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THE FEDERAL-AID PROGRAM

FOR

CONSTRUCTION OF HOSPITAL AND MEDICAL FACILITIES

Its Objectives, Achievements, and Established Basis

Department of Health, Education, and Welfare
Public Health Service
Division of Hospital and Medical Facilities
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THE FEDERAL AID PROGRAM FOR CONSTRUCTION OF HOSPITAL AND PUBLIC HEALTH FACILITIES

Its Objectives, Administration, and Relationship to State

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THE FEDERAL-AID PROGRAM FOR CONSTRUCTION OF HOSPITAL AND MEDICAL FACILITIES

Its Objectives, Achievements, and Unfinished Tasks

Eleven years ago the United States Government began a program of major importance to the health of the nation. This was a joint venture with the States and their local communities, in planning for and building "the necessary physical facilities for furnishing adequate hospital, clinic, and similar services to all their people." The purpose and methods were without precedent in the history of our government. It is now a mature program, with a substantial body of experience and achievement which has developed an increasing perspective in the entire field of health facilities throughout the country. The following is a review of its objectives, achievements, and unfinished tasks.

SUMMARY

Background

In the boom years after World War I, many new hospitals were built by local effort or private philanthropy. A good many hospitals were set up in scenic surroundings, reflecting the personality of their benefactors or proprietors. The distribution was uneven, with overbuilding in some communities and complete lack of facilities in others. Even in 1930, at the peak of this expansion, over 13 million people in more than 1200 counties were without hospitals. Besides this, popular understanding of the role of a hospital in the community was still shifting away but slowly from the earlier attitude, which thought of the

hospital only as a place of last resort in the most extreme illness or as a means for caring for the unfortunate sick who had to rely on public charity. Hospitals in the great medical schools provided services in accord with the most advanced medical practice, but these enabled only a comparatively few people.

With the coming of the depression in 1929, new hospital construction practically ceased. More than 700 hospitals were unable to find operating funds and had to close. The massive public works program of the depression years included substantial grants for construction and remodeling of hospitals and assisted the general situation somewhat, but the emphasis was solely upon the employment value of a public works program.

Hospital construction reached at a minimum during the subsequent years of World War II. An emergency program under the Lanham Act provided Federal grants and loans to build some health facilities in communities with large increases in population connected with defense activities, but a growing demand and increasing shortages focused national attention on the need for hospital facilities as a major aspect of postwar planning. A Commission on Hospital Care was organized under the sponsorship of the American Hospital Association and the Public Health Service in October 1944 to make a comprehensive study of actual needs. State officials and the medical, nursing, and hospital professions knew the need, which had already been described by the Surgeon General of the Public Health Service in July 1944,

before the Senate Subcommittee on Wartime Health and Education.

In January 1945, legislation was introduced by Senators Hill and Burton (S. 191), embodying the principles developed by the Public Health Service and the Committee on Hospital Care for a program of Federal assistance in hospital construction. The bill, after modifications and extensive hearings, was enacted in August 1946, as the Hospital Survey and Construction Act, becoming Title VI of the Public Health Service Act.

Philosophy

The underlying social philosophy of the Act is that the health of the nation is a national resource and that Federal leadership and financial encouragement are essential aids in establishing a systematic network of facilities for hospital and medical facilities. For this purpose, comprehensive planning by the States themselves is regarded as essential, based on careful inventories of existing facilities, while local initiative and local planning must launch specific projects in connection with the State Plan, if Federal assistance is to be provided.

No distinction is made between public and private sponsors of projects aided, provided personal gain or profit from the operation of the hospital is not involved. This is believed to be the first major example of Federal assistance to nonpublic groups, for public aids. Such action was found essential to a comprehensive program, because of the dual nature of the entire existing hospital system, which had evolved to a large degree under private auspices.

Principles of equity are inherent in the program, both in regard to apportionment of Federal funds among the States and in the relative local and Federal shares of cost for a given project. States of low income receive a larger sum per capita annually, and a larger Federal share per project, than do high-income States. Within a State, a priority system related to relative need is required, in order to expedite as rapidly as possible the initial unequal distribution of facilities found available. These generally-held principles of the Act established, for that date, an advanced approach to equitable distribution.

Methods

Comprehensive planning was made the keystone of control in the program launched by the Hill-Burton Act of 1946. Only scattered efforts at general planning had appeared previously for limited areas, but the new statute required a systematic survey and inventory in each State and a long-range program for each type of hospital, as a condition for Federal aid. This work was carried on with the assistance of Federal funds, by a single agency of the State government, usually the State Health Department. The inventory included the requirement to distinguish between acceptable and unacceptable facilities (based on health and safety hazards), in deciding upon their suitability for a long-range plan.

The development of the program in each State and the subsequent yearly phases were kept in touch with local needs and needs by the requirement for an Advisory Council in each State and for the holding of

public hearings before any plan was finally adopted. Many Advisory Councils represent both professions and consumers of hospital services. Annually, a questionnaire relative to eligible projects is required of each State, according to the priority system of the adopted plans, and the grant allotment available.

The declared purposes of the Act were enlarged in 1954, to include research in the effective development and use of hospital services, facilities, and resources. In 1964 the original scope of the program was expanded by amendments which placed emphasis upon long-term care through special funds for chronic care hospitals, nursing homes, and rehabilitation facilities, and for diagnostic or treatment centers for preventive medicine and the care of ambulatory patients.

ACHIEVEMENT

After a decade of widely experience, the Federal-aid program for the construction of hospital and medical facilities has formed kinds of achievements. Physical gains have been substantial, both in the quantity of hospital facilities and in their distribution. The capital funds involved have been important in the economy of the local communities involved. Perhaps even more significant are the achievements through Federal leadership in establishing new concepts for planning and carrying out the actual physical gains, and through new operating practices arising in the committee.

Summary

After comprehensive planning was made the keystone of action in the Federal-aid program for health facilities, the first great accomplishment has been the development and practical use of standards. The idea of standards in this field was still very imperfectly worked out prior to the passage of the Hill-Burton Act. Studies by the Commission on Hospital Care afforded important background for many standards. The program itself has built these standards of quantity and distribution, standards of quality of services, standards of design and equipment, and the idea of planning on a statewide flexible pattern.

Standards of quantity are basic to a capital program involving large expenditures. The fact of hill and valley in measures of bed requirements in accordance with the best professional judgment of the time, an an upper limit of available hospital beds with Federal assistance would not be practical. The regulations of the program adopted these measures as standards of adequacy. For each category of hospital, the actual need, rather than ability and willingness to seek health service, was the basis followed. The number of beds needed was related to population, for each type of hospital except tuberculosis hospitals (where a measure of the variable extent of the disease was used). For general hospitals, standards of distribution recognized a differing scale of service in large and small communities.

Standards of quality were applied from the beginning of the program through the original purpose of the Act, "..... to afford the necessary physical facilities ... for adequate ... services to all the people." Specific aspects of quality became a part of the statute in the 1954 Amendments. Nursing homes are required to provide skilled nursing care. Rehabilitation facilities are required to be of a comprehensive type, offering a fully integrated program of medical, vocational, psychological, and social services under medical direction within each facility. Diagnostic and treatment centers are required to have professional supervision of persons licensed to practice medicine or surgery in the state, unless operated in connection with a hospital.

Standards of design have provided an objective for the efficient performance of a safe and efficient structure, in accordance with modern medical practice. The example of good construction in facilities receiving federal aid has had an influence far beyond the projects themselves, and has been studied widely both at home and abroad. Equipment guides, though not mandatory, have assisted greatly in obtaining adequate hospital equipment.

A second major advance in ideas brought about by this program has been in the fiscal arrangements. Study shows that the grant-in-aid principles of the Act reach far beyond earlier practice in seeking to recognize equitably major differences in local financial ability, and

in statewide and local community need as identified by the several State Plans. Not only was a variable matching effort established for projects in States with differing fiscal ability, as measured by average income, but an alternative type of variation was also set up in the Amendments of 1949. Under this option a variable rate of grant can be established within a State, instead of a uniform rate throughout the State, in order to recognize differences in local community ability. The basic principle for apportionment of a given appropriation among the States has been adopted subsequently in other Federal programs, such as the statutes providing Federal aid for school construction and operation in areas materially affected by Federal activities.

Another area of leadership under this program is that of research in effective development and use of hospital service facilities and personnel.

Operating Position

Achievements in operating practice under the Hill-Burton program include several notable indirect effects. These results could not be predicted with any assurance beforehand, but together they amount to a highlight in social achievement related to health needs.

The first such unexpected gain is in the example of cooperation between government levels. A single agency of the State government, in program planning and operation, has provided a wider perspective than would have been possible if

the Federal government were dealing directly with individual communities. This has facilitated administration at the Federal level, by avoiding the establishment of duplicating or competing claims within a State but, most importantly, it has provided a means of recognizing and working with professional and lay interests within each State. Medical societies, hospital associations, nurses' associations, farm groups, and civic organizations have all contributed. Within a broad framework of regulations, many decisions have been left to the State agencies. In consequence, this Federal-aid program has come to be regarded by legislators, students of public affairs, and laymen as an outstanding example of effective cooperation between public agencies of Federal, State, and local levels, in achieving a national program successfully adjusted to wide differences in the land and its people.

The general achievement gain has been in hospitals here. Prior to the program, few States had laws and regulations for standards of hospital operation. The Hill-Burton statute required States to adopt regulations on the maintenance and operation of these new facilities built with Federal assistance and to have statutory authority for enforcement. This requirement led to a chain reaction of new State licensing laws. Today all but a few States have adopted general hospital laws and minimum operating standards for both hospitals and nursing homes.

not merely confining their studies to the population of Hill-Burton facilities.

The third achievement in operating practice is the stirring of community interest and a sense of community responsibility of health facilities, in place of the former reliance on a few rich benefactors. Especially, the process of acquiring a modern hospital or health center has aroused a sense of interest and an understanding of the community-wide benefits to be gained, which had never existed before.

This was particularly evident, for example, with a new hospital at Lebanon, a town of 6000 in the Willamette Valley of Oregon, which was featured in 1948 as the 1000th Hill-Burton project to be completed.

In Lebanon a new non-profit hospital of 40 beds was built to replace an outgrown and condemned proprietary facility of 24 beds. This hospital cost $671,000, of which the federal contribution was $193,000. An initial campaign in 1946 had succeeded in obtaining only $100,000 in cash and pledges through professional fund-raisers. In 1948, businessmen, union labor groups, and farmers joined forces in a remarkable community campaign, in which nearly 100 men met daily for breakfast together before beginning operations. Housewives of the legion auxiliary served the breakfasts. More than 2500 persons contributed, most of them supplementing family units.

Each contribution of $100 or more received one voting membership in the hospital corporation. The total raised in the two campaigns was $283,000.

Less than four years later, in May 1946, the hospital board moved to build an addition, to accommodate 50 patients for nursing home care, to meet an extreme shortage for this type of service in the area. Supporting facilities, such as dining facilities, X-ray, and medical record room, are also being added to the original hospital. The estimated cost of the new addition is $237,000, of which $147,500 is being provided by community resources (largely funds of the hospital corporation already in hand), and the remainder by Hill-Burton aid.

Reconstruction Data

Federally-aided construction of health facilities, since its beginning in 1946, has averaged about one-third of the dollar volume of all construction in the health facility field. The total outlay in this decade is approximately $6 billion, excluding federally-owned facilities, with the federally-aided portion now amounting to about $2 billion. In this period the peak volume was reached in 1951. This peak amounted to an expenditure of over $3.00 per capita at constant prices (1947-1949 = 100). The highest previous expenditure on the same basis was $1.50 in 1929. The current volume is now about $1.60

per capita at constant prices. In current dollars, the estimated 1957 total of $620 million is approaching the 1952 peak of $647 million. Data for 1952, collected in the course of administering controlled materials of construction, indicate that 25% of all hospital construction value annually goes into improvements in existing facilities, without increasing bed capacity.

The State hospital plans show that for the period 1946-57 the non-Federal hospital beds of all types in the nation, which were acceptable for long-range planning, increased by one-fourth, from 653,000 to 1,100,000 beds. This gross gain of 330,000 acceptable hospital beds is a little over one-fourth of the number expected in the first four years under the Hill-Burton program in 1948. During this period, however, population increased by one-fifth and there was progressive removal of obsolete beds from the inventory of acceptable facilities. As consequence, total need increased by 710,000 beds and the real gain in reducing backlog during the past decade, according to current standards of need, is only 32,000 beds.

In the aggregate, the Hill-Burton construction program now includes approved projects which are adding 154,000 beds for inpatient care, together with about 900 units of various types for outpatient care, such as public health centers and diagnostic centers. This work comprises more than 1,500 projects, of which 1,400 are completed and rendering community service. These approved projects have Federal aid now committed amounting to $930 million, matched by nearly $1 billion in State and local funds.

Construction for Inpatient Care. Facilities for inpatient care have received first attention under the Hill-Burton program, with particular emphasis on general hospitals. The long-term needs of others will be considered for each category of facility, together with the specific contributions of federally-aided construction.

(a) General hospitals

During the last decade the number of acceptable general hospital beds has increased from 780,000 beds to 910,000, a gain of 130,000 beds, or 41%. After allowing for population increase and loss from obsolescence, substantial net gain has been made:

75% of general hospital needs have been met, as compared with 59% in 1948, and the remaining backlog is 230,000 beds.

Typically, 65% of the annual dollar volume of hospital construction is used for general hospital facilities.

About 38% of the Hill-Burton total program has been for general hospitals; nearly one-half of this has been spent on new inpatient facilities.

The Hill-Burton program is providing 114,000 general hospital beds. The distribution of this Federally-aided program has been concentrated in areas of maximum need or low income.

Seventy percent of all Federal funds allotted to general hospital projects have been for areas with high priority (less than 50% of all need met).

Over 1,100 completely new general hospitals have been built with Federal assistance; 344 of these, or 31%, are located in areas which had no hospitals in 1946 and 67% others are in areas which had only obsolete general hospitals which were being replaced.

In 1946, 12 million people lived in 600 hospital service areas with no acceptable facilities. Today these areas have been reduced by three-quarters and contain 2.8 million people.

In 1946, 39 million people (25%) lived in areas having less than two general hospital beds per thousand population. Today such areas contain about nine million people (6%).

Federal aid has produced greater improvement in low-income States than in high-income States. Eight States with the lowest incomes (averaging $1,239 per capita) show average gains from 2.14 acceptable beds per thousand available initially, to 3.69 beds per thousand currently, while the eight States with highest incomes (averaging $2,400) show 3.18 acceptable beds per thousand available initially and 3.48 beds per thousand today.

(b) Mental hospitals.

The capacity of mental hospitals has increased since 1946 from 380,000 acceptable beds to 431,600, or about 13%. This increase has barely kept up with growth in population and accumulated obsolescence, although some States have carried out major construction programs.

The entire child has only 9% of the estimated need, according to present standards. About 11% of the annual dollar volume of all hospital construction is for mental hospital facilities, but only about one-tenth of this is expended on new facilities.

The Federal-aid program since 1946 has approved 150 projects for mental hospitals, adding 12,000 beds for which Federal contributions amount to $40 million. Besides this, 100 other projects have been approved, adding 3,400 beds for psychiatric units in general hospitals.

(c) Tuberculosis hospitals.

In the last decade the number of acceptable tuberculosis beds increased by 30,000, from 71,000 to 91,000, a 14% gain. In 1950, 41% of the estimated tuberculosis bed need was met (this calculation was based on a formula of 2.5 beds per average annual death from tuberculosis between 1940 and 1944; the method set forth in the Public Health Service Act).

In view of changes in the tuberculosis problem, the Federal-State method was no longer realistic; a new formula was established by regulation in 1954, setting the State allowance at 1.5 beds per average newly-discovered active cases of tuberculosis for the 3-year average period. On the basis of this formula and data from 1957 State Plans, there is an estimated unmet need for slightly more than 40,000 tuberculosis beds and 44% of the estimated total need is met.

Today, 69 projects have received Federal aid, adding 7,000 beds in tuberculosis institutions. About 3,000 other tuberculosis beds

have been constructed in 27 projects on units of general hospitals. About 3% of all Hill-Burton funds, or $43 million, has gone into construction of tuberculosis beds. Five-sixths of the tuberculosis projects approved have 100 beds or more.

(4) Chronic disease hospitals and rehabilitation centers.

The chronic and disabling diseases are a major health problem of today. Chronic illness causes substantially more days of disability than acute illness. It is estimated that about 8.3 million people in the United States today are suffering from long-term illnesses. The rate of disability among people aged 65 and over is more than twice as high as the disability rate for the whole population. The proportion of the population over 65 has doubled within the last 50 years and this proportion is continuing to rise.

In the past decade the concept of a chronic disease hospital has changed to a modern degree. Formerly they were largely custodial for the aged, infirm, and hopeless cases, and were mostly under public ownership. The nursing home is now taking over these types of cases. The modern chronic disease hospital stresses active rehabilitation and the return of the patient to active life. Its function is so closely allied with that of the general hospital that many authorities doubt the wisdom of its separation in unrelated units. Already about 2% of the total days of care in short-term general hospitals are for chronically-ill patients requiring long-term care. In some cases this practice was held needed for acute illness and includes services which are more expensive than would usually be required for long-term care.

In the initial Federal-aid program, standards of need for chronic disease beds were set at two beds per thousand population. With the addition of nursing homes to the scope of the Federal-aid program, a flexible standard was established for the determination of chronic disease hospitals and nursing homes. This standard permits from one to three beds per thousand population for nursing homes and at the option of the State as indicated by four beds per thousand, with a corresponding reduction in the planning standard for chronic disease beds. Since 1948 the number of acceptable chronic disease beds has increased from 28,000 to 44,000. The beds now available are at the rate of only 0.37 per thousand population, as compared to a total of 1.87 per thousand planned for, or about one-seventh of total need.

An inventory of nursing home facilities conducted in 1954 indicated a total of 25,000 such facilities of all types, with approximately 450,000 beds. Skilled nursing care was the primary purpose of 7,000 of these homes, containing 150,000 beds. Current inventories of skilled nursing homes under the Federal-aid program show 100,000 acceptable beds and 107,000 other unacceptable beds. These State Plans show a total need of 403,000 beds, amounting to 2.43 beds per thousand population, so that today only one-fourth of the total program for skilled nursing home beds is available.

The Hill-Burton standards of quality of care and design have been an important factor in identifying nursing homes which are satisfactory for skilled care and in distinguishing them from those with

inadequate care and wants of inadequate facilities. The example of new construction by Hill-Burton standards will also go far toward relieving competition from marginal facilities with inadequate care or fine hazards.

The Hill-Burton program is providing to date 114 projects, adding 7,000 beds in chronic disease facilities. In addition, 63 projects, adding 4,800 chronic disease beds, are being added as units of a general hospital. Since the 1954 amendments, 63 nursing home projects have been approved for Federal aid, providing 3,752 beds and requiring $12 million of Federal funds.

The first nursing home in the nation completed under the Hill-Burton program provides a typical example of such projects.

This facility is a 60-bed modern Chapman home on the grounds of the Dubois Hospital at Versailles, South Dakota, a county seat with population of about 5,000. Patients are regarded as guests and are treated by the staff not as they were their own parents. About 15 percent of the patients are bedridden; another 30 percent are in wheel chairs, the others need little or no continued medical care. According to the county welfare director, the improvement in activity and interest of many of the guests since they came to the home is remarkable, because of the active program going on. Rates at the home are $195 per month for a double room and $170 for a single room. One-third of the guests have come

supplemental support from public or other sources. Twenty percent receive support from the State. This program was started by local effort, with private contributions and pledges amounting to about $10,000, augmented by an equal Federal sum.

Construction of Hospital Units. Institutions for orthopedic care have received Federal support from the beginning of the Hill-Burton program. Public health centers have been built extensively in some States and a number of outpatient clinics in hospitals have been added or improved. With the increased scope of the Federal-aid program arising from amendments of 1954, new emphasis was placed on diagnostic or treatment centers for care of the ambulatory patient and rehabilitation facilities were made eligible for assistance.

(h) Public Health Services.

Grants for public health departments have been very important, with the broader scope of their operations. Today the emphasis is on preventive care of the public health and on health activities in general. The basic services--control of communicable disease, public health nursing, and sanitary engineering, - are fairly well developed throughout the country. Besides these, other programs are being developed increasingly. They include maternal and child health clinics, mental hygiene and dental programs, classes in health education and nutrition, the inspection of milk, food and water, and health examinations for food workers.

these centers require child examination rooms, laboratories, and meeting rooms, as well as office space. Frequently a chain of outpost auxiliary centers is needed for effective service throughout a county, city or other health district. Until recently the local health department was often the poorest-housed municipal function, with little chance to attempt the services which concern the whole problem of community health.

In 1949, 441 complete public health centers and 519 additional auxiliary centers were in operation. Since the number of primary public health centers has increased by about 70%, to 93%, and the number of auxiliary centers has increased by about 45%, to 1,038. The states are now preparing about 1,250 public health centers and 1,150 auxiliary centers. This is 1½ times the initial local requirement in 1946 and is substantially below the numbers allowed by Hill-Burton regulations of about 6,600 primary centers.

The Federal-aid program has assisted in building 600 primary and auxiliary public health centers, using Federal funds of nearly $30 million. Eighty percent of these public health centers projects have been used in the southern states, but 37 States or territories built one or more. Federal assistance for public health centers has been a great stimulus in the expansion of modern facilities for the practice of public health. On the average, these health centers have cost about $125,000 each. In comparison with construction costs for hospitals they provide a large return in health service, for a very moderate outlay.

(b) Diagnostic and treatment centers.

Centers for the diagnosis and treatment of ambulatory patients requiring prevention and early diagnosis of illness. This provides more effective treatment and early recovery, with great savings in cost and in the prevention of institutional backlog. In each community, a team of physicians and technicians works to make full use of the advances in modern medical knowledge and of equipment now available for accurate diagnosis and effective treatment.

Current State plans under the Federal-aid program report a total of nearly 6,000 existing diagnostic and treatment centers. About 2,250 of these are reported as acceptable, but a large number are still unclassified. They record the total annual visits (in those centers reporting this data) at an average rate of 192 visits per thousand population. About 60% of the existing diagnostic and treatment centers provide general services and are not limited to a special disease, such as cancer, mental hygiene, or orthopedic conditions. The States are programming 1,500 additional diagnostic and treatment centers, chiefly to provide general services.

The Federal-aid program has currently approved for construction 121 diagnostic and treatment centers, using $14 million of Federal funds.

(c) Rehabilitation facilities.

The restoration of disabled persons to the fullest possible degree, either to a full or partial earning capacity or to the stage of caring for themselves at home, has now come to be recognized as an

important health function, with major social and economic value. Both the cause and treatment of disabilities are now better understood. The Federal-aid program for health facilities was expanded in 1954 to include planning and construction of rehabilitation facilities, which would prove "an integrated program of medical, psychological, social, and vocational evaluation and services under competent professional supervision." State inventories now identify 73 facilities throughout the country which meet these comprehensive requirements. These are mostly medically-oriented centers connected with large hospitals and medical schools. Sixteen serve single disability groups only. The States and territories plan 142 additional comprehensive rehabilitation facilities. General inventories now identify nearly 1,000 facilities in ambulatory quarters offering some aspect of rehabilitation service. Incomplete data indicate that these ambulatory facilities in the aggregate serve about 19 individuals annually per thousand population.

The Federal-aid program since 1955 has approved assistance for 61 comprehensive rehabilitation facilities. Eight States and territories have transferred their program funds to an adjoining State to assist in constructing an interstate facility, with services available to patients in both States. The total estimated cost of this construction is $48 million, of which the Federal assistance is about $20 million. All but six of these new facilities are multi-disability centers. Forty projects are being built in connection with hospitals and 21 are ambulatory centers not connected with a hospital. Nineteen of the 61 projects will provide 910 beds for inpatient rehabilitation care.

Special Gains

Several special gains merit attention, in regard to the character of physical achievements in health facilities since the beginning of the Federal-aid program in 1948.

Teaching Facilities. Major projects have received authority for teaching facilities at university medical centers in more than one-half of the States, in addition to many other teaching hospital projects for training of interns, residents, and nurses. By December 1957, 76 projects had been approved in connection with universities and medical schools, with an estimated Federal share of $40 million. A similar Federal share had been approved for 119 other teaching hospitals with medical school affiliations. A still larger group of projects (438) had received Federal assistance amounting to $177 million, for hospitals which were approved for interns and residents. In the aggregate, over one-fourth of the total Federal funds in the Hill-Burton program has been applied to projects where medical teaching is conducted. Expanded facilities for nurses' training have been included in 182 projects, with Federal assistance amounting to $132 million.

Rural Hospitals. The gains previously noted in the distribution of general hospitals were concerned in relation to low-income States and local areas with no previous facilities. Usually such States and areas are highly rural. As a result of the Hill-Burton accomplishments, the eight most rural States (which have 60% or more of their population living in communities below 2,500 in population) now have only a small portion of their population without ready access to hospital services.

Only 8% of the people in these States live in hospital service areas where the present hospitals furnish less than 25% of their needs. Five-sixths of the population in these States are served by hospitals providing more than one-half of their needs. Valuable effects of a modern and efficient hospital building in a rural community are also significant. Repeatedly, such a hospital has attracted additional physicians. Also, a large percentage of the nurses employed in new rural hospitals have come back to active duty from retirement.

National Defense. The general distribution of hospitals built under the Federal-aid program has been outside of major cities and the areas of potential industrial concentration. These hospitals can serve usefully for emergency mobility, removed from the primary target areas in the event of military attack. There are also available as a resource for local disasters.

MINIMUM NEED

The purpose of Federal aid for planning and construction of health facilities has not finished carrying out the declared purpose of the original statute.

1. Adequate facilities of many kinds are still lacking to provide a high quality of medical care for all the people.

2. Continued planning is essential because of shifting population centers and changes in medical theory.

3. This involves reassessing physical needs and the interrelating of several types of facilities for related purposes.

4. Aside from the quantity of physical needs and provision for, adjustment and refinement in present techniques is also possible in the light of ten years' experience.

Physical Needs

The extent of the task remaining in regard to physical needs depends upon the definition of needs. The refinement of current standards of medical need is a slow and difficult process. It must proceed soundly, in order to warrant national acceptance. It is being approached on many fronts. Meanwhile, there are several practical measures of short-range tasks, without reference to long-range standards.

Practical Measures. Practical measures of the unfinished tasks in health facilities for a reasonable future term of years are valid as a working guide for the health facility program. The ultimate goal by present yardsticks is not even attainable and its underlying standards require much better documentation. Five practical measures of physical need are described below.

(a) Elimination of Present Level of Use.

In the postwar decade the available bed capacity of short-term hospitals, the total patient-days of service provided, and the population of the nation, have each increased about one-fourth. The total admissions annually have increased by over 50 percent, but average stay per admission has declined by 20 percent. In consequence, the level of short-term hospital use in days per capita annually shows

almost no change, amounting to .01 days per capita. The level of use for hospitals for long-term care have also remained stable in the postwar decade, at about 1.60 days per capita annually.

Accordingly, the future need for additional hospitals to take care of increase in population can be projected annually on the basis of continuing the present level of use. This projection, for a 27 percent increase in population within a decade, requires 263 thousand additional beds, including all types of hospitals, to accommodate the growth in population with present level of hospital use.

(b) Replacement for Obsolescence.

Hospitals designed in earlier days are in many cases no longer able to provide good care in the light of modern techniques and standards. In addition, many existing hospitals have structural defects producing safety hazards, such as open stairwells and narrow corridors and doors. Replacement of facilities is sometimes necessary in large cities through shifts in population, such as those accompanied by normal residence area to an urban fringe.

A simple method of generalizing for replacement needs is with reference to the age of the existing hospitals. With many exceptions all hospital capacity which is now 50 years old or older is seriously obsolescent and should be replaced. The record shows that about 360,000 beds were available 50 years ago; it is estimated that three-fourths of these, or 270,000, are still in service.

(c) Modernization Requirements.

According to a recent national study, there is need for an expenditure of about one billion dollars for modernization and major repairs to existing hospital plant. About one-third of this sum is needed for major repairs to existing plant and equipment. Another one-third is needed to modernize and improve equipment and service systems, such as mechanical equipment, ventilation systems, and improvements for fire and explosion safety. The remaining one-third is needed to remodel or convert existing space, in order to provide improved services for patients, such as X-ray, physical therapy, and central supply, and to convert space now used for inpatient care to clinic services for ambulatory patients.

(d) Estimates Issued with Federal Aid.

For the last five years, Hill-Burton state agencies have provided forecasts of the potential program of specific eligible projects which could be undertaken if no limitation were placed on the Federal assistance available under the present Act. These estimates show a sustained level of construction values amounting to $700 million annually, for hospital construction alone. An additional sum averaging $300 million annually has been forecast for the supplemental program of facilities for long-term care and rehabilitation covered by the 1954 amendments.

Most of the projects forecast in the first returns have ultimately been built. For the more recent years about one-half of the projects listed have been approved or are on schedules immediately pending, so that these estimates appear reasonably valid. They reflect a sustained

and combining demand greatly exceeding the limits of available Federal support. Proprietary projects, primarily nursing homes and group practice clinics, are ineligible for assistance and are not included in these forecasts of effective demand.

(c) Long-Range Programs of States.

In many States the amount of additional beds actually planned for long-range programs is substantially less than the present Hill-Burton standard of need. For general hospitals and nursing homes, however, most of the beds needed by present standards are specifically programmed to particular areas. These programs constitute a useful working measure beyond the immediate future.

The total volume of additional hospital beds programmed by the States is about 490,000, with about 275,000 in general hospitals, 140,000 in chronic care hospitals, 12,000 in mental hospitals, and 11,000 in tuberculosis hospitals. About 275,000 additional nursing home beds are programmed. These levels of additional construction in long-range programming amount to 2.3 hospital beds per thousand population and 1.7 nursing home beds per thousand population.

Refinement of Current Standards. Standards are essential for systematic planning under the declared purpose of the Public Health Service Act, in order to determine what is "adequate." These standards relate to quantity of facilities and quality of services, together with criteria for the geographic distribution of facilities, and for functional design based on closely defined programs of care.

Present standards of quantity are largely empirical. They were set up in 1946 according to the best judgment and experience of the time and have undergone continuing study for refinement. They are based on minimal need of the people to be served without any restriction to the level of facilities and services for which there is an effective demand at any given moment. Changing medical practice and the availability of a broader range of experience in working with current standards underscore the need for providing new guidelines for the quantity of different kinds of hospitals and other health facilities needed.

a. Present Facilities.

General hospitals for short-term care of acute illness are being programmed nationally by the States at a level about equal to the number of beds required by Hill-Burton standards. The evolving pattern of care for long-term illness, on the other hand, involves experiment and testing with a variety of facilities, which will furnish a graduated scale of services suited to the patient's needs. These include chronic hospitals, or chronic units of general hospitals, nursing homes, outpatient facilities for diagnosis and treatment of ambulatory patients, and organized home care services.

For the care and prevention of mental illness we have little positive knowledge now about the validity of measures of need for the most appropriate facilities. Present thinking suggests a substantial increase in the development of community facilities, to avoid admission

Measures of actual need for comprehensive rehabilitation facilities are still uncertain, although this field of treatment pays high dividends in restoring disabled people to productive life. There are also unsettled problems as to the most suitable distribution of hospital facilities, particularly in planning for the urban fringe of metropolitan areas with proper coordination with facilities and services of the central city.

b. Mental Research.

A good beginning has been made in basic research for the fundamental problems of long-range planning for health facility needs. Hospital research funds under the Hill-Burton program are now assisting in a comprehensive study of all services and facilities needed in the Kansas City metropolitan area. Two similar studies are being conducted in the Greater Boston area. An intensive survey of health needs has been completed by the Health Department of California.

A broad study of mental illness and health and the community resources and needs is in progress through the Joint Commission on Mental Illness and Health, sponsored by twenty organizations and supported in part by Federal funds under the Mental Health Act of 1955. This study will examine the epidemiology of mental disorders, the factors and agents in mental health promotion, resources for detection and treatment, professional manpower available and needed, organization of current research, and legal aspects of the care of mental illness. The American Psychiatric Association is engaged in a related study of the most effective functional design of facilities for inpatient care.

The continuing health survey being conducted by the Public Health Service on a national scale, under recent Federal legislation, will also contribute substantially to basic knowledge of fertility requirements.

Program Implications.

Various adjustments and improvements in program techniques appear desirable, as well as the identification of special needs through refinement of standards and the use of sharper population data. Some program objectives are suggested, in part, by operating experience under the planned program itself. In some degree also, they arise as the consequence of recent developments during the past decade, taking into account the changing characteristics of the people to be served.

Research and Evaluation. Several techniques for achieving the basic declared purpose of the program involve extensions in scope or shifts in emphasis. The broad outline of program method has been tested in extended practice, and has proved successful. More emphasis is now warranted on research and on detailed planning, with some changes in administrative rules. Also, such increases in the scope of facilities eligible for reimbursable aid is needed, if a continuously progressive program.

a. **Research.** Research activities under the Act is an important step in guiding future program expansion and methods. Research projects now underway indicate that demonstrations also, if properly planned and guided, can help substantially in extending the experience of persons

techniques and in testing new ones. Such a program should be encouraged to include experimental construction as well, by special project grants not related to any allocation of funds by States. At present, research expenditures are restricted by the Act to $1,200,000 in any one fiscal year. This has been found inadequate for research in certain areas. The present ceiling should be raised substantially and the scope adjusted to include experimental construction.

b. Planning and Administration. During the past decade experience has shown increasingly that effective planning and administration at the State level are essential to the program. Federal assistance was made available as a matching basis for planning only. This has been used quite generally in accord by the States, with substantial difficulties in separating planning activities from the planning of construction. It is believed that more efficient program operation toward the declared purpose of the Act would result from Federal assistance, on a matching basis, for both planning and administration. Through limited assistance for program administration the States can be encouraged to develop more comprehensive reporting such as for the character and cost of all new construction of health facilities outside the program, and better operating data, particularly in regard to the types of facilities brought within the scope of the program by the Amendments of 1954. A research project is now in progress as to the staff and workload of State Agencies in administering the Hill-Burton program and their State licensure program.

c. Segregation. Racial discrimination has proved a very minor issue in the construction of facilities under this program. The present statute allows separate, but equal, facilities for separate population groups, as an alternative to the elimination of racial discrimination, in projects assisted under the program. In practice, this option has rarely been exercised. Through June 30, 1957 only 28 projects of 3,500, had been approved as separate facilities. The principle of non-segregation can be applied fully by merely dropping the statute's provision for separate but equal facilities.

Modernization and repair of existing hospital and medical facilities and replacement of obsolete equipment has become a substantial problem in the older facilities, particularly in the major cities. While modernization of some facilities is not economical, recent studies show that one-fourth of the annual dollar volume of hospital construction is applied to renovation without adding new capacity. Also, a 1955 survey shows that $1 billion is needed nationally for modernization and major repairs to existing plant and equipment. In the present program such construction is frequently ineligible. Besides this, it usually cannot be realized under the presently applied high priority criteria on urgent need for additional beds. There has been a progressive meeting of the worst shortages in most States. Accordingly, a statutory change at this time to include modernization and repairs in the Hill-Burton program, when economically justified, is a desirable adjustment. This would check deterioration and obsolescence and maintain facilities as usable at a much lower cost than expenditure for their replacement.

Results. The success of the program during the past decade, in raising the level of availability of facilities where greatest shortages were found, and the slow net progress in reducing the national backlog of need for facilities, both show the importance of continuing the Federal program for a considerable period. In order to stabilize planning and proceed without loss of momentum a minimum term of extension should be provided, of at least five years. Recent two-year extensions have interfered with planning for several reasons: (1) Most State legislatures meet and appropriate funds biennially, (2) the pre-construction development of a medical facility project takes about two years, and (3) training and recruiting of administrative staff at the State level is difficult and expensive, without the backing of a predictable minimum term of authorization.

Planning. The methods used in planning a program of Federal assistance can be used as a powerful tool for particular purposes, with changes in program needs and emphasis. Planning techniques can be used to encourage or stimulate selectively. Besides, a better understanding of principles of equity from analysis of an active program may suggest refinements not foreseeable.

c. Variation in Grants. Much progress has been made in reducing the number of hospital areas with no facilities or very limited resources. There still remain some 160 areas, with a population amounting to 2.3 million, with no acceptable facilities. In general, such areas are small and have a low per capita income. An extra incentive to such communities is possible through wider use of the options now available