direction in the immediate future is problematical. It may be that during the next 25 years much will be accomplished. It is to be hoped that between now and 1970 there will be at least enough progress in control of these diseases to counteract the other factors which tend to increase the amount of chronic illness and invalidism. Assuming that this occurs and the incidence of invalidism remains approximately at its present level, Harris County may still anticipate marked increases in the number of invalids needing care. The rapid increase in population of the county will bring increasing numbers of invalids. The estimated numbers of invalids in the county for the decades 1940 to 1970 are shown below:

<table>
<thead>
<tr>
<th>Year</th>
<th>Estimated Population</th>
<th>Estimated Number of Invalids</th>
</tr>
</thead>
<tbody>
<tr>
<td>1940</td>
<td>528,961</td>
<td>5,417</td>
</tr>
<tr>
<td>1950</td>
<td>695,505</td>
<td>7,122</td>
</tr>
<tr>
<td>1960</td>
<td>1,017,461</td>
<td>10,419</td>
</tr>
<tr>
<td>1970</td>
<td>1,474,456</td>
<td>15,098</td>
</tr>
</tbody>
</table>
III - Diagnostic Distribution

It is assumed that the diagnostic distribution among invalids in Harris County does not differ greatly from that established by the National Health Survey for the United States as a whole. On this basis, it is estimated that there are in the county about 5,300 persons who may be classified as permanent invalids. In addition, there are about 1,700 persons living as invalids whose condition may be subject to considerable improvement or cure. It is significant that in about 24% of all persons living as invalids, the invalidism is reported due to conditions which ordinarily need not cause permanent helplessness. More than 8% of all invalids report their invalidism due to vague and ill-defined conditions which strongly suggest a need for better diagnostic service. A review of records of causes of death indicates that this proportion may be even higher in Texas than for the country as a whole. In 1945 the reported causes of death in the State of Texas included "senility" as one of the eight leading causes of death. "Senility", when listed as a cause of death, is certainly a vague term. There are few other states in which this is still reported as a cause of death in so high a proportion of cases. It appears to reflect a real need in Texas for more accurate diagnosis and reporting. Certainly there can be little hope of prevention and control of the chronic diseases without accurate diagnosis.

The remainder of the 24% of potentially hopeful cases of invalidism is made up of a wide variety of other conditions. They include diabetes, asthma, hernia, "anemia", bronchitis, goiter, sinusitis, hemorrhoids, and other similar conditions.

The estimated diagnostic distribution of invalids in Harris County is shown in detail in Table III.
TABLE III

DIAGNOSTIC DISTRIBUTION ESTIMATED NUMBER OF INVALIDS IN HARRIS COUNTY
AS OF JUNE 30, 1946

<table>
<thead>
<tr>
<th>Condition</th>
<th>Per cent of Total Cases</th>
<th>Estimated Number of Cases Harris Cty.</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOTAL</td>
<td>100</td>
<td>7000</td>
</tr>
<tr>
<td>Orthopedic Handicaps, Blindness and Deafness</td>
<td>24.7</td>
<td>1729</td>
</tr>
<tr>
<td>Nervous and Mental (not including long-term institutional cases)</td>
<td>18.2</td>
<td>1274</td>
</tr>
<tr>
<td>Rheumatism and Arthritis</td>
<td>10.0</td>
<td>700</td>
</tr>
<tr>
<td>Heart Diseases</td>
<td>9.8</td>
<td>686</td>
</tr>
<tr>
<td>Vague and ill-defined diseases</td>
<td>8.13</td>
<td>569</td>
</tr>
<tr>
<td>Tuberculosis (not including long-term institutional cases)</td>
<td>5.3</td>
<td>371</td>
</tr>
<tr>
<td>Arteriosclerosis and Hypertension (including cerebral hem. and resulting paralysis)</td>
<td>4.1</td>
<td>287</td>
</tr>
<tr>
<td>Diabetes</td>
<td>2.32</td>
<td>162</td>
</tr>
<tr>
<td>Nephritis and other Kidney Disorders</td>
<td>2.1</td>
<td>147</td>
</tr>
<tr>
<td>Asthma</td>
<td>2.0</td>
<td>140</td>
</tr>
<tr>
<td>Cancer and Other Tumors</td>
<td>1.9</td>
<td>133</td>
</tr>
<tr>
<td>Diseases of Female Organs</td>
<td>1.25</td>
<td>88</td>
</tr>
<tr>
<td>Chronic Diseases of the Eye</td>
<td>1.14</td>
<td>80</td>
</tr>
<tr>
<td>Diseases of Gall bladder and Liver</td>
<td>1.09</td>
<td>76</td>
</tr>
<tr>
<td>Hernia</td>
<td>1.08</td>
<td>76</td>
</tr>
<tr>
<td>Ulcers of Stomach and Duodenum</td>
<td>1.08</td>
<td>76</td>
</tr>
<tr>
<td>Anemia</td>
<td>.87</td>
<td>61</td>
</tr>
<tr>
<td>Diseases of Skin</td>
<td>.64</td>
<td>45</td>
</tr>
</tbody>
</table>

(1) Figures based on National Health Survey rates.
### Table

<table>
<thead>
<tr>
<th>Condition</th>
<th>Per cent of Total Cases (1)</th>
<th>Estimated Number of Cases Harris Cty.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chronic Bronchitis</td>
<td>.62</td>
<td>43</td>
</tr>
<tr>
<td>Diseases of Bladder and Urethra</td>
<td>.60</td>
<td>43</td>
</tr>
<tr>
<td>&quot;Other&quot; Diseases of Circulatory System</td>
<td>.59</td>
<td>41</td>
</tr>
<tr>
<td>Goiter and Other Thyroid</td>
<td>.56</td>
<td>39</td>
</tr>
<tr>
<td>Varicose Veins</td>
<td>.42</td>
<td>30</td>
</tr>
<tr>
<td>Diseases of Prostate and Male G.U.</td>
<td>.31</td>
<td>22</td>
</tr>
<tr>
<td>Chronic Tonsillitis and Other Throat</td>
<td>.26</td>
<td>18</td>
</tr>
<tr>
<td>Sinusitis</td>
<td>.24</td>
<td>17</td>
</tr>
<tr>
<td>Hemorrhoids</td>
<td>.20</td>
<td>14</td>
</tr>
<tr>
<td>Chronic Disease of Ear</td>
<td>.18</td>
<td>13</td>
</tr>
<tr>
<td>Chronic Pleurisy</td>
<td>.17</td>
<td>12</td>
</tr>
<tr>
<td>Chronic Appendicitis</td>
<td>.12</td>
<td>8</td>
</tr>
</tbody>
</table>

(1) Figures based on National Health Survey rates.

**IV - Facilities and Services Needed for Prevention and Control of the Chronic Diseases and the Care of Patients Disabled by Them.**

The rapidly increasing numbers of invalids requiring care is a matter for serious concern in Houston, as it is in other communities everywhere. More and better facilities for long-continued care of permanent invalids are urgently needed. They must be provided. It is not enough, however, to attempt to meet the problem by this means alone. Vigorous efforts should be made to prevent and control the diseases which cause it. The problem is not an inevitable concomitant of the increasing life span. To a very great extent it can - and should - be controlled.

Bringing into reality the practical activities needed to control the chronic diseases will not be easy. Arthritis, heart disease, cancer,
arteriosclerosis, circulatory diseases and the other chronic diseases will not be brought under control overnight. This fact, however, only increases the importance of prompt planning and action to this end. An effective plan to meet the problems of chronic illness must include well-coordinated activities in at least two broad fields:

A. the prevention and control of the chronic diseases and of the invalidism associated with them; and

B. provision for continuing care of patients for whom prevention and control are no longer possible. Specifically, an effective program should include at least the following activities:

1. **Medical Research** into the causes and methods of prevention and treatment of the various particular chronic diseases, especially arthritis, heart diseases, arteriosclerosis, hypertension, cancer and "senility". This should include both research in the basic sciences and clinical research.

2. **Social and Economic Research** into the causes, and methods of prevention and relief, of factors other than physical damage which contribute to invalidism. This should include investigation into the possibilities of rehabilitation, selective placement of handicapped people in industry, etc.

3. **Professional Education** which will assure a supply of professional personnel competent to meet the problems of prevention and control of the chronic diseases and the care of patients disabled by them. This should include physicians, nurses, public health personnel, nutritionists, and diet therapists, occupational therapists, physical therapists, social workers, hospital administrators, and other professional persons needed to provide the various services required.

4. **Health education** on a mass basis, directed toward educating
people on nutrition and other aspects of health promotion; and including information which will promote early recognition of disease symptoms and prompt seeking of competent medical attention.

5. Public health services including good vital statistics; well-balanced administration of public health services to take into account the chronic diseases as well as the control of communicable disease, infant welfare services, etc. These should include consistent activities which will keep the public intelligently informed on the nature and type of health problems in the community, including the chronic diseases. They should also include effective licensing, registration, and other means of control over the quality of professional personnel offering services to the sick; and of institutions including hospitals, nursing homes, sanatoria, homes for the aged and other places offering shelter and care.

6. Provisions for meeting the costs of care for persons unable to do so from their own resources. Public assistance programs, voluntary welfare agencies, "free" and "part pay" medical services, should be adequate to assure that no one in the community will be unable to obtain promptly — and whenever needed — the medical services, hospital care and other attention necessary for

(a) prevention or early detection of disease.
(b) diagnosis and treatment of existing illness.
(c) rehabilitation, including partial or complete restoration of physical function which may have been lost or damaged.
(d) control of the progress of disease and prevention of further disability.
(e) relief of pain.

7. Diagnosis and treatment adequate in quality and amount to
meet the needs of all persons in the community, including early detection of disease, and prompt diagnosis and treatment. These should include adequate provisions for:

(a) physicians' services including the specialties.
(b) nursing service including the services of competent practical nurses as well as registered nurses.
(c) hospitals for the chronically ill.
(d) laboratory and X-ray services and equipment.
(e) medications and prosthetic and therapeutic appliances.
(f) dental care.
(g) services of nutritionists and diet therapists for instruction of patients as well as management of diets in hospitals and institutions.
(h) occupational therapy.
(i) physical therapy.
(j) social case work services.

8. Rehabilitation services comprehensive in scope and constructive in approach. They should include well-coordinated services for:

(a) physical restoration.
(b) education of the patient in how to care for his personal needs and live intelligently with his handicap.
(c) instruction in performance of useful work.
(d) vocational guidance.
(e) selective placement in industry.

The services should be available to all who can benefit from them and should not be limited to persons who can become fully self-supporting. They should include such services as instruction of handicapped women in the performance of household duties and education of parents of handicapped children in how
to meet their needs constructively.

9. Facilities and services for care of permanently disabled patients. These should include services to help families caring for patients in their own homes; and community facilities for care of patients who cannot remain in homes of their own. Adequate provision should be made in both groups for all patients needing care, regardless of economic status. It is usually preferable for the same agencies and institutions to serve both rich and poor. The costs of care for the poor can be met from public funds while payment is made from their own resources by patients able to pay for their care. Services for patients in their own homes should include:

(a) physicians' services.
(b) nursing services by visiting nurses, and also registries and other means by which families can obtain part-time or full time service from both registered and competent practical nurses.
(c) services of other specialists on a visiting or part-time basis, including nutritionists and diet therapists.
(d) housekeepers.
(e) occupational therapy.
(f) physical therapy.
(g) social case work.
(h) religious activities.
(i) rehabilitation, particularly instruction of patients in how to live with their handicaps.
(j) recreation.

Facilities for the care of patients outside of their own homes will include nursing homes, units for long-term care affiliated with general hospitals;
infirmary units in homes for the aged; etc.

10. **Coordination of facilities and services** with adequate provision for maintaining accurate information on the nature and extent of community needs; gaps and overlapping in services; and community attitudes. Provision should be included for a central place where persons needing care can obtain reliable information on how and where to obtain it.

V - Existing Facilities and Services in Houston and Harris County

A. Medical Research

The research being carried on in the M. D. Anderson Hospital for Cancer Research should be a matter of pride to the community and to the State of Texas. The volume is not yet large. It offers an example, however, of comprehensive planning. And it demonstrates excellent coordination between research activities in the basic sciences and clinical research.

The clinical records are comprehensive, complete, well-organized, and accessible. The value of medical records of this type in clinical research is very great. Incomplete, poorly organized, or inaccessible records are among the greatest single obstacles in the way of good clinical research. They seriously discourage attempts at research even when they do not make it completely impossible.

If present plans materialize, the M. D. Anderson Hospital for Cancer Research should offer an outstanding example of what can be accomplished in this field. The proposed new hospital building, and the inclusion of a unit for terminal care of advanced cancer patients, will provide opportunities for continuous observation of patients from the beginning to the end of the disease process. Patients - and the progress of their disease - can be traced from the "pre-clinical" stages when they appear in the cancer detection clinic, through the various forms of treatment, and through the termin-
al illness. This offers extremely valuable opportunities for comprehensive clinical records and research. Too often, the research values are overlooked in patients who have passed the point where prevention and cure are possible. If facilities for the terminal care of cancer patients are included in the M. D. Anderson Hospital - or in close affiliation with it - Houston will have one of the few institutions in the country where such comprehensive research is possible.

It is unfortunate that very little medical research is being done in Houston on diseases other than cancer. Research is urgently needed in the fields of arthritis, circulatory disorders, arteriosclerosis and other chronic diseases. The research opportunities in the general hospitals are considerable. Very little use is being made of them, however. No research activities of any kind are being carried on in the 30 or more homes and institutions devoted to the long-term care of patients suffering from chronic diseases. It is to be hoped that, as the Baylor University Medical School becomes better established in Houston, medical research in the chronic diseases will be more fully developed. It is possible, also, that the Houston Academy of Medicine might offer additional stimulus and leadership in the development of research. Certainly there is urgent need for greater use of the opportunities for medical research - particularly clinical research - which are available in Houston.

B. Social and Economic Research

No indications were found, in the course of this survey, of any active efforts to discover and deal with the social and economic factors which contribute to invalidism. There is a definite distinction between the existence of a chronic disease and invalidism. One patient may have extensive physical damage and still remain on his feet, caring for himself and perhaps even contributing to his own support. Another patient with
identical physical pathology may take to his bed, becoming and remaining a helpless invalid. There is great need for clarification of the specific factors which result in these very different reactions to the illness. There is also need for investigation which will demonstrate methods by which invalidism can be prevented or relieved. Work done during the war in the Army Air Forces Convalescent Centers and elsewhere has demonstrated enormous possibilities for overcoming the handicaps of illness and loss of physical functions. More research on these factors is needed, however. It will require skilled service and money. There is a tremendous possibility here, however, for discovering ways in which to lighten the burdens of chronic illness, both for patients and their families and for the community.

The public assistance agencies are supporting large numbers of families in which the need for assistance is based upon the invalidism of the breadwinner. There are excellent opportunities in this group for study of the nature of invalidism and the factors which contribute to it. Research opportunities on this subject undoubtedly exist also among the ill and handicapped people served by the State Commission for the Blind, the Harris County Association for the Blind, and the Houston Training School for the Negro Blind; the School for Spastic Children; the Anti-Tuberculosis League; the Goodwill Industries; the Crippled Children's Division, State Dept. of Education; and the Rehabilitation Division of the State Board of Vocational Education. There are excellent opportunities in the convalescent home operated by the Houston-Harris County Board of Public Welfare. Studies might also be carried on in the other institutional facilities offering care for "incurable" patients.

Investigation by industry of the possibilities for greater use of handicapped persons is needed. There is also need for further investigation of the possibilities for selective placement in employment of people handi-
capped by chronic illness or impairment.

Undoubtedly, some testing of the possibilities for preventing and controlling invalidism is being done on a trial and error basis in some of the agencies. It does not appear to be consciously planned and coordinated, however.

The development of a Rehabilitation Center was suggested in Houston some time ago. It does not seem to have had wide-spread interest or support. Such a unit might well be a center of research in this field and a stimulus to other groups. Before it can be achieved, however, much activity may be needed to awaken the community to the need and possibilities. Significant numbers of young adult handicapped people are merely left to exist indefinitely in the homes and institutions in the community. More complete investigation of the possibilities for enabling them to do more to care for themselves should be made. There were some indications that one reason why there is not more activity of this kind is that the community is too prone to accept invalidism as being inevitable in the presence of chronic illness or physical impairment. Public education is urgently needed to overcome this fatalistic attitude toward the problem.

C. Professional Education

Facilities for education of physicians and nurses are discussed elsewhere in this report. No elaboration is needed here except to point out the unused educational opportunities in relation to the chronic diseases. There are no provisions in any of the homes and institutions caring for chronically ill patients for activities of any kind in the education of professional personnel. The five leading causes of death in Texas are chronic diseases. Care of patients suffering from chronic illness absorbs a very large proportion of the total medical and nursing service in the community. These patients constitute a heavy proportion of the phys-
cian's practice. Yet little, if anything, is being done in the education of interns, residents, and nurses to prepare them for this work. This is one of many valid arguments against the exclusion of the care of long-term patients from general hospitals. The large numbers of deaths reported in the State as due to "senility", with no clearer explanation of the actual causes of death, is evidence of the need for more effective education of physicians in dealing with the chronic diseases.

Houston at present has practically no facilities for the education of dietitians, occupational therapists, physical therapists, social workers, administrators of hospitals or institutions for the chronically ill, public health personnel, or persons skilled in rehabilitation. All of these specialists are essential if there is to be an effective attack on the problems of chronic illness. Not only are there no schools of this type in Houston, there are none nearby. New Orleans and St. Louis are the nearest educational centers for most of these specialists. There is an obvious need in the community for qualified personnel in these fields. Houston has real opportunities for developing facilities to train them and should make use of them. The course in Community Facilities recently inaugurated at the University of Houston and the class in Public Health Nursing at Incarnate Work College appear to be a start in this direction.

D. Health Education

Most of the active health education for adults in the community seems to be done by the Houston Anti-Tuberculosis League. Its regular and special radio broadcasts on health have given an excellent community service. The health education activities of the Houston City Health Department also have value. They are much less extensive than should be true in a community of this size, however. They have been limited in both amount and scope. Little - if any - attention has been given to the chronic diseases. This
is true in spite of the fact that Health Department records show that in 1945 heart disease alone accounted for more than 2-1/2 times as many deaths in the City of Houston as all the acute communicable diseases combined - including pneumonia. The combined deaths from heart disease, cancer, cerebral hemorrhage, and nephritis amounted to more than 15 times the total number caused by all communicable diseases, exclusive of tuberculosis and pneumonia. See Table IV.
<table>
<thead>
<tr>
<th>Cause of Death</th>
<th>No. of Deaths</th>
<th>Cause of Death</th>
<th>No. of Deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>376</td>
<td>Total</td>
<td>2,179</td>
</tr>
<tr>
<td>Diphtheria</td>
<td>8</td>
<td>Heart Disease</td>
<td>1,066</td>
</tr>
<tr>
<td>Infantile Paralysis</td>
<td>22</td>
<td>Cancer</td>
<td>474</td>
</tr>
<tr>
<td>Malaria</td>
<td>2</td>
<td>Cerebral Hemorrhage</td>
<td>472</td>
</tr>
<tr>
<td>Epidemic Meningitis</td>
<td>14</td>
<td>Nephritis</td>
<td>167</td>
</tr>
<tr>
<td>Syphilis</td>
<td>30</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Typhoid Fever</td>
<td>3</td>
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<td>Typhus Fever</td>
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<td>Whooping Cough</td>
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<td>Others</td>
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<td>Penumonia</td>
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The Health Department of the City of Houston is aware that there is a need for health education activities directed at the chronic diseases. The recently adopted new organization plan for the Department includes, in the Division of Preventive Medicine, a Bureau of Adult Hygiene. This bureau does not appear to be active at the present time, however, and the Department's announced plans for the next five years do not seem to include significant development of it. There is provision in the Department's announced five-year plan for expansion of health education services into the field of the chronic diseases in 1949. It will be unfortunate, however, if the community does not have significant increases in these services before that time. The problem is increasing rapidly. Health education can be a highly effective weapon, but it cannot be expected to produce quick results. The longer these services are delayed, therefore, the more extensive and serious the problem becomes.

With the exception of those in the field of tuberculosis, the community has had very few health education activities directed toward early diagnosis and competent treatment of particular chronic diseases. With the establishment of the Texas Division of the American Cancer Society, much more work of this kind in the field of cancer is in prospect.

There is urgent need for increased health education activities directed toward the other chronic diseases also, if there is to be any hope of controlling them. Adequate medical services must be available for early detection and prompt treatment of disease. These will be useless, however, unless the people in need of the services are educated to the importance of seeking and using them. Diabetes, for instance, should not be permitted to go untreated until limbs are lost from gangrene, or vision is sacrificed to a diabetic cataract. Hypertension should not be permitted to go untreated until "strokes" leave patients permanently paralyzed. Heart disease should not be allowed to make invalids of large numbers of patients. A very large
proportion of all patients suffering from these illnesses can be taught to live with their illnesses without being overcome by them. The fact that this is not being done is in considerable measure due to the lack of effective health education programs. These inadequacies, of course, are not peculiar to Houston. They exist elsewhere. Many other communities, however, seem to be somewhat ahead of Houston in their efforts to meet them.

Work which is being done in training chronically ill and handicapped children to live with their disabilities apparently is more comprehensive and effective than that being done in the adult field. General health promotion and health education services in the public schools are of vital importance. Present services of this kind are doing an important work. It is to be hoped that they can be developed further.

E. Public Health Administration Related to the Chronic Diseases

Public health administration in Houston and Harris County is discussed in more detail elsewhere in the Study Report. It has special significance in relation to the chronic diseases chiefly in its responsibilities for health education and for licensing and control of quality of care in institutions caring for the sick.

The Houston City Health Department appears to have made significant progress in the last three years. There are, undoubtedly, many reasons why the program has not yet reached perfection. Efforts should be made, however, to achieve a better balance than now exists between the Department’s activities and the needs as demonstrated by the extent of illness and deaths from various diseases. Activities now being carried out in the communicable diseases are undoubtedly necessary. There is relatively an extremely high proportion of effort going into these activities, however, as compared with the almost total lack of any effort to prevent and control the chronic diseases. There is no intent to imply that efforts at prevention and control of the
acute diseases should be diminished. Efforts to prevent and control the chronic diseases should, however, be built up to a point more nearly approximating their relative importance as causes of illness and death in the community.

F. Licensing and Regulation of Institutions Caring for the Chronically Sick

In 1943 the City of Houston enacted an ordinance "Providing for the Regulation of the Establishment, Maintenance and Operation of Convalescent Homes in the City of Houston." In the Fall of 1944, this ordinance was amended to include some additional specifications with respect to the care of mental patients. It appears that this ordinance has never been generally enforced. Spasmodically, public concern has been aroused over the conditions in convalescent homes and efforts have been made to enforce the requirements. Most recent of these occurred in the spring and summer of 1946. An article appearing in the Houston Post of July 17, 1946, quoted one of the city council members as summarizing the present situation as follows: "Mr. Gaines found Tuesday that the homes were operating without permanent licenses and that the City had made little effort to enforce the regulatory measures since few of the homes could meet the requirements. City Fire Marshall Resweber after a recent inspection of the 31 convalescent homes operating here reported to Acting City Manager, J. M. Nagle that none could pass the fire requirements."

In the course of this Survey, members of the City Health Department Staff also expressed the opinion that of all the homes operating in the City of Houston, there is not one which can meet the requirements specified in the City Ordinance.

In 1945 the Texas State Legislature became concerned over the problem of nursing homes and passed "an act for regulating and operating
convalescent homes; defining terms; providing certain exceptions; providing penalties; allocating funds; providing for inspection and reports; and declaring an emergency." Although this law was passed and approved by the Governor on June 16, 1945, no evidence was found in the course of the Survey that efforts had been made to apply it within Houston or Harris County. Newspaper reports in the summer of 1946 indicated that Houston city officials had a question as to whether there was a conflict between the State Law and the Houston City Ordinance. In practice, however, there does not appear to have been any action on the part of the State which would create conflicts of this kind and apparently the question has never been brought to full clarification.

The situation with respect to licensing and regulation of nursing homes in Houston appears to be essentially the same as that in many other communities. Laws exist which require relatively high standards of safety and operation in the homes. There are thousands of patients in need of care, however, and no homes meeting the standards set up by the law in which they can obtain it. Consequently, they have no choice but to turn to homes that have lower standards than specified in the law. Public officials who attempt to close these homes while there still is no other place where patients can go for care find their task impossible. If one home is closed, the patients are only driven out to seek shelter in other places no better, and frequently worse. One of the impossibilities which blocks any attempt to eliminate low quality homes at present lies in the lack of funds with which to provide more adequate care. Recipients of old age pensions, and blind assistance, are limited in the amount of money which they can receive to an amount too low to permit paying for adequate services. Provision of care of a quality meeting all of the standards set forth in the Houston City Ordinance, would cost at least twice as much as
these patients are now permitted to pay. There are no provisions for supplementation of their allowances in most cases. Consequently they are held to the low payment levels and low quality of care. Experience in other communities has been consistent with that in Houston - that poor quality nursing homes cannot be eliminated by any type of licensing laws or other means until better places are available to care for the patients now dependent upon them. Better places cannot be provided until the need for adequate funds to pay for the care has been faced realistically and met. Essentially, licensing requirements constitute a negative approach to efforts to assure good quality of care. Their intent is to eliminate the bad. Meeting these problems successfully, however, cannot be done on a negative basis. It calls for constructive action which will bring into being good places for the care of the thousands of patients who are now in the community and must have care somewhere. When this has been done - and not before - it will be possible to eliminate bad homes by means of licensing laws and other methods. There is urgent need for Houston and Harris County, as well as other communities, to face this fact realistically. Until this is done, efforts at enforcing licensing requirements, are doomed to continuing failure.

G. Provisions for Meeting the Cost of Care for Persons Unable to Do So from their Own Resources

There are approximately 350 patients in nursing homes and institutions at the present time wholly or partly dependent upon public funds for their support. This includes approximately 240 in privately operated nursing homes, 75 in the Harris County Home, and 35 in the Convalescent Home operated by the Houston-Harris County Board of Public Welfare. An additional 75 are being supported by voluntary philanthropic agencies in privately operated nursing homes and not-for-profit institutions. In the community as a whole, including Harris County, approximately 10,000 people are receiving old age
assistance, 300 are receiving aid to the needy blind, and 550 families are receiving aid to dependent children. The State Constitution places a limit on the amount of old age assistance payments under which it is impossible, even with the recent increase in federal payments for this purpose, to pay more than $45.00 per month to any individual regardless of illness or other requirements which may make his actual need far exceed this amount. As of June, 1946, the average old age assistance payment in Harris County amounted to $24.81 per month. The average payment to needy blind individuals was $29.41 per month and the average payment to a family receiving aid to dependent children, $27.54 per month. It is probably true that in a considerable majority of cases, public assistance payments are not sufficient to maintain a minimum standard of living, even without any provision for meeting the costs of any type of medical care or special service required because of illness.

The community maintains Jefferson Davis Hospital for residents of the City of Houston who require medical attention and are totally unable to make any payment for it. The free and part-pay clinics and hospital care maintained by the Hermann Hospital are the only other significant source of "free" medical attention in the City. Public assistance payments are not large enough - even when a so-called "medical allowance" has been included to make it possible for dependent people to purchase care needed for the prevention, early diagnosis, prompt treatment and control of disease.

Since there are not sufficient facilities in the community offering these services without charge to the patient, there is an obvious explanation for the fact that far too many patients remain undiagnosed and untreated until their chronic diseases have reached an advanced stage in which prevention and cure are no longer possible. It is true, of course,
that money alone does not assure prompt recognition of symptoms and competent care. The provision of financial assistance, or other means of meeting the cost of care, must be supplemented with active health education which will cause patients to seek and obtain care after it is available to them. Until the financial problem is met, however, any other attempts to prevent and control chronic diseases will remain ineffective for the financially dependent and low income groups.

The present assumption that public funds can be saved by failing to make provision for adequate medical attention for health promotion, early detection of disease, prompt treatment and rehabilitation services, is completely unjustified by the facts. Permitting these long term diseases to go unrecognized and untreated until they have become completely disabling and incurable, ultimately places a far heavier burden on public funds than would be true if adequate attention were given to prevention, control and rehabilitation. Supporting an invalid through years of disability and helplessness, and frequently supporting a family also if the invalid has been a wage earner, is in the end a far more expensive process than the expenditure of funds for an adequate prevention and control program. A considerable proportion of the 500 or more families dependent upon aid to dependent children require assistance because of the disability of the normal wage earner in the family. As of present standards, the total cost of supporting these families in Harris County amounts to almost $170,000 per year, even at the present low standard of living. Much of this charge against the public treasury can be attributed directly to disability resulting from the chronic diseases, or from the physical impairments. Prevention of these conditions and of the disabilities related to them could result in a marked saving of public funds. Add to this the amount being spent for the support of the blind and for aged persons who might not require assistance if they had been
able to retain their health, and the amount of money which might be saved as a result of better preventive services comes to a very considerable figure.

There is urgent need in Houston and Harris County for more adequate provision for meeting the costs of medical care for prevention, early diagnosis, and control of the chronic diseases; for rehabilitation of patients; and for the care of permanently disabled people. The burdens of caring for permanently disabled people will continue to increase until effective action is taken toward making available to all the community better services for prevention and control of disease in its early stages.

It is significant to note, also, that the three privately operated nursing homes in the community generally regarded as most seriously inadequate in the quality of their care, are patronized predominantly by recipients of public assistance. These homes cannot be markedly improved until more adequate funds are available to meet the costs of good care. Nor can the problem be solved by moving the patients into public institutions. Even economically operated institutions of this kind cannot meet all the costs of adequate care within a $35 to $40 per month limit. The convalescent home operated by the Houston-Harris County Board of Public Welfare is operated with unusual efficiency. Its costs over the past 15 months have averaged approximately $55 per patient per month, not including any medical attention and not including full costs of the building and equipment which are shared with other public agencies.

More flexible procedures are urgently needed for determining the amount of money which can be paid from public funds for the care of chronically ill patients. And there must be more realistic facing of the public’s responsibility for adequate financing of care. The blame for low quality of care in homes and institutions for the chronically ill rests at least as much on the public’s failure to meet this responsibility as it does on the operators of the homes and institutions.
H. Community Facilities for Diagnosis and Treatment

The adequacy of facilities and services in the community for the diagnosis and treatment of illness is discussed in detail elsewhere in this report. They need not be elaborated here, except to point out that any shortages of such facilities tend to be felt first and most intensely by the patients in need of care because of chronic diseases. It is inevitable and entirely reasonable that when there are two patients in need of care and only one hospital bed available preference is given to the patient whose condition is acute. No one would wish to challenge this plan. The situation should not be permitted to exist, however, in which there is only one hospital bed for two patients, both of whom admittedly require care. There should be sufficient hospital beds, sufficient well-trained physicians, sufficient nurses, laboratory technicians and facilities, dentists, nutritionists and dietitians, occupational therapists, physical therapists and social case workers to meet the needs of all patients who require their services. Inadequacies in the availability of such medical personnel and facilities are another of the significant contributing factors in the extent to which chronic illness is neglected until it reaches an advanced stage. It is of extreme importance that adequate medical care be easily and promptly available to the patient in the early stages of the disease while there is still time to cure, control or check the progress of the disease.

I. Rehabilitation

Until very recently the community does not seem to have recognized the need for effective rehabilitation services, nor the possibilities which are inherent for the relief of many of the problems of chronic illness and invalidism. Considerably more emphasis should be placed on these needs and possibilities. There are some evidences that interest in
the subject is growing. The recent developments under which the Anti-
Tuberculosis League has employed a staff member to do "rehabilitation
service among tuberculous patients" is a step in the right direction. It
is not yet clear, however, whether or not even in this program the methods
and possibilities of constructive rehabilitation services are fully
grasped. In any event, the present amount of staff is not sufficient even
for an adequate demonstration of possibilities in this area. Some activi-
ties are being carried on through the Harris County Association for the
Blind. Work is provided in the Light House maintained by the Association
and this is undoubtedly of value. It is probably true here also, however,
that the possibilities of a really constructive rehabilitation program have
not been fully grasped, or at least have not been fully translated into the
practice of the agency.

The special classes for handicapped children in the public
schools perform a valuable service in teaching these children to live in-
telligently with their handicaps. The services of the State Board of Re-
habilitation also have value, as do those of the State Commission for the
Blind, Houston Training School for the Blind, the Goodwill Industries, and
the privately operated school for spastic children. There appears, how-
ever, to be no well-rounded and effective rehabilitation program in the
community which can offer constructive help to adults in learning how to
live with their handicaps without becoming invalided by them. This may be
another manifestation of the fact that the community does not yet seem to
have become fully aware of the fact that invalidism need not be an inevitable
result of chronic illness or physical handicap.

J. Services and Facilities for Continuing Care of Permanently Dis-
abled Persons

It is estimated that there are in Houston and Harris County ap-
proximately 7,000 invalids. About 1,000 of them are receiving care in homes and institutions scattered throughout the county, most of them located in the City of Houston. It is estimated roughly that about 500 to 1,000 more are probably scattered in rooming houses, hotels, boarding houses, and other places not equipped to care for the sick. The remaining patients are apparently in their own homes with their families. There are marked inadequacies in both quality and quantity of services available for patients. This is true of patients in their own homes and for those dependent upon care in nursing homes and institutions.

K. Care of Patients in Their Own Homes

There is urgent need for more and better facilities in Houston and Harris County to help families care for invalids in their own homes. The Houston Visiting Nurse Association is providing excellent service. It is obvious, however, that their services are touching only a very small number of all the patients needing care. The V. N. A. reports a total of 600 visits during 1945 to 60 chronically ill patients. Although the Association is prepared to serve all economic groups, there is some question as to whether its facilities are being used to any considerable extent by families which are financially independent and able to pay the full costs of the service. The excellent quality of care given would seem to justify a considerably larger service than is now in use. There are, of course, many reasons why more service was not given in 1945. One of them undoubtedly was limitations on available personnel to staff the Association for a larger program. There is a need in the community for a great expansion of this service, however, and it is to be hoped that the V. N. A. services to chronically ill patients in their own homes will expand markedly in the near future.

Housekeeper service on a visiting basis is an essential part of an adequate community program for care of the chronically ill. Many patients
greatly prefer to remain in their own homes and can do so if some help can
be obtained in the housekeeping service. Frequently this can be handled on
a part-time visiting basis. The need exists for all economic groups and is
urgent among those who are able to pay for the service, as well as those
who are financially dependent. It appears that the only service of this
kind now available in the community is that provided by the Family Service
Bureau, which maintains a total staff of 7 visiting housekeepers. The
great excess of demand for service over the amount which can be supplied by
so small a staff, has resulted in a policy which makes such service rarely,
if ever, available to long term patients and their families. As a result,
for practical purposes, the community now has no housekeeping service which
can help families to meet these problems when they arise in relation to the
care of invalids in their own homes.

The community has no provisions for services on a visiting basis
to patients in their own homes by nutritionists and diet therapists, by oc-
cupational therapists, physical therapists or persons skilled in rehabilita-
tion service.

Some social case work services are available through the Family
Service Bureau, the Jewish Family Service and the Salvation Army. Social
case work services are also provided, in theory, to recipients of public as-
sistance. Case loads in the Aid to Dependent Children, Aid to the Needy
Blind and the Old Age Assistance programs, however, are so high that in ac-
tual practice individualized case work service cannot be provided. There is
urgent need in the community for more and better services which can help
families to meet the problems of caring for invalids in their own homes.

L. Nursing Homes and Institutions

There are in Houston and Harris County two governmentally operated
institutions for the care of patients suffering from long term illness. The
convalescent home operated by the Houston-Harris County Board of Public Wel-
fare on the top floor of the old Jefferson Davis Hospital, and the Harris County Home for the Aged, which is located approximately 12 miles out of the City of Houston. The opinion was expressed on a number of occasions by persons interviewed in the course of the survey that there is urgent need for more beds in governmentally operated institutions. Neither of the two present institutions is operating at full capacity, however. At the time they were visited, the Houston-Harris County Board of Public Welfare Convalescent Home had 33 patients with a total bed capacity of 45. The Harris County Home had 74 patients and a total capacity of 100. The fact that neither of these homes is operating at capacity can probably be explained by factors other than lack of need for care in the community. The Board of Welfare Convalescent Home is relatively small and there are some problems of bed adjustments between the male and female services which make it difficult for the home to operate at full capacity. A factor that probably has greater importance, however, is the admission requirement which restricts the services of this home to persons who are totally indigent; are not eligible for assistance under other public assistance programs; and meet all of the rather rigid eligibility requirements for receiving assistance through the Houston-Harris County Board of Public Welfare. The relatively isolated location of the Harris County Home for the Aged probably helps to explain the fact that it is operating well under capacity. It is located a considerable distance from the center of the city and is not very easily accessible to it. Patients usually are reluctant to enter institutions far removed from their families, friends, and home surroundings. There may be some influence contributed also by the fact that the Harris County Home is definitely a home for the aged and many of the invalids needing care in Harris County and Houston are not aged people. Occupancy here also is limited to persons who are not eligible for public assistance through the old age assistance and aid to the needy blind programs.
The care provided in both of the governmentally operated homes is of relatively good quality. In both instances the homes are clean and are managed and staffed by persons who apparently carry on their work with real human understanding and kindness. Food, shelter and the general atmosphere, in both homes, appears to be well up to reasonable standards. The Welfare Board Convalescent Home is particularly notable for the resourcefulness and attitudes of its Superintendent and the intelligent cooperation given by the Director of the Welfare Board. The lack of medical attention in this home is surprising in view of the high quality of care provided in other respects. The home has no provision for the services of any physician except in so far as they can be obtained by moving the patient from the home to Jefferson Davis Hospital in an ambulance. The lack of such service is probably related somewhat to a fairly general pattern in the community of regarding assistance to needy people as something which does not include provision for medical attention or health services. The persons responsible for the management of the Welfare Board home are aware of the need for better provision for medical attention and are attempting to find some method for meeting it. It is to be hoped that they will succeed in these efforts in the very near future. Medical services in Harris County home are provided by a county physician who visits the home every second Sunday and when called at other times. There are indications that the medical attention in the home is somewhat sketchy, but at least some provision is made to meet the medical needs of the disabled people in the home.

There are four institutional homes in the community operated on a not-for-profit basis and offering some degree of care for disabled people. They include St. Anthony's Home for the Aged with 54 beds, the Maria Boswell Flake Home with 9 beds, the Home for Aged Sons and Daughters of Israel with 15 beds, and the Sheltering Arms with 10 beds. These homes are intended primarily for the care of aged people and their residents are predominantly
in the higher age groups. Practically all of them, however, are suffering some degree of disability due to chronic illness. It is surprising that in these homes also some vacancies were reported in spite of an obvious need in the community for care. The Home for Aged Sons and Daughters of Israel, for instance, reported 10 patients in the home and 5 vacancies; the Maria Boswell Flake Home reported 5 residents and 4 vacancies; the Sheltering Arms and St. Anthony’s Home for the Aged apparently are operating at full capacity.

Houston and Harris County have relatively fewer institutional homes for the aged or disabled than most communities of this size. It is difficult to know exactly why this is true. It is probably explained in part, however, by the rapid growth of the city and the fact that even yet the population in this community is younger than is true in many other places. The community has not yet faced the problems of an aged population to the extent that some other communities have been forced to do. It is difficult to estimate the extent to which the relatively few institutions under non-profit auspices in this community can be attributed to a lower degree of interest on the part of the community in supporting not-for-profit services. There are indications that this is not a major factor. Funds have been made available in generous amounts for maintenance of hospitals under non-profit auspices and conversations with various persons in the community seemed to indicate a consistent preference for non-profit service as compared with institutions operated by government, or services left entirely to proprietary management. There appears to be at least enough possibility of future development of services under not-for-profit auspices to justify aggressive attempts in this direction.

The tendency of small proprietary nursing homes to spring up over night and vanish almost as rapidly makes it difficult to determine exactly how many such homes there are in the community. The number seems to fall somewhere between 30 and 35 with a total bed capacity of roughly 800. The
quality of care in these homes shows wide variation. As might be expected, those offering care for large numbers of persons depending upon public assistance and therefore limited in the amount they can pay for the service offer care which is far from adequate. Mention has already been made of repeated statements by public officials that not one of the homes operated in the City of Houston can meet acceptable standards of safety and sanitation. The community has good reason to be concerned by the inadequacies of these homes. There are, of course, notable exceptions to the low quality of care. A few of the homes (not more than 20 to 30 per cent of the total) offer care which is good from the point of view of pleasant surroundings, cleanliness and adequate physical attention. There is probably no community in the United States at the present time which does not have some inadequate nursing homes. Some of Houston's homes, however, are certainly worse than those tolerated in most communities of its size.

Two of the four homes visited during the course of the survey had mentally ill and disturbed patients housed alone in small out-buildings which apparently had previously served as chicken houses. The managers in both instances explained that these patients had to be kept by themselves in these accommodations because they disturbed other patients. The arrangement apparently had not been considered seriously from the point of view of what it did to these patients, nor had it apparently occurred to the managers that the patients should not be in their homes at all if they were not equipped to offer better care.

One home housed two blind men in an out-building barely large enough for the two beds. One of the men was helplessly bed-ridden, the other ambulant. The building was an old frame structure and at the time of the visit the floor was littered with matches, some of which had been burned (apparently by the ambulant patient while lighting cigarettes) while many
others were still unused and strewn directly in front of the entrance where the friction of stepping on them might easily have ignited them and caused the entire structure to go up in flames. This same home houses 11 patients with active tuberculosis and includes among its patients a 17-year old spastic boy who apparently has been completely helpless since birth. Although it is in the City of Houston, the home has no sewer connection and makes use of a septic tank which leaks. The buildings are all frame and appear to be highly combustible, but it is 400 feet to the nearest fire hydrant. The manager of this home appears to be a conscientious person with good intentions. She is limited in her ability to operate a good home by many factors, some of which are beyond her immediate control. Many of her patients are recipients of old age assistance and can pay her only $35 per month for their care. She is under constant pressure to admit more patients and to use every available bit of space and every possible building on the place. The great pressure in the community for facilities for the care of patients at low cost, keeps her home constantly in demand. Although she is apparently intelligent and conscientious, she had had no previous training or experience to equip her for the management of a home. Much of the inadequacy of care can probably be attributed to this factor. The housing shortage, combined with the lack of funds, makes it impossible for her to obtain buildings for this purpose which are safer from the point of view of fire and sanitation. This home is not the worst in the community. It is, however, an illustration of the serious inadequacies in care now available.

It is useless to attempt to improve such homes through licensing requirements or to eliminate its services at this time. The community will have to face some of the deeper factors contributing to low quality care before improvement can be expected. Particularly, responsibility must be accepted for more adequate financing of service.
M. Bed Requirements

The needed facilities for chronic care are frequently measured from two to four beds per thousand population. The generally accepted figure of three beds per 1,000 population is probably a reliable index to the number of beds needed for long-term care of chronically ill patients. However, applying the minimum basis to the 1945 estimated population of Harris County, there should be a total of at least 1,290 beds for this purpose at the present time. Including the full capacity of homes for the aged as well as all known nursing homes and institutions, the community has barely two-thirds this many at present. Of the ones now in existence, at least half should be markedly improved or replaced at the earliest possible time by ones offering better quality of care. Therefore, the more realistic viewpoint would indicate an approximate shortage of 700 beds.

Applying the minimum of two beds per 1,000 population to estimated population figures for the future, it is estimated that Houston and Harris County's need for such beds will be approximately 1,400 by 1950 with a shortage of 800 beds, 2,000 by 1960 with a shortage of 1,400 beds, and 3,000 by 1970 with a respective shortage of 2,400 beds.

N. Coordination of Community Activities

There is more detailed discussion elsewhere in the Study Report of the coordination of health and welfare activities in the community. Services related to chronic illness seem to reflect a general need for better coordination in the community.

The Health Council of the Houston Council of Social Agencies offers at present the most comprehensive coordinating service in the community. It does not appear to be as comprehensive as might be desirable, however. The work of hospitals is not effectively coordinated with other health and welfare services in the community. Hospital administrators and board members have a vital part to play in dealing with the problems of chronic illness.
Their experience is a necessary ingredient of good planning for development of additional services for prevention and control of the chronic diseases and for long-term care of patients. They do not appear, however, to be taking any active part in the consideration now being given to the problem of chronic illness.

The community has relatively very few preventive services related to chronic illness. The ones there are do not seem to coordinate their services in effective planning or action.

There seems to be some overlapping in function between the Health Committee of the Chamber of Commerce and the Health Council of the Council of Social Agencies. It seems probable that both could be more effective if their efforts were better coordinated.

The same problem is apparent within public services. The Houston-Harris County Board of Public Welfare and its Convalescent Home; the Harris County Home for the Aged; and the public assistance program for patients in private nursing homes seem to operate quite independently of each other. Each operates with rather rigid eligibility requirements. Services provided by one agency cannot be shared by persons who are receiving help from another. Some of the reasons for this are beyond the immediate control of the administrators of the programs. It, nevertheless, is an unfortunate situation from the point of view of efficient public administration as well as that of the patients. While recipients of old age assistance are suffering for want of homes and institutions, 25% of the beds in the Harris County Home remain vacant and almost a third of those in the Welfare Board Convalescent Home are unused. There is no provision for medical care in the Welfare Board Convalescent Home and no provision for extension of medical services into the Home by Jefferson Davis Hospital. As a result, the care of patients suffers and money is wasted in makeshift provisions to meet medical needs.
In the field of community interest and volunteer service related to chronic illness there is also a regrettable lack of coordination and direction. Women's Clubs, church groups and others are giving time and money to help relieve the inadequacies in care of chronically ill patients. Their efforts are not particularly successful, however. There does not appear to be any central point in the community through which their interest and resources can be steered into constructive channels. There are tremendous possibilities among these groups for creating an intelligent public understanding of the problems of chronic illness and popular support for good programs to solve them. These possibilities are being dissipated, however, for want of coordination and leadership.

The recent organization of the Volunteer Community Services may be at least a partial answer to this need. It is too recently established to have become effective yet. It will require close coordination of their work with that of other agencies concerned with the problems of chronic illness if they are to become effective in this field in the future.

VI - Summary

The planned development of The Texas Medical Center offers rare opportunities to Houston, Harris County, and the State of Texas. It is possible to envision excellent facilities and services for the prevention and control of the chronic diseases and for the care of persons disabled by them. Many of the roots from which these services can be developed exist now in the community. At the present time, however, the community's facilities are far from adequate when viewed as a whole. Many of the services and facilities which are available are not coordinated are inadequate in scope and amount and low in quality.

Chronic illness is the largest single health and welfare problem now facing the community. No organized, comprehensive effort has yet been
undertaken, however, to meet it.

The community as a whole does not seem to be fully aware of the size and seriousness of the problem. The community attitudes, in general, seem to be fatalistic and accepting of the problem of caring for invalids—rather than constructive and aggressive in attempting to find ways of preventing and controlling it. The possibilities of prevention and control of the chronic diseases seem to have had little consideration. The M.D. Anderson Hospital for Cancer Research stands out as a notable exception to this statement. It is notable, also, as a pattern which might well be followed in such other chronic diseases as arthritis, arteriosclerosis and other circulatory disorders, diseases of the heart, etc.

There is urgent need for educational work which will be more effective in preparing physicians, nurses, and other professional personnel to deal with the problems of prevention and control of the chronic diseases and the care of patients disabled by them.

There is a tragic lack of services for health education, health promotion, and early detection and treatment of disease, as these are needed in prevention and control of the chronic diseases.

Efforts at improving the quality of care in nursing homes and institutions for the chronically ill have not been effective. They will not be effective so long as they continue to consist entirely of attempts to eliminate low quality homes through licensing requirements. The problem of adequate financing of care for dependent and low income people must be faced more realistically. Present provisions for meeting the needs of the poor are inadequate as they relate to prevention and control of the chronic diseases and to the continuing care of permanently disabled people.
VII - Recommendations

As steps toward meeting the problems of chronic illness in Houston and Harris County, the following recommendations are offered:

1. (36) That of the maximum 1,030 beds now available for the chronically ill in present institutions and nursing homes, at least 430 beds should be replaced or markedly improved.

2. (35) That the community provide a minimum of 1,400 total beds for the care of the chronically ill patients by 1950, 2,000 beds by 1960, and 3,000 by 1970.

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

It is recommended that these facilities be constructed, owned, and managed by not-for-profit corporations. Voluntary philanthropy, however, should not be expected to bear the costs of caring for financially dependent people in the institutions. The costs of care for patients unable to pay their own expenses should be met by public funds paid to the institutions on a fee-for-service basis, through public assistance agencies or other appropriate units of the local, State, or Federal government.

4. (38) That there is need for a Community Rehabilitation Center closely correlated with out-patient services and with the facilities for the long-term care of chronically ill patients. The services of the Rehabilitation Center should be available to out-patients and to in-patient services for treatment and for long-term care. Preferably it should be located in The Texas Medical Center.

5. (39) That present agencies expand their programs or new agencies be created to emphasize preventive measures in the field of geri-

Note: Numbers in () indicate number of recommendation in Abstract
atrics through increased medical research, social and economic research, professional education, and general public health education.

6. That an appropriate administrative official in The Texas Medical Center be responsible for the stimulation of interest in and leadership in developing medical research and professional education in the chronic diseases; and for planning and coordinating activities in the Center related to the chronic diseases and the care of patients disabled by them.

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

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

9. (42) That an intensive program of health education directed at the particular chronic diseases not now being covered be instituted. This should be initiated at the earliest possible time. It should include, also, general education of the public on the problems of chronic illness, and should provide for coordination of volunteer services and other community activities related to community efforts to meet the problem.

The program should be under the direction of an agency prepared to give consideration to all the various diseases; to coordinate the activities directed at particular diseases; and to stimulate the development of new services in the community as needed.
If the Houston City Health Department and the Harris County Health Unit cannot undertake such work immediately, efforts should be made to establish such a program under the auspices of the Health Council of the Council of Social Agencies of Houston and Harris County. The program might be developed under the guidance of a coordinating committee composed of agencies now concerned with various aspects of the problems of chronic illness. Adequate provision should be made for financing its work, including provision for the employment of competent staff on a full-time basis.

10. (43) That immediate efforts be made to bring about the removal of the State Constitution limit on the amount of public assistance which may be paid to needy individuals, regardless of need in the individual case. The legal provisions should be such as would permit varying the amount of public assistance payments when illness and other requirements increase the amount needed in individual cases. In the meantime, immediate efforts should be made to supplement the amounts of public assistance payments to chronically ill recipients of Old Age Assistance and Aid to the Needy Blind. Every effort should be made immediately to bring these payments up to a level which will permit at least a minimum adequate quality of care for these patients.

As part of these efforts to bring about better standards of assistance, workable and realistic standards for evaluating quality and costs of care for chronically ill people should be formulated and adopted by the State Welfare Department.

11. That provisions be made at the earliest possible time to make available to dependent and low income people medical care for the prevention, early detection and treatment, and rehabilitation of the chronic diseases and of persons handicapped by them.
Preferably, these services should be provided to needy people by the same physicians and other practitioners, and the same hospitals and other institutions as serve other patients in the community. Payments for the services received by needy patients should be made on an adequate level from public funds just as payments for other patients are made from the individual's own resources.

If the community does not wish to follow this pattern in providing the services, it might expand existing governmental services for the poor through the Jefferson Davis Hospital and the Health Department. Comprehensive out-patient services might be established either at the hospital or under the Health Department. If this is done, care should be taken to assure that the services will not be limited to treatment of well-established disease. Adequate health promotion and disease detection services should be included. Care should be taken also to assure that services will be available to patients able to pay part, but not all, of the costs of their care as well as those unable to make any payment.

12. That any expansion of publicly operated - or other - facilities for care of long-term patients be developed in close affiliation with general hospital services in the City of Houston or other towns in the County having good general hospitals. Facilities should not be located in isolated rural areas.

13. That public - and other - agencies concerned with rehabilitation and/or care of handicapped persons, or those disabled by chronic illness, should correlate their activities closely with the services provided in The Texas Medical Center.