

PART II. DATA BEARING ON ECONOMIC ASPECTS AND IMPACTS OF THE PROGRAM

9. *Economic effects*

This program reimburses diploma schools of nursing for a portion of the cost of training students whose enrollment can be reasonably attributed to the provisions of the Nurse Training Act of 1964.

Since the diploma schools are located in all of the States, the dollar impact will be felt throughout the United States.

Since the effect of this program will be to increase the supply of nurses and nursing service, the productivity of the general work force should be increased. The availability of increased nursing service should shorten the time employees will be absent from work due to injury or illness to themselves or family members for whom they would have to give care at home in the absence of an adequate nurse supply.

Since payments to the schools are in direct recognition of the administrative burden imposed by the increased enrollment, these payments should result in ability to hire additional staff or add equipment within hospitals.

Since employment in the field of nursing has been declining in the last few years from 4 percent of 17-year-old girls to about 3.6 percent, this program with its incentive to the diploma schools to increase enrollment should restore and hold the nurse supply at approximately 4 percent of 17-year-old girls.

Since enrollments should increase in all diploma schools throughout the United States, the monetary benefit to the schools and the stability effect on the economy due to increased employment should be felt in every State.

One hundred and ninety programs in 42 States including Puerto Rico received payment to diploma schools during fiscal year 1965.

10. *Economic classification of program expenditures.* (See table 2.)
Program: Partial reimbursement to diploma schools for costs attributable to Nurse Training Act.

Department or agency, and office or bureau: Department of Health, Education, and Welfare; Public Health Service—Bureau of State Services (Community Health).

TABLE 2.—*Economic classification of program expenditures for fiscal year 1965*

[In thousands of dollars]	
Federal Government: ^{1 2}	
Grants to State and local governments.....	682
Transfer payments to nonprofit organizations.....	106
Total Federal expenditures.....	788

¹ Expenditures here refer to obligations.

² Grants are made to diploma schools to help them defray some of the additional costs resulting from additional enrollment of students attending with student loans and to promote further development of those schools.

IMPROVEMENT OF NURSE TRAINING

PART I. DESCRIPTION OF THE PROGRAM

1: *Objectives*

The Nurse Training Act of 1964 (Public Law 88-581) authorizes a program of project grants to enable public and nonprofit private diploma, collegiate, and associate degree schools of nursing which are

accredited or have reasonable assurance of accreditation to strengthen, improve, and expand programs to teach and train nurses.

These grants are intended to promote the preparation of a larger number of nurses, to improve educational programs in nursing, and to demonstrate new or more effective methods of instruction.

2. Operation

This is a federally administered direct grant program with no matching requirements. Applications are submitted to the Division of Nursing. All eligible applications are given a technical review. Applications are submitted to the National Advisory Council on Nurse Training (established under sec. 841, Public Law 88-581) which makes recommendations to the Surgeon General. The act provides that consideration be given—

to the extent to which such projects will contribute to general improvement in the teaching and training of nurses of the kind involved, the extent to which they will aid in attaining a wider geographical distribution throughout the United States of high quality schools of the type involved, and the relative need in the area in which the school is situated and surrounding areas for nurses of the type trained in such school.

The members of the National Advisory Council on Nurse Training are appointed without regard to civil service laws.

3. History

This program is a legislative implementation of the recommendations of the consultant group on nursing appointed by the Surgeon General of the Public Health Service in the spring of 1961 to advise him on nursing needs and to identify the appropriate role of the Federal Government in assuring adequate nursing services for the Nation. The consultant group specifically recommended that:

Federal funds should be made available, by means of project grants, to nursing education programs in universities, colleges, schools, and in public and nonprofit hospitals, institutions, and agencies—for the improvement, expansion, and extension of their educational programs and services. This would include experimentation and demonstration of new and effective methods of teaching, the development and use of teaching aids and equipment, and, where indicated, the establishment of new programs.¹

4. Level of operation. (See table 1.)

Program: Improvement of nurse training.

Department or agency, and office or bureau: Department of Health, Education, and Welfare; Public Health Service—Bureau of State Services (Community Health).

¹ "Toward Quality in Nursing—Report of Surgeon General's Consultant Group on Nursing," USPHS publication, No. 992, p. 37, 1963.

TABLE 1.—*Level of operations or performance, fiscal years 1964-67*

[Dollar amounts in thousands]

Measure (see committee inquiry for definitions)	Fiscal year 1964	Fiscal year 1965	Fiscal year 1966 estimates	Fiscal year 1967 ¹
(a) Magnitude of the program ²		39	50	60
(b) Applicants or participants:				
State government agencies ³		10	12	15
Local communities or governments ⁴		1	1	2
Individuals or families.....				
Other—Private nonprofit.....		28	37	43
(c) Federal finances:				
Unobligated appropriations available.....				
Obligations incurred.....		\$1,990	\$3,000	\$4,000
Allotments or commitments made.....				
(d) Matching or additional expenditures ⁵		\$218	\$310	\$420
(e) Number of Federal employees (man-years).....		3.6	8.4	9.8
(f) Non-Federal personnel (man-years).....		3.2	.2	
(g) Other measures of performance.....				

¹ President's budget.² Applications approved and funded.³ State supported (public) schools of nursing.⁴ Local (public) schools of nursing, e.g. community hospital.⁵ Applicant's voluntary share of project costs.*5. Estimated magnitude of program in 1970*

Not answered.

6. Prospective changes in program orientation

Not answered.

7. Coordination and cooperation

Project grants for the improvement of nurse training operate under policies and procedures developed for this program. They are derived from the policies outlined in "Health Services Project Grant Manual" (GPO 884772). Grants may be made to eligible programs of nursing education in public and in nonprofit private institutions. These may be located in or with public or nonprofit private hospitals, colleges, universities, and community junior colleges.

8. Laws and regulations

Grants for projects to improve nurse training are authorized under section 805 of the Nurse Training Act of 1964, Public Law 88-581. (Title VIII, Public Health Service Act, as amended, 42 U.S.C. 296-298.)

PART II. DATA BEARING ON ECONOMIC ASPECTS AND IMPACTS OF THE PROGRAM

9. Economic effects

This program provides schools of nursing with funds to meet the additional costs of projects designed to improve, strengthen, or expand programs to teach nurses. Since all (accredited or with reasonable assurance of accreditation) public or nonprofit private schools of nursing (diploma, collegiate—undergraduate, or graduate—or associate degree institutions) are eligible to apply and these funds can be used for salaries and other costs, and operating expenses (such as executive and administrative costs, accounting, building maintenance), very wide impact will be felt in the various occupations due to the many fields of endeavor affected by this program.

The teaching methods and techniques developed by these grants, that is, TV teaching, programmed learning, et cetera, will greatly increase productivity by extending the ability of outstanding teachers to reach much larger numbers of students, thereby improving the skills of a very considerable number of nurses and nursing students.

The requirements for projects are that the applications set forth the need and background, methodology to be used, staff and facilities available, participation of other agencies, plans for evaluation, budget, and experience of staff conducting the projects. Complying with these requirements should do much to upgrade the organization and management of the educational and service type organizations applying for grants under this program.

Since this program is directed toward stimulating new ways of improving, strengthening, and expanding programs to teach nurses, a very considerable amount of new economic activity is generated by promoting faculty development, demonstrating new or more effective methods of instruction, exploring curriculum revision, establishing new courses, and discovering ways to increase enrollment.

The results of these projects will, in many cases, be applicable to teaching in other professional disciplines and should have this multiple productivity effect in the related disciplines of medicine and dentistry as well as in general education.

Up to the present 51 contracts have been awarded in this area.

10. *Economic classification of program expenditures.* (See table 2.)

TABLE 2.—*Economic classification of program expenditures for fiscal year 1965*

[In thousands of dollars]

Program: Improvement of Nurse Training.

Department or agency, and office or bureau: Department of Health, Education, and Welfare; Public Health Service—Bureau of State Services (Community Health).

Federal Government:¹

Grants to State and local governments.....	793
Transfer payments to nonprofit organizations ²	1, 197

Total Federal expenditures.....	1, 990
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Non-Federal expenditures financed by:

Nonprofit organizations ²	218
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Total expenditures for program.....	2, 208
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¹ Expenditures here refer to obligations.

² Schools of nursing.

PROJECT GRANTS

Answers to questions 4 and 10 are summarized here for all project grants of the Bureau of State Services—Community Health.

4. *Level of Operations.* (See table 1.)

Program: Project grants, Bureau of State Services—Community Health (summary).

Department or agency, and office or bureau: Department of Health, Education, and Welfare; Public Health Service—Bureau of State Services (Community Health).

TABLE 1.—*Level of operations or performance, fiscal years 1964-67*

(Dollar amounts in thousands)

Measure (see committee inquiry for definitions)	Fiscal year 1964	Fiscal year 1965	Fiscal year 1966 estimates	Fiscal year 1967 ¹ estimates
(a) Magnitude of the program (projects)-----	820	898	1,133	1,299
(b) Applicants or participants:				
State government agencies-----				
Local communities or governments-----				
Individuals or families-----				
Other-----				
(c) Federal finances:				
Unobligated appropriations available-----				
Obligations incurred-----	\$34,195	\$45,956	\$61,750	\$72,229
Allotments or commitments made-----				
(d) Matching or additional expenditures ² -----	\$33,501	\$37,290	\$46,175	\$48,087
(e) Number of Federal employees ³ (man-years)	518	924	947	1,009
(f) Non-Federal personnel (man-years)-----	3,923	4,714	6,016	7,670
(g) Other measures of performance (number of trainees)-----	181	186	224	250

¹ President's budget.² Omits tuberculosis control projects. The total of non-Federal matching or additional expenditures for tuberculosis control projects was reported as \$43 million for the fiscal year 1965 but was not reported for any other year.³ Includes personnel furnished in lieu of cash.*10. Economic classification of program expenditures.* (See table 2.)

Program: Project grants, Bureau of State Services—Community Health (summary).
 Department or agency, and office or bureau: Department of Health, Education,
 and Welfare; Public Health Service—Bureau of State Services (Community
 Health).

TABLE 2.—*Economic classification of program expenditures for fiscal year 1965*

(In thousands of dollars)

Federal Government:¹

Purchases of goods and services:

Wages and salaries-----	3,301
Other-----	1,200
Grants to State and local governments-----	28,494
Transfer payments to nonprofit institutions-----	12,960

Total Federal expenditures-----	45,955
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Non-Federal expenditures financed by:

State and local governments-----	64,828
Individuals or nonprofit organizations-----	15,462

Total expenditures for program-----	126,245
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¹ Expenditures here refer to obligations.

CANCER CONTROL AND DEMONSTRATION PROJECT GRANTS

PART I. DESCRIPTION OF THE PROGRAM

1. Objectives

The purpose of these grants is to extend and improve the application, throughout the Nation, of measures that can improve control of cancer. They do this by training physicians and ancillary medical personnel, and by evaluating and demonstrating cancer control procedures and their administration.

2. Operation

Project proposals are solicited and grants-in-aid are awarded to those deemed by the Public Health Service after review by an advisory committee to be likely of success and significant to control of cancer.

The Cancer Control Branch directs the program; most liaison with applicants and grantees is conducted by regional office staffs; while accounting and audit services are provided by centralized Public Health Service units.

Training grant programs planned with professional society cooperation (a) give basic and special training and continuing education to cytotechnologists, medical technologists, and radiation technologists; (b) provide postresident training and continuing education to physicians and dentists, graduate training to other specialized professional personnel, and continuing education to physicians; and (c) provide short-term training in the mammography procedure for radiologists and their technicians.

Demonstration and evaluation projects are programed in (a) detection of cancer of the uterine cervix; (b) detection of oral cancer; (c) evaluation of cancer detection and diagnostic procedures and aids; and (d) field studies of such questions as identification of population groups having high risk of cancer and problems of public education.

3. History

The cancer control program became an entity separate from the research program in 1957, when it was decided that the National Cancer Institute should concentrate on research, and that efforts to improve grassroots application of available cancer control knowledge should be concentrated in the Bureau of State Services. Project grant appropriations for cancer control in the Bureau have been:

1960.....	\$1,500,000	1964.....	\$4,850,000
1961.....	1,500,000	1965.....	5,273,000
1962.....	3,050,000	1966.....	13,933,000
1963.....	4,750,000		

4. Level of operation. (See table 1.)

Program: Cancer control and demonstration project grants.
Department or agency, and office or bureau: Department of Health, Education, and Welfare; Public Health Service; Bureau of State Services (Community Health).

TABLE 1.—*Level of operations or performance, fiscal years 1964-67*

[Dollar amounts in thousands]

Measure (see committee inquiry for definitions)	Fiscal year 1964	Fiscal year 1965	Fiscal year 1966 estimates	Fiscal year 1967 ¹ estimates
(a) Magnitude of the program (projects)	234	251	395	440
(b) Applicants or participants:				
State government agencies	\$230	\$436	\$615	\$660
Local communities or governments	\$318	\$375	\$700	\$740
Individuals or families	\$907	\$907	\$1,000	\$1,100
Other	\$2,044	\$3,549	\$11,618	\$12,500
(c) Federal finances:				
Unobligated appropriations available				
Obligations incurred	\$4,489	\$5,268	\$13,933	\$15,000
Allotments or commitments made				
(d) Matching or additional expenditures ²	\$2,178	\$2,370	\$5,000	\$6,000
(e) Number of Federal employees ³	7	9	14	15
(f) Non-Federal personnel ⁴	1,225	1,426	2,000	3,000
(g) Other measures of performance (number of individual traineeships)	108	89	100	110

¹ President's budget.

² Not required and not auditable; therefore, incomplete estimate.

³ Programing personnel excluded.

⁴ Man-years funded by grant and contributed by grantees (excluding trainees).

5. *Estimated magnitude of program in 1970*

Not answered.

6. *Prospective changes in program orientation*

Not answered.

7. *Coordination and cooperation*

(a) Within the Division: The nature of the categorical disease programs of the Division has been such that there has been little need or opportunity for joint action during these formative years. Whenever profitable to immediate program needs, cooperation has developed, as in the smoking and health program. In the next few years it is probable that more extensive interbranch or divisionwide cooperation will be developed, particularly in such activities as continuing education for physicians and ancillary medical personnel. Such training often is most attractive and effective when it is geared to the needs of specific fields of practice, and presents training related to several disease categories in ways in which the trainees encounter them in actual practice.

(b) and (c) Within the Department and with other Federal agencies: The Cancer Control Branch maintains a continuing liaison with the National Cancer Institute of the Public Health Service. Through this liaison the Cancer Control Branch obtains leads to control program planning for the future as they are suggested by developments in the research programs of the Institute. Through this liaison the two organizations also determine which picks up project proposals that fall in the "gray areas" between research and application, and each is enabled to maintain contact with the thinking of the other's extramural advisers.

Cooperation with other Federal agencies occurs on an ad hoc basis, as occasions arise and does not require continuing negotiation or liaison.

(d) With State governments: Cooperation with State health agencies is required in assisting the latter to develop cancer control programs that are financed in part by a Federal formula grant-in-aid. State public health agencies are asked for comments and suggestions on project grant applications that originate in their States, but do not participate in administration of project grants programs. State agencies are eligible to apply for project grants to aid their own cancer control activities that cannot be supported by their own or formula grant funds.

(e) With local governments: Local public agencies may and occasionally do apply for and receive project grants. Their programs also may share in formula grants within the approved cancer control programs of their States. Local governments do not share in the administration of project grants to other grantees.

(f) With foreign governments and international organizations: Staff members of the Cancer Control Branch participate in meetings, share information and provide consultation as necessary. The Branch does not finance or administer international programs.

(g), (h), and (i). With nonprofit organizations; businesses; others: Most project grants are awarded to nonprofit hospitals, schools, professional societies, and voluntary agencies. A continuing exchange of program plans and information is maintained with the American

Cancer Society. None of these organizations participates in management of any project grant program, beyond the operation of their individual projects to which grants have been awarded. Business houses occasionally bid on and receive contracts for specified survey or developmental tasks, but are not eligible for project grants.

8. *Laws and regulations*

The Public Health Service Act and the annual appropriation acts.

PART II. DATA BEARING ON ECONOMIC ASPECTS AND IMPACTS OF THE PROGRAM

9. *Economic effects.* (See overall statement from Office of the Surgeon General.)

10. *Economic classification of program expenditures.* (See table 2.)

Program: Cancer control and demonstration projects grants.
Department or agency, and office or bureau: Department of Health, Education, and Welfare; Public Health Service—Bureau of State Services (Community Health).

TABLE 2.—*Economic classification of program expenditures for fiscal year 1965*

(Thousands of dollars)

Federal Government: ¹	
Grants to State and local governments.....	811
Transfer payments to non-profit organizations.....	4, 456
Total Federal expenditures.....	5, 267
Non-Federal expenditures financed by: Individuals and non-profit organizations.....	2, 370
Total expenditures for program.....	7, 637

¹ Expenditures here refer to obligations.

NEUROLOGICAL AND SENSORY DISEASE PROJECT GRANTS

PART I. DESCRIPTION OF THE PROGRAM

1. *Objectives*

The purpose of these grants-in-aid is to stimulate the development, expansion, or improvement of community service activities which identify and deal with problems of neurological, visual, or communicative disorders, including but not limited to such areas as epilepsy, mental retardation (reported separately), glaucoma, hearing disability and so forth. Activities may involve the preventive, diagnostic, treatment, and rehabilitative aspects of these disorders.

This program also supports the training of physicians and allied medical personnel for community services in the detection, diagnosis, treatment, and management of persons with neurological disorders. Grants are made for program expansion or improvement or curriculum enrichment; for short-term institutes, seminars, and so forth; to individuals for specialized experience; and for demonstrations of better methods of manpower utilization and new teaching techniques.

2. *Operation*

Assistance is in the form of a financial grant to approved applicants. Any State or local public agency, or nonprofit private agency, organization, or institution in the United States (including Guam, Puerto Rico, and the Virgin Islands) is eligible to apply for the above grants.

To be considered for a training program, an institution must have an accredited or acceptable program. Individual traineeships are available to allied medical personnel for specialized training, and to physicians who have completed residencies for training in the neurological and sensory diseases.

3. History

This grant assistance was first made available in fiscal year 1962, when \$1 million was appropriated for this purpose; \$2,600,000 was appropriated for this program in fiscal year 1963; \$2,950,000 in fiscal year 1964 (including \$503,000 for mental retardation); \$3,450,000 in fiscal year 1965 (including \$700,000 for mental retardation); and \$2,750,000 in fiscal year 1966 (excluding funds for mental retardation).

4. Level of operation. (See table 1.)

Program: Neurological and sensory disease project grants.

Department or agency, and office or bureau: Department of Health, Education, and Welfare; Public Health Service—Bureau of State Services (Community Health).

TABLE 1.—*Level of operations or performance, fiscal years 1964-67*

[Dollar amounts in thousands]

Measure (see committee inquiry for definitions)	Fiscal year 1964	Fiscal year 1965	Fiscal year 1966 estimates	Fiscal year 1967 ¹ estimates
(a) Magnitude of the program (projects).....	163	178	161	229
(b) Applicants or participants:				
State government agencies.....	\$422	\$488	\$489	\$623
Local communities or governments.....	\$72	\$134	\$136	\$173
Individuals or families.....	\$314	\$367	\$363	\$469
Other—Universities, nonprofit.....	\$1,624	\$1,755	\$1,757	\$2,235
(c) Federal finances:				
Unobligated appropriations available.....				
Obligations incurred.....	\$2,432	\$2,744	\$2,750	\$3,500
Allotments or commitments made.....				
Matching or additional expenditures ²	\$1,337	\$1,520	\$1,700	\$2,000
(d) Number of Federal employees ³	5	6	6	6
(e) Number of Federal personnel (man-years) ⁴	243	272	296	350
(f) Non-Federal personnel (man-years) ⁴				
(g) Other measures of performance (number of traineeships).....	71	89	89	105

¹ President's budget.

² Not required and not auditable; therefore, incomplete estimate.

³ Programing personnel excluded.

⁴ Man-years funded by grant and contributed by grantees (excluding trainees).

5. Estimated magnitude of program in 1970

Not answered.

6. Prospective changes in program orientation

Not answered.

7. Coordination and cooperation

(a) Within the Division: The Neurological and Sensory Disease Service Branch, which administers this program, has special interest in stroke and mental retardation activities, which are the responsibility of the Heart Disease Control and Mental Retardation Branches, respectively, of the Division of Chronic Diseases. The Neurological and Sensory Disease Service Branch lends advisory committee and specialized consultant support to the heart program for shaping programs, especially in the preventive aspects in the stroke activities of the latter branch. With respect to mental retardation, Neurological

and Sensory Disease Service cooperates with the Mental Retardation Branch on the neurological aspects of this problem by lending its staff consultant in speech and hearing, vision, and neurology to the furthering of the goals of the mental retardation activity. Projects are freely exchanged between these branches and staff are continually in close contact on the various problems which can be met collectively.

Within the Public Health Service: Neurological and Sensory Disease Service maintain close liaison with the National Institute of Neurological Diseases and Blindness, and to a lesser extent with the Institute on Child Health and Human Development. This liaison consists of periodic contacts with the Director of the NINDB and his immediate staff in subject areas in which the two units have mutual interests. Staff of each of the programs reciprocate attendance at study counsel, review panel, and advisory committee meetings and, where indicated, there is an exchange of staff comment on project applications coming before these review bodies. Exchange of staff ideas has assisted in opening the door to joint funding of projects in selected States and localities—projects in which the interest was necessarily much broader than either a service or research effort.

(b) Within the Department: The Neurological and Sensory Disease Service Branch maintains continuing liaison with the Office of Education, the Vocational Rehabilitation Administration, and the Children's Bureau of the Welfare Administration. Liaison with these agencies includes an exchange of grant applications coming before the review bodies of the respective offices, with invitations to staff to participate in the review process. In some cases applications have been restructured to prevent overlap and duplication. This continuing liaison has contributed significantly to developing mechanisms for meeting the overall needs of afflicted persons.

(c) With other Federal Government departments: No formal arrangements or outstanding examples of coordination or cooperation.

(d) With State governments: An evaluation by the State health authority is usually sought for grant applications for community service projects which have implications for State-supported activities in the same area.

(e) With local governments: One of the criteria upon which a community service grant application is judged is the extent of cooperation and coordination with interested or involved local agencies, which would tend to assure a successful and productive project.

(f) With foreign governments and international organizations: None.

(g) With nonprofit organizations and institutions: See (i) below.

(h) With business enterprises: None.

(i) With others: Program cooperates with such voluntary organizations as the National Society for the Prevention of Blindness and its local units, and appropriate epilepsy volunteer agencies; and with such professional organizations as the American Academy of Otolaryngology and Ophthalmology, the American Academy of Neurology, the Association of Audiology and Speech Pathology, to further the mutual goals of such agencies and the Neurological and Sensory Disease Service program.

8. Laws and regulations

Annual DHEW Appropriation Act.

PART II. DATA BEARING ON ECONOMIC ASPECTS AND IMPACTS OF THE PROGRAM

9. *Economic effects.* (See overall statement from the Office of the Surgeon General.)

10. *Economic classification of program expenditures.* (See table 2.)

Program: Neurological and sensory disease project grants.
Department or agency, and office or bureau: Department of Health, Education, and Welfare; Public Health Service—Bureau of State Services (Community Health).

TABLE 2.—*Economic classification of expenditures for fiscal year 1965*

[In thousands of dollars]

Federal Government: ¹	
Grants to State and local governments.....	622
Transfer payments to nonprofit organizations.....	2, 122
Total Federal expenditures.....	2, 744
Non-Federal expenditures financed by individuals and nonprofit organizations.....	1, 520
Total expenditures for program.....	4, 264

¹ Expenditures here refer to obligations.

COMMUNITY HEALTH PROJECT GRANT PROGRAM

PART I. DESCRIPTION OF THE PROGRAM

1. Objectives

The community health project grant program provides project grants for studies, experiments, and demonstrations looking toward development of new or improved methods of providing health services outside the hospital, with particular emphasis on the needs of chronically ill or aged persons.

2. Operation

The program operates as a project grant program administered by the Bureau of State Services (Community Health). Grant requests may be submitted by any State or local public agency or any nonprofit agency, institution, or organization. Projects are approved by the Surgeon General or his designee after considering the recommendations of an expert review committee.

3. History

The program began in fiscal year 1962. Forty-four projects were approved and funded during that year in which the appropriation was \$2,319,000. Sixty-eight projects were approved and funded in fiscal year 1963, 50 in 1964, and 48 in 1965. Appropriations for the program totaled \$6 million in fiscal year 1963 and \$7 million for each year in 1964 and 1965. The appropriation for fiscal year 1966 totals \$10 million, which is the amount authorized under the enabling legislation. In fiscal year 1965, it was impossible, for the first time, to fund all projects which were recommended for approval because insufficient funds were available.

4. *Level of operations.* (See table 1.)

Program: Community health project grant program.

Department or agency, and office or bureau: Department of Health, Education, and Welfare; Public Health Service—Bureau of State Services (Community Health).

TABLE 1.—*Level of operations or performance, fiscal years 1964–67*

[Dollar amounts in thousands]

Measure (see committee inquiry for definitions)	Fiscal year 1964	Fiscal year 1965	Fiscal year 1966 estimates	Fiscal year 1967 ¹ estimates
(a) Magnitude of the program (projects).....	135	129	139	144
(b) Applicants or participants:				
State government agencies (projects)....	24	23	23	24
Local communities or governments (projects).....	24	23	23	24
Individuals or families.....				
Other (projects).....	87	93	93	96
(c) Federal finances:				
Unobligated appropriations available....				
Obligations incurred.....	\$6,957	\$6,985	\$10,000	\$10,000
Allotments or commitments made.....				
(d) Matching or additional expenditures.....	\$2,892	\$3,305	\$5,000	\$5,000
(e) Number of Federal employees.....				
(f) Non-Federal personnel.....				
(g) Other measures of performance.....				

¹ President's budget.

5. *Estimated magnitude of program in 1970*

Not answered.

6. *Prospective changes in program orientation*

Not answered.

7. *Coordination and cooperation*

(a) The community health project grant program is a Bureau of State Services (CH) administered program which involves projects in the program areas of all eight community health divisions of the Bureau. Applications which are approved are assigned to one of the divisions which then has responsibility for surveillance over the project. The Project Grants Branch in the Bureau coordinates the administration of the program. Assignment of projects is based upon division responsibilities in relation to the purposes and objectives of the individual projects.

(b) From time to time applications are received for consideration under this program which more appropriately should be considered under one of the other grant programs of the Public Health Service, the Children's Bureau, or another unit of Government. In each instance, the application is referred to the grant program which should consider the application based upon its program content.

(c) Consideration is given to transfer of applications to other departments of the Federal Government if it appears that such a department has a grant program under which the application more appropriately should be considered.

(d) The community health project grant program achieves coordination with State governments in that the State health department is asked to review and comment on each application received from that State. In so commenting, the health department points out

how the proposed project fits into the health program of the State as envisioned by the State health department.

(e) In reviewing projects designed to provide local services, particular attention is directed to the cooperation of agencies at the community level and the degree to which the project as proposed recognizes the responsibility of the local government for the activities to be carried out. Attention is also given to the manner in which the proposed program will become a part of the total community health program.

(f) This program has no relationship to foreign governments or international organizations.

(g) Nonprofit organizations and institutions constitute a major group of applicants under this particular grant program. Any nonprofit agency is eligible to submit an application if the proposed activity falls within the purposes of the program. It is expected that a nonprofit agency will work in close harmony with official agencies in carrying out any program which it proposes to undertake.

(h) The community health project grant program has little relationship to business enterprises since profitmaking organizations may not apply for grants. Most projects approved under the program are designed to provide health services to segments of the population which need them. Expenditures are directed primarily to the hiring of health professionals and subprofessionals to provide such services and to the purchase of supplies and travel needed to augment such services. Only minimal amounts are expended on equipment or supplies procured from profitmaking organizations.

8. *Laws and regulations*

The community health project grant program is authorized in section 316 of the Public Health Service Act, as amended (42 U.S.C. 247a). Appropriations to carry out the program are included in the annual appropriation act of the Department of Health, Education, and Welfare.

PART II. DATA BEARING ON ECONOMIC ASPECTS AND IMPACTS OF THE PROGRAM

9. *Economic effects.* (See overall statement from Office of the Surgeon General.)

The greatest impact upon the economy of the Nation lies in the new and improved methods of providing health services which may develop as a result of projects which are approved. These, over a long period of time, may result in additional productivity from the aged and the prolonging of life for the chronically ill. To the degree that this happens, one may consider that the grants are contributing to the general economic improvement of the country.

10. *Economic classification of program expenditures.* (See table 2.)

Program: Community health project grant program.

Department or agency, and office or bureau: Department of Health, Education, and Welfare; Public Health Service—Bureau of State Services (Community Health).

TABLE 2.—*Economic classification of program expenditures for fiscal year 1965*

[In thousands of dollars]	
Federal Government: ¹	
Grants to State and local governments.....	1,381
Transfer payments to nonprofit organizations.....	5,604
Total Federal expenditures.....	6,985
Non-Federal expenditures financed by:	
Individuals and nonprofit organizations.....	3,305
Total expenditures for program.....	10,290

¹ Expenditures here refer to obligations.

MENTAL RETARDATION PROJECT GRANTS

PART I. DESCRIPTION OF THE PROGRAM

1. Objectives

The purpose of these grants is to stimulate the development, expansion, or improvement of community service activities which identify and deal with problems in mental retardation, including the preventive, diagnostic, care, and rehabilitative aspects of this condition.

This program also supports the training of physicians and allied personnel for community services in the detection, diagnosis, care, and management of persons with this condition. Grants are made for curriculum enrichment; for short-term institutes and seminars; for demonstrations of better methods of manpower utilization and new teaching techniques; and to individuals for specialized training.

2. Operation

Assistance in the form of a financial grant is awarded to approved applicants. Any State or local public agency, or nonprofit private agency, organization, or institution in the United States (including Guam, Puerto Rico, and the Virgin Islands) is eligible to apply for the above grants. Individual traineeships are available to paramedical personnel for specialized training, and to physicians who have completed residencies for special training in the area of mental retardation.

3. History

During fiscal years 1963 and 1964, a few projects directed to the special problems of the mentally retarded were funded under the Neurological and Sensory Disease Service project grant program. Following the stimulation of activity in this field which resulted from the passage of Public Law 88-156 (Maternal and Child Health and Mental Retardation Planning Amendments of 1963 which included title XVII: Grants for Planning Comprehensive Action To Combat Mental Retardation), in fiscal year 1965, \$700,000 of neurological and sensory project grant funds was earmarked for community service and training grants in mental retardation; and in fiscal year 1966, \$4,500,000 is available.

4. Level of operations. (See tables 1 and 2.)

Program: Mental retardation project grants.

Department or agency, and office or bureau: Department of Health, Education, and Welfare; Public Health Service—Bureau of State Services (Community Health).

TABLE 1.—*Level of operations or performance, fiscal years 1964-67*

[Dollar amounts in thousands]

Measure (see committee inquiry for definitions)	Fiscal year 1964	Fiscal year 1965	Fiscal year 1966 estimates	Fiscal year 1967 ¹ estimates
(a) Magnitude of the program (projects)	11	49	73	100
(b) Applicants or participants:				
State government agencies	\$104	\$113	\$1,000	\$1,000
Local communities or governments			\$875	\$875
Individuals or families	\$18	\$59	\$325	\$325
Other—Universities, nonprofit agencies	\$381	\$527	\$2,300	\$2,300
(c) Federal finances:				
Unobligated appropriations available				
Obligations incurred	\$503	\$699	\$4,500	\$4,500
Allotments or commitments made				
(d) Matching or additional expenditures ²	\$168	\$170	\$1,125	\$1,125
(e) Number of Federal employees ³		2	4	5
(f) Non-Federal personnel ⁴				
(g) Other measures of performance (number of traineeships)	2	8	35	35

¹ President's budget.² Not required and not auditable; therefore, incomplete estimate.³ Programing personnel excluded.⁴ Man-years funded by grant and contributed by grantees (excluding trainee).

Program: Mental Retardation Planning and Implementation Grants.

Department or agency, and office or bureau: Department of Health, Education, and Welfare; Public Health Service—Bureau of State Services (Community Health).

TABLE 2.—*Level of operations or performance, fiscal years 1964-67*

[Dollar amounts in thousands]

Measure (see committee inquiry for definitions)	Fiscal year 1964	Fiscal year 1965	Fiscal year 1966 estimates	Fiscal year 1967 ¹ estimates
(a) Magnitude of the program (projects)	36	18	53	53
(b) Applicants or participants (55) ²				
State government agencies				
Local communities or governments				
Individuals or families				
Other				
(c) Federal finances:				
Unobligated appropriations available	³ \$2,200	² \$1,060	⁴ \$2,750	⁴ \$2,750
Obligations incurred	\$1,140	\$1,060	\$2,750	\$2,750
Allotments or commitments made				
(d) Matching or additional expenditures			\$1,000	\$1,000
(e) Number of Federal employees				
(f) Non-Federal personnel				
(g) Other measures of performance				

¹ President's budget.² 50 States, District of Columbia, American Samoa, Guam, Puerto Rico, and the Virgin Islands.³ Planning grants to assist States in planning for comprehensive action to combat mental retardation.⁴ Implementation grants to assist in implementing the planning and other steps against mental retardation.5. *Estimated magnitude of program in 1970*

Not answered.

6. *Prospective changes in program orientation*

Not answered.

7. *Coordination and cooperation*

(a) Within the Division and Bureau: A Bureau committee on mental retardation exists to facilitate coordination and cooperation on this activity within the Bureau. Staff of the Mental Retardation Branch are in daily contact with staff of other Branches of the Division

about possible coordination of activities and cooperation in joint endeavors.

(b) Within the Department: The Secretary's Committee on Mental Retardation includes representation from every mental retardation program in the Department—Vocational Rehabilitation Administration; Office of Education; Public Health Service (NIH-NINDD, NIMI, DGMS; Bureau of Medical Services; Bureau of State Services—Division of Chronic Diseases); Welfare Administration (Bureau of Family Services and Children's Bureau).

(c) With other Federal Government agencies: This Branch administers the program of grants for planning comprehensive State action to combat mental retardation (Public Law 88-156). Applications are reviewed by representatives of programs with mental retardation interests in the Departments of Health, Education, and Welfare; Labor, and Interior. This kind of cooperation is reflected in the project grants activity, although not formalized.

(d) With State governments: In addition to grants, support for training and service activities is provided through contract and cooperative agreements. All of these support mechanisms involve participation by the recipient agency, which frequently calls for continuing liaison with the State Mental Retardation Planning group.

(e) With local agencies: See (d) above.

(f) With foreign governments and international organizations: Support for applied research activities is carried out under the provisions of Public Law 480 (using counterpart funds).

(g) With nonprofit institutions: See (d) above.

(h) With business enterprises: None.

(i) With others: Works with professional organizations, such as the American Association on Mental Deficiency, to promote improved standards for mental retardation services and training. Consultation to and participation in national and regional meetings of other organizations.

8. *Laws and regulations*

This grant activity is authorized in the annual DHEW Appropriation Act. Programs authorized by Public Law 88-156, which included authority for grants to States for the planning of comprehensive mental retardation activities, and the Mental Retardation Facilities Construction Acts, Public Law 88-164, have a direct effect and bearing on the activities funded under this grant program.

PART II. DATA BEARING ON ECONOMIC ASPECTS AND IMPACTS OF THE PROGRAM

9. *Economic effects.* (See overall statement from the Office of the Surgeon General.)

10. *Economic classification of program expenditures.* (See table 3.)

Department or agency, and office or bureau: Department of Health, Education, and Welfare; Public Health Service; Bureau of State Services (Community Health).

TABLE 3.—*Economic classification of program expenditures for fiscal year 1965*

[In thousands of dollars]

Program: Mental retardation project grants.

Federal Government:¹

Grants to State and local governments.....	\$113
Transfer payments to nonprofit organizations.....	586

Total Federal expenditures.....	699
---------------------------------	-----

Non-Federal expenditures financed by individuals and nonprofit organizations.....	170
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Total expenditures for program.....	869
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Program: Mental retardation planning and implementation grants.

Federal Government:¹

Grants to State and local governments.....	1,060
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Non-Federal expenditures not available.

¹ Expenditures here refer to obligations.

IMMUNIZATION PROJECT GRANTS

PART I. DESCRIPTION OF THE PROGRAM

1. *Objectives*

(a) The immunization of practically all susceptible persons in all communities throughout the United States, Puerto Rico, and the Virgin Islands, particularly preschool children, against the five diseases covered by the legislation (measles, poliomyelitis, diphtheria, whooping cough, and tetanus).

(b) The establishment of effective ongoing immunization maintenance programs.

2. *Operation*

Direct Federal operation providing project grants to State health departments and, with the approval of the State health authority, to local health departments. A headquarters staff administers and supervises the program, with specialized services provided in consultative, training, informational and promotional areas by Communicable Disease Center branches, staff services, and regional offices. Field assignments are made to States and localities to coordinate these activities.

3. *History*

Existing vaccination programs conducted in communities throughout the country were not effective in reaching all groups of the population, particularly preschool children, and low-income neighborhoods. A bill was proposed requesting funds to support programs in States and localities directed toward eradicating four of the communicable diseases causing so much loss of life, disability, suffering, and resulting cost of care. After months of close scrutiny by Congress of the proposed bill, the Vaccination Assistance Act of 1962 was passed, authorizing the Surgeon General to make project grants within a 3-year period to State and local health departments for the support of intensive vaccination programs designed to raise and maintain high levels of immunization against the four diseases, poliomyelitis, diphtheria, whooping cough, and tetanus. The Communicable Disease Center was charged with the responsibility of administering and carrying out the provisions of this act. Funds were made available in May

1963, and an organizational unit designated as immunization activities was established in the office of the center chief in June 1963.

On August 5, 1965, the President signed Public Law 89-109 which amended and extended the Vaccination Assistance Act of 1962 for 3 years. The new act enables the Surgeon General to make project grants to assist States and communities in the conduct of immunization programs against measles, as well as the other four diseases, and provides for the purchase of vaccines for preschool children.

4. *Level of operations.* (See table 1.)

Program: Immunization project grants.

Department or agency, and office or bureau: Department of Health, Education, and Welfare; Public Health Service—Bureau of State Services (Community Health).

TABLE 1.—*Level of operations or performance, fiscal years 1964-67*

[Dollar amounts in thousands]

Measure (see committee inquiry for definitions)	Fiscal year 1964	Fiscal year 1965	Fiscal year 1966 estimates	Fiscal year 1967 ¹ estimates
(a) Magnitude of the program (number of State and local health departments).....	75	75	100	100
(b) Applicants or participants:				
State government agencies.....	35	35	40	40
Local communities or governments.....	40	40	60	60
Individuals or families.....				
Other (percentage of population covered) ²	70.1	70.1	80	80
(c) Federal finances:				
Unobligated appropriations available.....	\$18,661	\$16,641	\$8,888	\$9,100
Obligations incurred.....	\$9,712	\$15,679	\$8,888	\$9,100
Allotments or commitments made.....				
(d) Matching or additional expenditures.....	\$8,340	\$9,850	\$11,850	\$12,000
(e) Number of Federal employees ³	9	10	15	15
(f) Non-Federal personnel ⁴	30	50	75	80
(g) Other measures of performance ⁵	1,500	1,500	1,700	1,700

¹ President's budget.

² 127,465,599, 1960 census population.

³ Headquarters personnel in administrative and supervisory activities.

⁴ Personnel in lieu of cash grant.

⁵ (g) Other measures of level or magnitude of performance:

In comparing the findings of the 1962 and 1964 national immunization surveys conducted by the Bureau of the Census, significant gains in immunization levels are noted. It is felt that the 75 Vaccination Assistance Act projects covering over 70 percent of the population in the United States, Puerto Rico, and the Virgin Islands contributed significantly to the progress shown in this 2-year interval.

In the 1- through 4-year age group, the percent of children who had received a basic series of DTP inoculations increased from 68 to 76 percent, reflecting protection for 1½ million more preschool children than 2 years earlier.

For children under 15 years, 7,000,000 more have received 4 or more DTP inoculations than was the case in 1962—an increase from 42 to 54 percent.

Although information collected in the national immunization surveys does not furnish adult protection levels against diphtheria and tetanus, data collected show a ½ increase in the net distribution of doses of adult DT vaccine in the past year—some 1,250,000 doses more.

Perhaps the most dramatic gain in immunization protection since 1962 occurred with oral poliomyelitis vaccine. National survey figures indicate that between September 1962 and September 1964, the percentage of 1- to 4-year-old children receiving all 3 types rose from 6 to 74 percent—close to 7,000,000 more preschoolers. Similar gains were registered in other age groups resulting in the protection of nearly 60,000,000 people under age 50 in a 2-year period of time.

⁴ Personnel paid from State and local health funds.

5. *Estimated magnitude of program in 1970*

Not answered.

6. *Prospective changes in program orientation*

Not answered.

7. *Coordination and cooperation*

(a) Within the bureau, division, or office: Currently working on satisfactory cooperative basis with branches, staff services, and regional

offices in promoting and administering the immunization program. These offices provide consultative, training, informational, and promotional services.

(b) With other units of the department or agency: Continuation of cooperative working relationships affecting administrative aspects and grants policies and procedures.

Possible cooperative working relationships with Children's Bureau [and National Institute of] Mental Health [and National Institute of] Child Health [and Human Development].

(c) With other Federal Government departments or agencies: Cooperative working agreement with Veterans' Administration—mailing of immunization flyers.

(d) With State governments or their instrumentalities.

(e) With local governments or communities: Continuation of satisfactory working relationships with State and local health agencies in initiating, conducting, and maintaining intensive vaccination programs. These activities are directed toward providing:

(1) Central leadership and coordination of the State and local efforts to improve immunization levels.

(2) Evaluation and development of new or improved techniques of immunology, community organization, and surveillance.

(3) Rapid application of both accepted practices and new or improved methods of operation in the States and communities.

(f) With foreign governments or international organizations: World Health Organization.

(g) With nonprofit organizations or institutions: PTA, civic, and community groups.

(h) With business enterprises: National Advisory Council.

(i) With others.

8. *Laws and regulations*

Public Law 87-868, and Public Law 89-109.

Section 317, Public Health Service Act.

Communicable disease activities.

Community immunization grants.

PART II. DATA BEARING ON ECONOMIC ASPECTS AND IMPACTS OF THE PROGRAM

9. *Economic effects.* (See overall statement from Office of the Surgeon General.)

With revision and extension of the act, primary emphasis is being placed on implementation of a nationwide program against measles. While the total economic costs of measles and the relatively large numbers of measles-related complications cannot be calculated, estimates can be made of a portion of the financial losses to individuals and communities. Based on an incidence of about 4 million cases of measles per year, it is estimated that each year:

Approximately \$12 million is spent for physician visits and medical expenses.

About \$23.8 million in hospitalization costs is incurred.

The loss to school systems in average daily attendance funds amounts to approximately \$18.3 million.

It is hoped these costs can be eliminated by the programs directed toward eradication of the diseases.

10. *Economic classification or program expenditures.* (See table 2.)

Program: Immunization project grants.

Department or agency, and office or bureau: Department of Health, Education, and Welfare; Public Health Service—Bureau of State Services (Community Health).

TABLE 2.—*Economic classification of program expenditures for fiscal year 1965*

In thousands of dollars]

Federal Government: ¹ Grants to State and local governments ² (total Federal expenditures).....	\$15, 679
Non-Federal expenditures financed by State and local governments.....	9, 850
Total expenditures for program.....	25, 529

¹ Expenditures here refer to obligations.

² Includes \$304,000 for personnel costs in lieu of cash.

MIGRANT HEALTH

PART I. DESCRIPTION OF THE PROGRAM

1. Objectives

The migrant health grant program permits funds to be made available for project grants to assist in improving health conditions and in planning, developing, expanding, and improving health services for domestic agricultural workers and their families. More specifically, funds are to be available to pay part of the cost of the following: (1) Setting up and operating family health service clinics; and (2) developing other types of special projects, including inpatient hospital care, to improve health services and conditions

2. Operation

Assistance is in the form of a financial grant to State and local public agencies and nonprofit private organizations. These include such groups as health departments, health and welfare councils, medical societies, growers' associations, educational institutions, and other community groups interested in planning and conducting a project to improve health services for domestic migratory farmworkers and their families.

Funds are available upon approval of a grant application by the Surgeon General or his designee, after review and recommendation by a national review committee. There is no fixed matching ratio. Grantee pays "a part" of the cost which varies from project to project depending upon the relationship between the magnitude of the problem and other available resources.

3. History

Studies and recommendations of various commissions and conferences have been concerned with the improvement of the living and working conditions of migrant labor for the past 25 years. Some of these were the Tolan committee report in 1941 which recognized the need for States of heavy immigration to adopt laws establishing minimum conditions of health, sanitation, and housing on farms employing migratory labor; the War Food Administration which provided an opportunity to help migrants, but this was stopped at end of World War II; the report of the Truman Commission on Migratory Labor in 1951; and others.

National recognition was again given to the migrant problem in the early 1960's, when the U.S. Senate established a Subcommittee on Migratory Labor under Senator Harrison Williams of New Jersey, which held hearings and brought the situation to national attention. The passage of the Migrant Health Act in September 1962 (Public Law 87-692), introduced by Senator Harrison Williams, represented a major legislative breakthrough.

4. *Level of operations.* (See table 1.)

Program: Migrant Health.

Department or agency, and office or bureau: Department of Health, Education, and Welfare; Public Health Service—Bureau of State Services (Community Health).

TABLE 1.—*Level of operations or performance, fiscal years 1964-67*

[Dollar amounts in thousands]

Measure (see committee inquiry for definitions)	Fiscal year 1964	Fiscal year 1965	Fiscal year 1966 estimates	Fiscal year 1967 ¹ estimates
(a) Magnitude of the program (projects) -----	49	62	70	90
(b) Applicants or participants:				
State government agencies -----	16	24	25	30
Local communities or governments -----	24	26	32	55
Individuals or families -----				
Other—Universities and voluntary nonprofit organizations -----	9	12	13	5
(c) Federal finances:				
Unobligated appropriations available -----				
Obligations incurred -----	\$1,500	\$2,336	\$3,000	\$7,200
Allotments or commitments made -----				
(d) Matching or additional expenditures -----	\$1,248	\$2,075	\$2,500	\$2,962
(e) Number of Federal employees (man-years) -----	12	12	13	18
(f) Non-Federal personnel (man-years) -----	200	334	400	500
(g) Other measures of performance -----				

¹ President's budget.

5. *Estimated magnitude of program in 1970*

Not answered.

6. *Prospective changes in program orientation*

Not answered.

7. *Coordination and cooperation*

U.S. Department of Agriculture: A cooperative agreement is currently in effect for the development of plans for the construction of improved low-cost healthful housing designed for short-term occupancy by migrant workers.

Office of Economic Opportunity: Arrangements have been made for the use of regional migrant health representatives to assist, on a reimbursable basis, in the development of migrant projects under the Economic Opportunity Act.

Department of Labor: 1. Arrangements are currently in process for the use of the crew-leader registration program as a means of providing information on migrant health programs to the crewleaders.

2. Plans are being developed on a cooperative basis to obtain information on (a) numbers of agricultural migrants and (b) their work locations on a county basis to assist health agencies in planning health services for these migrant families.

8. Laws and regulations

Public Law 87-692 became effective on September 25, 1962. It authorized to be appropriated for the fiscal year ending June 30, 1963, the fiscal year ending June 30, 1964, and the fiscal year ending June 30, 1965, such sums, not to exceed \$3 million for any year, as may be necessary to enable the Surgeon General (1) to make grants to public and other nonprofit agencies, institutions, and organizations for paying part of the cost of (i) establishing and operating family health service clinics for domestic agricultural migratory workers and their families, including training persons to provide services in the establishing and operating of such clinics, and (ii) special projects to improve health services for and the health conditions of domestic agricultural migratory workers and their families, including training persons to provide health services for or otherwise improve the health conditions of such migratory workers and their families, and (2) to encourage and cooperate in programs for the purpose of improving health services for or otherwise improving the health conditions of domestic agricultural migratory workers and their families.

Public Law 89-109 was enacted on August 5, 1965, to extend section 310 of the Public Health Service Act through June 30, 1968, and to amend this section by authorizing necessary hospital care for agricultural migratory workers and their families. This law authorized appropriations not to exceed \$7 million for the fiscal year ending June 30, 1966, \$8 million for the fiscal year ending June 30, 1967, and \$9 million for the fiscal year ending June 30, 1968 (42 U.S.C. 242h).

PART II. DATA BEARING ON ECONOMIC ASPECTS AND IMPACTS OF THE PROGRAM

9. Economic effects. (See overall statement from Office of Surgeon General.)

The improved health status of the migrant worker, resulting from the migrant health program, should have a favorable effect on his productivity as well as on his earnings.

10. Economic classification of program expenditures. (See table 2.)

Program: Migrant health.

Department or agency, and office or bureau: Department of Health, Education, and Welfare; Public Health Service—Bureau of State Services (Community Health)

TABLE 2.—*Economic classification of program expenditures for fiscal year 1965*

[In thousands of dollars]	
Federal Government: ¹	
Grants to State and local governments.....	2, 144
Transfer payments to nonprofit organizations.....	192
Total Federal expenditures.....	2, 336
Non-Federal expenditures financed by:	
State and local governments.....	1, 978
Individuals and nonprofit organizations.....	97
Total expenditures for program.....	4, 411

¹ Expenditures here refer to obligations.

TUBERCULOSIS CONTROL PROGRAM

PART I. DESCRIPTION OF THE PROGRAM

1. Objectives

The program objective is to control and ultimately eradicate tuberculosis from the United States.

2. Operation

The program provides technical assistance and grants-in-aid for tuberculosis control activities that are carried out by means of formula and special project grants and contracts to State and local health agencies and selected private institutions.

3. History

The Public Health Service Act of 1944 authorized the establishment of a tuberculosis control program within the Service. It placed upon the Public Health Service the responsibility of administering grants-in-aid to State health departments, and of conducting demonstrations and research in tuberculosis. In accordance with this act the Surgeon General established a Tuberculosis Control Division in the Bureau of State Services of the Public Health Service and it was subsequently approved by the Federal Security Administrator. In the fall of 1960, the tuberculosis program became a part of the Communicable Disease Center and in 1962 it moved to Atlanta, Ga., as the Tuberculosis Branch. In 1963, following a suggestion of the Congress, a Special Task Force on Tuberculosis Control was appointed by the Surgeon General to consider ways and means that the Public Health Service might improve the Nation's tuberculosis control program. The task force prepared a report for a 10-year program which contained a number of recommendations, including increased grants to the States for selected activities, improvement of skills of present and prospective tuberculosis workers to meet existing and future needs, and continued and expanded research in tuberculosis. In fiscal year 1966 funds were made available by the Congress to commence the task force program at the recommended first-year level.

4. Level of operations. (See table 1.)

Program: Tuberculosis control program project grants.
Department or agency, and office or bureau: Department of Health, Education, and Welfare; Public Health Service; Bureau of State Services (Community Health).

TABLE 1.—*Level of operations or performance, fiscal years 1964-67*

{Dollar amounts in thousands}

Measure (see committee inquiry for definitions)	Fiscal year 1964	Fiscal year 1965	Fiscal year 1966 estimates	Fiscal year 1967 ¹ estimates
(a) Magnitude of the program (projects)	41	65	80	85
(b) Applicants or participants:				
State government agencies ²	37	37	52	52
Local communities or governments				
Individuals or families				
Other				
(c) Federal finances:				
Unobligated appropriations available				
Obligations incurred	\$1,575	\$4,991	\$9,700	\$13,950
Allotments or commitments made				
(d) Matching or additional expenditures	(³)	43,000	(³)	(³)
(e) Number of Federal employees ⁴	23	220	100	150
(f) Non-Federal personnel ⁵	510	937	1,300	1,850
(g) Other measures of performance				

¹ President's budget.² States including District of Columbia and Puerto Rico.³ Not reported.⁴ Personnel in lieu of cash.⁵ Personnel paid from cash funds, project grants to State and local health departments.*5. Estimated magnitude of program in 1970*

Not answered.

6. Prospective changes in program orientation

Not answered.

7. Coordination and cooperation

As to purposes, policies, operations and financing, the program will continue to function in coordination and with the cooperation of the Bureau of State Services and the Communicable Disease Center. On special problems, committees are set up to coordinate activities with the Division of Indian Health, Pan American Sanitary Bureau (PASB), and other special groups. As the program expands into the recommended activities, coordination and cooperation with such agencies as Children's Bureau, the Bureau of Disability and Health Insurance, and the Division of Medical Care Administration will be required and promoted for effective implementation.

The entire program now functions with the cooperation and coordination of State, county, and local health agencies. It is imperative, if the program is to succeed, that this continue in the future.

In carrying out the recommended research activities, a number of foreign countries are cooperating in therapy and prophylaxis trials. These are long-range studies, and continued cooperation and coordination are essential.

The program cooperates and will continue to work with the National Tuberculosis Association and its affiliates in joint staff meetings, national meetings, planning sessions, and work group committees.

To evaluate the effectiveness of new antituberculosis drugs, the program plans, directs, and coordinates a number of extensive therapeutic and prophylaxis drug studies that are carried out with the cooperation and assistance of national drug firms and a large group of tuberculosis hospitals across the Nation.

8. Laws and regulations

Section 314(b) and 314(d) of the Public Health Service Act as amended (42 U.S.C. 246). 1965 Appropriation Act, Public Law 88-605.

PART II. DATA BEARING ON ECONOMIC ASPECTS AND IMPACTS OF THE PROGRAM

9. Economic effects. (See overall statement from the Office of the Surgeon General.)

Improved ambulatory care for tuberculosis patients outside of the hospital reduces the period of hospitalization that is required and enables the patients to return to productive work much sooner. This affects an estimated 35,000 persons during the year and should result in an estimated savings in hospital costs of \$100 million each year of the 10-year program. The contribution that this may make to the gross national product cannot be identified specifically. Most of the persons affected by the program are in the lower socioeconomic groups and the majority reside in economically deprived metropolitan areas. The program will have a significant, although unmeasured, impact, on the Nation's health and income by improving and returning to productive activity a large number of those persons who are temporarily disabled or affected by tuberculosis.

10. Economic classification of program expenditures. (See table 2.)

Program: Tuberculosis control program project grants.

Department or agency, and office or bureau: Department of Health, Education, and Welfare; Public Health Service—Bureau of State Services (Community Health).

TABLE 2.—*Economic classification of program expenditures for fiscal year 1965*

[In thousands of dollars]

Federal Government:¹

Purchases of goods and services:

Wages and salaries.....	791
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Other.....	1, 200
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Grants to State and local governments.....	3, 000
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Total Federal expenditures.....	4, 991
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Non-Federal expenditures financed by:

State and local governments.....	² 35, 000
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Individuals and nonprofit organizations.....	² 8, 000
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Total expenditures for program.....	47, 991
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¹ Expenditures here refer to obligations.

² Budgeted for tuberculosis control.

VENEREAL DISEASE

PART I. DESCRIPTION OF THE PROGRAM

1. Objectives

The venereal disease program has two objectives: (1) to eradicate syphilis as a public health problem, and (2) to develop methods and control techniques which will permit the undertaking of a gonorrhea control program.

2. Operation

The venereal disease program operates through the provision of grants of funds, detail of personnel, and program consultation to State and local health agencies in which the responsibilities for venereal disease control is vested. The venereal disease program also conducts research for the purpose of (1) improving diagnostic and therapeutic techniques for syphilis and gonorrhea, and (2) to develop methods of artificially producing immunity in man to venereal infection.

3. History

Venereal disease activities in the Federal Government date from the Chamberlin-Kahn Act of 1918 which provided for grants to States for venereal disease control and a small headquarters operation to provide analysis of morbidity and program data. No funds for grants were available from 1920 until the passage of the LaFollette-Bulwinkle Act in 1939 from which time the modern venereal disease control program should be dated. The Public Health Service Act of July 1, 1944, codified authority for venereal disease control with current program operations being carried out under the authorities of section 301 and section 314(a) of the act.

The advent of penicillin as a cure for syphilis and gonorrhea in the 1940's permitted the program emphasis to be concentrated on case-finding rather than treatment. The current syphilis eradication effort is predicated on the concept that epidemiologic activity can operate to locate source and spread cases from known infections faster than the disease can spread. The elements of this program are contained in the report of the Surgeon General's task force "The Eradication of Syphilis" (December 1961).

4. Level of operations. (See table 1)

Program: Venereal disease project grants.

Department or agency, and office or bureau: Department of Health, Education, and Welfare; Public Health Service—Bureau of State Services (Community Health).

TABLE 1.—*Level of operations or performance, fiscal years 1964-67*

[Dollar amounts in thousands]

Measure (see committee inquiry for definitions)	Fiscal year 1964	Fiscal year 1965	Fiscal year 1966 estimates	Fiscal year 1967 ¹ estimates
(a) Magnitude of the program (number of projects).....	76	71	62	58
(b) Applicants or participants:				
State government agencies.....				
Local communities or governments.....				
Individuals or families.....				
Other.....				
(c) Federal finances:				
Unobligated appropriations available.....				
Obligations incurred.....	\$5,887	\$6,194	\$6,229	\$6,229
Allotments or commitments made.....				
(d) Matching or additional expenditures ²	\$17,338	\$18,000	\$18,000	\$18,000
(e) Number of Federal employees ³	432	615	720	720
(f) Non-Federal personnel ⁴	245	245	270	270
(g) Other measures of performance.....				

¹ President's budget.

² Funds budgeted for venereal disease control (State and local governments).

³ Personnel in lieu of cash.

⁴ Personnel paid from cash funds, project grants to State and local health departments.

5. *Estimated magnitude of program in 1970*

Not answered.

6. *Prospective changes in program orientation*

Not answered.

7. *Coordination and cooperation*

The primary point of Public Health Service venereal discharge program coordination with other agencies is with State and local health departments. Additionally the venereal disease program cooperates with the Armed Forces in providing services in and around military installations and with the American Social Health Association in conducting surveys of the venereal disease control problem posed by prostitution. The American Social Health Association, the Association of State and Territorial Health Officers, and the American Venereal Disease Association conduct an annual survey of health departments needs and assists in providing a basis for Federal budget requests.

8. *Laws and regulations*

In addition to the authorities cited in question 3, the annual appropriation act item, "Control of Venereal Disease," provides authority for the venereal disease program to make grants to State and local health departments upon such terms and conditions as the Surgeon General may determine.

PART II. DATA BEARING ON ECONOMIC ASPECTS AND IMPACTS OF THE PROGRAM

9. *Economic effects*

The economic impact of venereal disease program activities lies primarily in two areas: (1) The direct benefits made possible through reductions in venereal disease morbidity and mortality so as to reduce the necessity of expenditures of public funds for hospitalization of those individuals suffering from the late manifestations of syphilis. The direct economic cost of hospitalization is in 1965 estimated at approximately \$50 million a year. (2) The indirect benefits are made possible through worker productivity that would otherwise be lost. The total estimated benefits of syphilis eradication is estimated to be in the magnitude of \$3 billion a year. (See Herbert E. Klarman "Syphilis Control Programs" in "Measuring Benefits of Government Investments," Brookings Institution studies of American finance 1965.)¹

10. *Economic classification of program expenditures.* (See table 2.)

Program: Venereal disease project grants.

Department or agency, and office or bureau: Department of Health, Education, and Welfare; Public Health Service—Bureau of State Services (Community Health).

¹ [Editor's note: Klarman's estimate is not \$3 billion a year but a discounted present value of \$3 billion. His statement is as follows: "The present value of the benefits accruing from total eradication would be \$117.5 million realized in perpetuity, or \$2.95 billion (at a discount rate of 4 percent) * * *. An added benefit is the control and surveillance mechanism, which could presumably be abandoned * * *. In sum, the present value of eradicating syphilis, on the above assumptions, would be \$3.1 billion." Op. cit., p. 405.]

TABLE 2.—*Economic classification of program expenditures for fiscal year 1965*

[In thousands of dollars]

Federal Government: ¹	
Purchases of goods and services: Wages and salaries.....	2,510
Grants to State and local governments.....	² 3,684
Total Federal expenditures.....	6,194
Non-Federal expenditures financed by State and local governments.....	³ 18,000
Total expenditures for program.....	24,194

¹ Expenditures here refer to obligations.² Cash grants (\$2,510 thousand for salaries of Federal personnel assigned in lieu of cash grants is included in wages and salaries, above).³ Funds budgeted for venereal disease control.

CONSTRUCTION GRANTS

Answers to questions 4 and 10 are summarized here for all construction grant programs of the Bureau of State Services—Community Health.

4. *Level of operations.* (See table 1.)

Program: Construction grants, Bureau of State Services—Community Health (summary).

Department or agency, and office or bureau: Department of Health, Education and Welfare; Public Health Service—Bureau of State Services (Community Health).

TABLE 1.—*Level of operations or performance, fiscal years 1964-67: Summary*

[Dollar amounts in thousands]

Measure (see committee inquiry for definitions)	Fiscal year 1964	Fiscal year 1965	Fiscal year 1966 estimates	Fiscal year 1967 ¹ estimates
(a) Magnitude of the program (projects)	562	560	694	720
(b) Applicants or participants:				
State government agencies.....	36	61	77	85
Local communities or governments.....	216	173	231	235
Individuals or families.....				
Other—Voluntary nonprofit.....	310	326	386	400
(c) Federal finances:				
Unobligated appropriations available..	\$379,666	\$524,517	\$600,203	\$670,375
Obligations incurred ²	\$215,851	\$296,409	\$389,328	\$470,375
Allotments or commitments made.....				
(d) Matching or additional expenditures.....	\$448,827	\$541,690	\$641,800	\$748,800
(e) Number of Federal employees (man-years) ..	226.5	295	376	404
(f) Non-Federal personnel ³				
(g) Other measures of performance (1st year student placement).....		1,630	1,000	1,200

¹ President's budget.² Includes funds from previous years.³ Not available.10. *Economic classification of program expenditures.* (See table 2.)

Program: Construction grants, Bureau of State Services—Community Health (summary).

Department or agency, and office or bureau: Department of Health, Education, and Welfare; Public Health Service; Bureau of State Services (Community Health).

TABLE 2.—*Economic classification of program expenditures for fiscal year 1965: Summary*

[In thousands of dollars]

Federal Government: ¹	
Purchases of goods and services:	
Wages and salaries.....	2, 096
Other.....	409
Grants to State and local governments ²	75, 748
Transfer payments to nonprofit organizations.....	209, 276
Loans to nonprofit organizations.....	414
Total Federal expenditures.....	287, 943
Non-Federal expenditures financed by: Individuals and nonprofit organizations ³	94, 435
Total expenditures for program.....	382, 378

¹ Federal Government expenditures refer to obligations except for Hill-Burton hospital construction

² Includes planning grants.

³ Includes institutions of higher learning.

HOSPITAL AND MEDICAL FACILITIES CONSTRUCTION

(HILL-BURTON PROGRAM)

PART I. DESCRIPTION OF THE PROGRAM

1. Objectives

To assist the States in providing adequate hospital and medical facilities through a program of construction or modernization grants or loans; to improve the utilization of health facilities and their services through programs of research and areawide planning.

2. Operation

At the Federal level, the program is administered by the Division of Hospital and Medical Facilities in the Bureau of State Services (Community Health), Public Health Service. To maintain direct contact with State authorities, the Division maintains a staff in each of the nine regional offices of the Department of Health, Education, and Welfare. These regional staffs work with the responsible State authorities in developing and maintaining plans, programs, and budgets for the Hill-Burton grant-in-aid program for health facility construction. To participate in the program, each State is required by the Hill-Burton Act to designate a single State agency for the administration of the program.

The construction of health facilities provided for under the Hill-Burton Act involves a planning phase as well as the actual construction phase. States conduct surveys to determine their needs for health facilities and develop statewide construction plans. Individual projects are entitled to Federal financial assistance provided they conform with the State plan and have the approval of the State agency administering the program and of the Public Health Service. Federal participation ranges from one-third to two-thirds of the total costs of construction and equipping health facilities.

Effective methods of utilizing and coordinating health facility service and resources are developed through an areawide planning program, through a program of research conducted by universities, hospitals, and States and their political subdivisions, and through a program of intramural research.

3. History

During the depression years and for the duration of World War II, few hospitals were constructed in the United States. For this reason, many hospitals became obsolete and there were manifest shortages in the number of hospital beds and other related health facilities and services. To identify and meet these needs, Congress enacted into law on August 13, 1946, the Hospital Survey and Construction (Hill-Burton) Act (Public Law 725, 79th Cong.). The purpose of the act was to survey needs and to assist the local sponsors in the several States in the construction of public and other nonprofit hospitals. As a result, the United States undertook, for the first time, an orderly appraisal of its existing hospital and public health center resources and developed comprehensive State plans for furnishing "adequate hospital, clinic, and similar services to all their people." Annual revisions of these plans by each State became mandatory by regulation.

Since the original Hill-Burton legislation was passed several major amendments have been enacted. In 1954, the act was amended to assist the several States in the construction of diagnostic or treatment centers, hospitals for the chronically ill, rehabilitation facilities, and nursing homes. In 1958, Congress gave an eligible sponsor the option to take a loan in lieu of a grant. The Community Health Services and Facilities Act of 1961 increase the annual appropriation authorization for nursing homes from \$10 million to \$20 million and liberalized the definition of rehabilitation facilities.

On August 18, 1964, the President signed into law the Hospital and Medical Facilities Amendments of 1964 (Public Law 88-443), extending and revising the Hill-Burton program to keep pace with changing concepts of health facility construction and operation.

The most far-reaching change in the program is the establishment of a new grant program, beginning with fiscal year 1966, for modernization or replacement of public and nonprofit hospital and other health facilities.

In addition to the modernization program, the Hill-Harris amendments also provide:

1. A single category of long-term care facilities, which combines the previously separate grant programs for chronic disease hospitals and nursing homes, and lifts the annual ceiling from \$40 million to \$70 million.

2. The use by the States of 2 percent of their allotments (up to \$50,000 a year) to assist in the efficient and proper administration of the State plan.

4. Level of operations. (See table 1.)

Program: Hospital and medical facilities construction (Hill-Burton program).
Department or agency, and office or bureau: Department of Health, Education, and Welfare; Public Health Service—Bureau of State Services (Community Health).

TABLE 1.—*Level of operations or performance, fiscal years 1964-67*

(Dollar amounts in thousands)

Measure and unit ¹	Fiscal year 1964	Fiscal year 1965	Fiscal year 1966 estimates	Fiscal year 1967 ² estimates
(a) Magnitude of the program (projects initially approved).....	562	478	570	550
(b) Applicants or participants:				
State government agencies (projects initially approved).....	36	32	40	40
Local communities or governments (projects initially approved).....	216	173	220	210
Individuals or families.....				
Other, voluntary nonprofit (projects initially approved).....	310	273	310	300
(c) Federal finances:				
Unobligated appropriations available ³	\$374,666	\$378,642	\$429,759	\$452,000
Obligations incurred (final approval).....	\$213,351	\$204,099	\$247,759	\$262,000
Allotments or commitments made (appropriation).....	\$220,000	\$220,000	\$258,500	\$270,000
(d) Matching or additional expenditures (matching).....	\$448,827	\$447,255	\$525,000	\$570,000
(e) Number of Federal employees (man-years).....	221	245	289	400
(f) Non-Federal personnel.....	(4)	(4)	(4)	(4)
(g) Other measures of performance.....				

¹ See committee inquiry for definitions.² President's budget.

³ In each of the fiscal years 1963 through 1965, the Hill-Burton appropriation totaled \$220,000,000. In fiscal year 1966, the appropriation was increased to \$258,500,000. Under the Hill-Burton program, each year's appropriation remains available for 2 fiscal years. In other words, funds appropriated in fiscal year 1963 which remain uncommitted at the close of that fiscal year, are available for commitment during fiscal year 1964. In the above column for fiscal year 1964, the \$374,666,000 in funds shown as unobligated appropriations represent funds remaining from the 1963 appropriation plus the appropriation for fiscal year 1964.

⁴ Not available.5. *Estimated magnitude of program in 1970*

Not answered.

6. *Prospective changes in program orientation*

Not answered.

7. *Coordination and cooperation*

The Division of Hospital and Medical Facilities has extensive working relationships with other programs throughout the Public Health Service and with other units of the Department which have responsibilities in the health or health facility construction field. The following are illustrative of the cooperative arrangements which exist:

(a) Within the Bureau of State Services (Community Health) continuous and close relationships are maintained with the Office of the Bureau Chief, the Office of Grants Management and other offices and Divisions with regard to program operating plans, procedures, and problems.

(b) With other units of the Public Health Service and Department. The Division makes a deliberate effort to bring about a consistency of policies and procedures among the several organizational units within the Public Health Service which have official responsibilities in the area of health facility construction. For example, continuous contacts are made with the Research Facilities and Resources Division of the National Institutes of Health regarding mutual problems and policies in health research facility construction. Cooperative working relationships are maintained with the National Institute of Mental Health with regard to policy determination and procedures for construction of community mental health facilities. A continuous relationship also exists between the Division and the Office of General

Counsel, Office of the Secretary, regarding legal problems that arise in the operation of the programs.

(c) With other Federal departments. Extensive working relationships are maintained with other Federal departments or agencies, such as:

(1) Federal Housing Administration, Housing and Home Finance Agency, with which the Division develops joint policies regarding approval of applications for mortgage insurance for construction of privately owned nursing homes, the development of standards of design and construction, and for resolving mutual problems which may arise in the conduct of both the HHFA and Hill-Burton programs for assisting nursing home construction.

(2) U.S. Department of Agriculture, Rural Electrification Administration, with which the Division has occasional contacts regarding the availability of REA funds to pay for certain electrical equipment in rural hospitals.

(3) U.S. Department of Commerce, Area Redevelopment Administration, with which the Division works cooperatively in the development of policies and procedures governing the approval of hospital and other health facilities projects under the economic development program.

(4) Appalachian Regional Commission, with which the Division works cooperatively in the development of mutually acceptable policies and procedures governing the approval of health facility and mental retardation facility projects under sections 202 and 214 of Public Law 89-4, which authorizes aid for the construction and operation of certain health facilities in the Appalachian region.

(5) Veterans' Administration, with which the Division cooperates to achieve mutually agreeable design criteria for constructing hospitals and other medical facilities.

(d) With State governments. The Division, through its regional and central office staff, provides continuous guidance and guideline to the 54 State agencies which administer the Hill-Burton program. Division staff participates actively in all regional and national meetings of the agencies. Upon inauguration of new regulations or procedures, orientation sessions are held with State agency personnel.

(f) With foreign governments. Relationships with representatives of foreign governments are of two types. First, frequent visits are made to the Division by representatives of other governments for the purpose of obtaining firsthand information as to how the program operates and the criteria, standards, and working relationships which have been established with States, communities, and sponsors of hospital projects. Second, the minimum standards of design and construction and guide material issued pertaining to these facets of the program are frequently requested by foreign governments. Indeed, foreign governments have translated one publication, Design and Construction of General Hospitals, into approximately 20 different languages.

(g) With nonprofit organizations. Close relationships exist between the Division and a wide variety of professional associations which are concerned with the design, construction, equipping, and operation of health facilities, as well as with the planning for such facilities. Division activities with these associations include the cosponsoring of

nationwide institutes, collaboration on reports, manuals, and other documents; serving as committee members; preparation of exhibits; and serving as consultants on a variety of projects, and as representatives at numerous meetings and conferences. An illustrative listing of professional associations with which continuous contacts are maintained is as follows:

American Hospital Association.
 Association of American Medical Colleges.
 American Medical Association.
 American Institute of Architects.
 American Physical Therapy Association.
 Illuminating Engineering Society.
 National Fire Protection Association.
 American Dietetic Association.
 American Nursing Home Association.

8. Laws and regulations

Authority for hospital and medical facilities construction and modernization grants is included in title VI of the Public Health Service Act, as amended (42 USC 291-291o).

The following table shows Hill-Burton authorizations for fiscal years 1964-66.

	Construction	Areawide planning
1964-----	\$220,000,000	-----
1965-----	250,000,000	\$2,500,000
1966-----	260,000,000	5,000,000

PART II. DATA BEARING ON ECONOMIC ASPECTS AND IMPACTS OF THE PROGRAM

9. Economic effects

In its 19 years of operation, the Hill-Burton program has made substantial contributions to the national economy and to economic growth. Some have been readily adaptable to quantitative measurement. Others, although of equal importance, are not so clearly measurable; for example, the effect upon individual and community health productivity. The following are examples of measurable benefits of the program since its inception:

a. Construction of needed hospitals and other health facilities has been stimulated throughout the Nation, bringing to many communities the basic resources for saving life, preventing sickness, and rehabilitating the disabled. At the start of the program, 10 million people were living in areas without any acceptable general hospital beds. Today, fewer than 2 million live in areas without acceptable facilities. Altogether, \$7.5 billion in health facility construction funds has been expended in local communities since 1947, a dollar volume three times the Federal aid involved.

b. During the period of construction of Hill-Burton projects approved to date, opportunities have been created for an estimated 2,500,000 man-months of employment for workers in the building and equipment trades.

c. Permanent, year-round employment opportunities have also been created for an estimated 325,000 persons in the various health

facilities aided under the program—from maintenance personnel to persons in professional service. Annual payroll costs involved reach about \$1.3 billion. This amount, coupled with direct operating costs such as for equipment, power, laundry and supplies (roughly one-third of payroll costs) bring a total annual contribution to local economy—solely for the operation of approved Hill-Burton projects—to \$1.73 billion.

10. *Economic classification of program expenditures.* (See table 2.)

Program: Hospital and medical facilities construction (Hill-Burton program).
Department or agency, and office or bureau: Department of Health, Education, and Welfare; Public Health Service—Bureau of State Services (Community Health).

TABLE 2.—*Economic classification of program expenditures, for fiscal year 1965*

(In thousands of dollars)

Federal Government:	
Purchases of goods and services:	
Wages and salaries.....	2, 096
Other.....	409
Grants to State and local governments.....	75, 748
Transfer payments to nonprofit organizations.....	116, 966
Loans to nonprofit organizations.....	414
Total Federal expenditures.....	195, 633

CONSTRUCTION OF TEACHING FACILITIES, HEALTH PROFESSIONS AND NURSES

PART I. DESCRIPTION OF THE PROGRAM

1. *Objectives*

To increase the opportunities for training of physicians, dentists, and other professional health personnel through a grant program to assist in the construction of teaching facilities.

2. *Operation*

The "Health Professions Educational Assistance Act of 1963" (Public Law 88-129) established a National Advisory Council on Education for Health Professions. The Council consists of the Surgeon General of the Public Health Service, Chairman ex-officio, the Commissioner of Education, ex-officio, and 16 appointed members. The "Nurse Training Act" was approved September 4, 1964, and erected an Advisory Council on Nursing.

Funds are granted upon approval of a grant application by the Surgeon General, and after review and evaluation by review committees composed of outside consultants in the various disciplines and recommendation by the National Advisory Council on Education for Health Professions.

Criteria used in considering applications for construction grants are:

(a) In the case of a project for a new school or expansion of an existing school, the relative effectiveness of the project in expanding capacity for the training of professional public health personnel or first-year students of medicine, dentistry, pharmacy, optometry, podiatry, osteopathy, and nursing. In cases of a 2-year school expanding to a 4-year school, the criterion is the expansion of capacity for 4-year training of students in the field. Consideration is also given to the promotion of equitable geographic distribution of opportunities for such training.

(b) In the case of a project for replacement or renovation of existing training facilities, the relative need to prevent curtailment of the school's enrollment or deterioration of the quality of the relative size of any such curtailment and its effect on the geographic distribution of opportunity for training.

(c) The relationship of the application, in a State which has in existence a State planning agency, or which participates in a regional or other interstate planning agency, to the construction or training program which is being developed by such agency with respect to such State.

(d) Grants may be made only for that portion of any health facility which the Surgeon General determines to be attributable to the need of a new school for teaching purposes, or of an existing school for the construction of facilities to expand its training capacity, or for the modernization of facilities to prevent curtailment of enrollment or deterioration of the quality of training.

(e) An applicant for a construction grant under this program must be either a public or nonprofit school of medicine, dentistry, osteopathy, pharmacy, optometry, podiatry, public health, or nursing (collegiate and through June 30, 1965, collegiate, associate and diploma beginning in fiscal year 1966) accredited by a recognized body approved by the Commissioner of Education. A new school may be deemed accredited if the Commissioner finds, after consultation with the appropriate accreditation body, that there is reasonable assurance that the school will meet accreditation standards upon completion of the facility. A public or other nonprofit agency may file an application on behalf of an affiliated hospital, if the application is approved by the school of medicine or osteopathy with which the hospital is affiliated.

(f) Grants for new schools, or for new facilities for an existing school providing a major expansion of training capacity may not exceed 66% percent of the necessary cost of construction. Other grants may not exceed 50 percent of such cost, except that grants to schools of public health may cover up to 75 percent of such costs. Any other Federal grants, and the non-Federal matching funds for them, made with respect to the construction is excluded from the cost of construction in determining the amount of the grant under this program.

3. History

The approval on September 24, 1963, of the "Health Professions Educational Assistance Act of 1963," authorized a program of grants for the construction of teaching facilities for the training of physicians, osteopaths, dentists, professional public health personnel, pharmacists, optometrists, podiatrists, and nurses (collegiate—through June 30, 1965 and to include associate and diploma beginning with fiscal year 1966 as expanded by Public Law 88-581).

For some years now, the country has been faced with critical shortages of physicians. This situation has been studied thoroughly over the years and well documented. The number of graduates of the health profession schools of the United States simply has not kept pace with the growing population and the ever-increasing demands for health care. It was recognized that existing schools could not reverse the tide or even maintain existing ratios and that additional facilities for training were needed. There was also an evident need

to modernize and replace some existing schools that were obsolete, overcrowded, or deficient in teaching facilities.

Beginning with the first grant awarded about 1 year ago, a total of 64 grants have been awarded to date amounting to \$127,300,000. When construction is completed on these projects, 2,307 new 1st-year student places will have been provided.

4. *Level of operations.* (See table 1.)

Program: Construction of teaching facilities, health professions and nurses.
Department or agency, and office or bureau: Department of Health, Education, and Welfare; Public Health Service—Bureau of State Services (Community Health).

TABLE 1.—*Level of operations or performance, fiscal years 1964–67*

[Dollar amounts in thousands]

Measure and unit ¹	Fiscal year 1964	Fiscal year 1965	Fiscal year 1966 estimates	Fiscal year 1967 ² estimates
(a) Magnitude of the program (applications approved and funded).....		45	30	30
(b) Applicants or participants:				
State government agencies (applications approved and funded).....		26	18	18
Local communities or governments.....				
Individuals or families.....				
Other, voluntary nonprofit (applications approved and funded).....		19	12	12
(c) Federal finances:				
Unobligated appropriations available.....		\$100,000	\$106,792	\$160,000
Obligations incurred ³		\$83,208	\$106,792	\$160,000
Allotments or commitments made (appropriation).....		\$100,000	\$90,000	\$160,000
(d) Matching or additional expenditures ⁴ (matching funds).....		\$90,000	\$95,000	\$150,000
(e) Number of Federal employees (man-years).....		18	40	52
(f) Non-Federal personnel.....				
(g) Other measures of performance (1st-year student places created).....		1,630	1,000	1,200

¹ See committee inquiry for definitions.

² President's budget.

³ Obligations incurred on grant awards during the year.

⁴ Entry is estimated teaching costs to be borne by applicants. The data for fiscal year 1965 are based on information contained in those applications that were funded. The fiscal year 1966 entry is based on the assumption that the same ratio will obtain between Federal funds awarded and non-Federal funds supplied by grantees.

5. *Estimated magnitude of program in 1970*

Not answered.

6. *Prospective changes in program orientation*

Not answered.

7. *Coordination and cooperation*

Full opportunity is afforded for coordination and exchange in all aspects of the professional school construction programs. All interested agencies, both public and private, are encouraged to participate fully. List follows:

Educational Facilities Branch: Contacts with other organizations.

Public Health Service:

 Division of Community Health Services.

 Division of Dental Health.

 Division of Nursing.

National Institutes of Health:

 Division of Research Facilities and Resources.

 Division of Research Grant.

National Library of Medicine.

Bureau of Medical Services, Division of Hospitals.

Departmental—Office of Education: Bureau of Higher Education Facilities.

Other governmental agencies:

National Science Foundation.

Veterans' Administration.

Bureau of Labor Statistics.

Nongovernmental agencies:

Association of American Medical Colleges.

American Medical Association.

American Association of Colleges of Pharmacy.

American Pharmaceutical Association.

American Podiatry Association.

American Optometric Association.

American Public Health Association.

Western Interstate Commission for Higher Education.

New England Board of Higher Education.

Southern Regional Education Board.

Health profession facilities (schools).

8. *Laws and regulations*

(a) Public Law 88-605, September 24, 1964.

(b) Public Law 89-156, August 31, 1965.

(c) Public Law 88-129, September 24, 1963.

(d) Public Law 88-581, September 4, 1964.

(e) Title 42, public health (regulations, December 1, 1964).

PART II. DATA BEARING ON ECONOMIC ASPECTS AND IMPACTS OF THE PROGRAM

9. *Economic effects.* (See overall statement from the Office of the Surgeon General.)

The Nation continues to be faced with critical shortages of health manpower. Moreover, regardless of what action is taken, the shortages can be expected to continue for several years. A measure of relief can be hoped for through such legislation as Public Law 88-129 and its continuance, but the Nation's late start in accelerating construction and renovation of medical professional schools leaves an indication of worsening of the condition before real improvement can be realized. We face this situation at the dawn of the Nation's concerned effort to bring better medical attention to the aged and others in need.

The Public Law 88-129 and Public Law 581 programs are "problem solution" oriented—that is, they were conceived and have been aimed at overcoming the health manpower shortages in the health professions. While, to date, little or no attention has been directed toward measurement of quantitative effect of these programs on the national economy, it is certain that a significant impact will be realized; studies designed to evaluate such effects will be pressed forward as expeditiously as possible.

The economic impact of the increased construction (procurement of materials, labor, equipment, real estate, and other services) is noteworthy. Graduates from these professional schools can be expected to

offset their costly education in a few years by increased personal incomes which will continue throughout their professional careers.

Further, these additional professionals will make it possible to expand the utilization of a multiplicity of medical care facilities, thereby helping to generate additional increases in goods and services associated with these facilities. The expansion will, of necessity, provide for further augmenting the labor ranks of the paramedical occupations.

Those persons in need of medical care can look to the future and expect improvement as one of the products of the programs under consideration; these improvements can certainly, in time, be measured by increases in life span and concomitant additions to the GNP.

10. *Economic classification of program expenditures.* (See table 2.)

Program: Construction of teaching facilities, health professions and nurses. Department or agency, and office or bureau: Department of Health, Education, and Welfare; Public Health Service—Bureau of State Services (Community Health).

TABLE 2.—*Economic classification of program expenditures for fiscal year 1965*

[In thousands of dollars]	
Federal Government: ¹	
Grants to State and local governments.....	49, 925
Transfer payments to individuals and nonprofit organizations....	33, 283
Total Federal expenditures.....	83, 208
Non-Federal expenditures financed by:	
Nonprofit institutions of higher learning.....	90, 000
Total expenditures for program.....	173, 208

¹ Expenditures here refer to obligations.

UNIVERSITY-AFFILIATED FACILITIES FOR THE MENTALLY RETARDED

PART I. DESCRIPTION OF THE PROGRAM

1. *Objectives*

The program objectives are to provide Federal support in the construction of clinical facilities that provide a full range of inpatient and outpatient services for the mentally retarded which will either aid in demonstrating provisions of specialized services for the diagnosis and treatment, education, training or care of the mentally retarded or in the clinical training of physicians and other specialized personnel needed for research, diagnosis and treatment, education, training or care of the mentally retarded. This grant program assists applicants in the construction of facilities which are associated with a college or university. The main goal of the construction grant program is: (1) to provide additional numbers of trained personnel in all disciplines needed to staff and provide services to the mentally retarded in community facilities; and (2) to produce an adequate number of professionals who will become teachers and trainers in the various disciplines to staff training facilities located at universities and training centers associated with colleges or universities.

2. *Operation*

The Mental Retardation Facilities and Community Mental Health Centers Construction Act of 1963 (Public Law 88-164) authorizes

grants to accomplish the foregoing objectives which may not exceed 75 percent of the necessary cost of construction. Applicants must provide assurance that financial support will be available for construction of the project to cover the non-Federal share of cost and for its maintenance and operation when the project is completed. The Surgeon General has appointed a Subcommittee on Construction of University-Affiliated Facilities for the Mentally Retarded. The subcommittee submits recommendations to the Surgeon General for action to be taken on applications submitted in accordance with the regulations issued pursuant to the provisions of the act, title 42, chapter I, subchapter D, part 54, subpart A. The six members of the subcommittee are outstanding experts in disciplines interested in the field of mental retardation.

Applications for assistance under the act are submitted to the Division prior to scheduled subcommittee meetings. Staff, assigned to the program, review applications, consult with the subcommittee and offer suggestions for improvement, and review proposed plans and specifications.

Funds are allocated to those projects in which applicants propose exemplary interdisciplinary training programs of professionals who will either provide direct services to the mentally retarded or provide training of teachers in the disciplines needed for care and treatment of the mentally retarded.

The criteria followed and the provision of staff assistance are concerned with whether the proposed clinical facility will provide a full range of inpatient and outpatient services, as nearly as practicable, and whether the proposed training programs will serve as interdisciplinary models of excellence and provide appropriate settings for professional training. The emphasis is upon quality, both in service and in professional training, which promotes the recruitment of professional personnel for work in mental retardation. Grants may be made only for that portion of a university-affiliated facility which the Surgeon General determines to be attributable to the needs for demonstration and training purposes. The construction phase of the program is administered through regional offices, with Washington office supervision and technical assistance given when the need is indicated.

3. History

Part B, title I, Public Law 88-164, which was approved on October 31, 1963, authorized programs to assist colleges and universities in the construction of clinical facilities providing, as nearly as practicable, a full range of inpatient and outpatient services for the mentally retarded which would either demonstrate provisions of specialized service for the diagnosis and treatment, education, training or care of the mentally retarded or would help in the clinical training of physicians and other specialized personnel needed for research, diagnosis and treatment, education, training or care of the mentally retarded.

The act authorizes appropriations in the total amount of \$32½ million over a 4-year period beginning with fiscal year 1964. Congress has appropriated \$5 million for fiscal year 1964, \$7½ million for fiscal year 1965, and \$10 million for fiscal year 1966. Six applications have been approved which total \$8,455,560. A portion of the balance, \$14,044,440, may be obligated in November 1965 after the subcom-

mittee has made recommendations to the Surgeon General on six projects which total \$12,857,749. At the present time, applications have been received and are being reviewed by the staff which request Federal assistance in the approximate amount of \$5 million. Information has been received that 20 additional applicants will submit applications for Federal assistance in the amount of \$60 million. These applications are in various stages of development, and applicants are receiving staff assistance in the development of training programs and plans and specifications.

4. *Level of operations.* (See table 1.)

Program: University-affiliated facilities for the mentally retarded.

Department or agency, and office or bureau: Department of Health, Education, and Welfare; Public Health Service—Bureau of State Services (Community Health).

TABLE 1.—*Level of operations or performance, fiscal years 1964–67*

[Dollar amounts in thousands]

Measure and unit ¹	Fiscal year 1964	Fiscal year 1965	Fiscal year 1966 estimate	Fiscal year 1967 ² estimate
(a) Magnitude of the program (projects funded).....		5	7	5
(b) Applicants or participants:				
State government agencies (projects funded).....		2	3	2
Local communities or governments.....				
Individuals or families.....				
Other, voluntary nonprofit (projects funded).....		3	4	3
(c) Federal finances:				
Unobligated appropriations available.....	\$5,000	\$12,500	\$15,277	\$10,000
Obligations incurred.....		\$7,223	\$15,277	\$10,000
Allotments or commitments made (appropriation).....	\$5,000	\$7,500	\$10,000	\$10,000
(d) Matching or additional expenditures (matching).....		\$2,556	\$4,800	\$3,000
(e) Number of Federal employees (man-years).....	3	6	7	8
(f) Non-Federal personnel.....				
(g) Other measures of performance.....				

¹ See committee inquiry for definitions.

² President's budget.

5. *Estimated magnitude of the program in 1970*

Not answered.

6. *Prospective changes in program orientation*

Not answered.

7. *Coordination and cooperation*

The Division of Hospital and Medical Facilities in the Public Health Service has administrative responsibility for the program. Coordination is maintained and full cooperation is given to Federal agencies responsible for programs involving mental retardation. These agencies are:

Office of Education;
Office of Vocational Rehabilitation;
Welfare Administration, Children's Bureau;
National Institute of Child Health and Human Development;
Division of Chronic Diseases.

8. *Laws and regulations*

Public Law 88-164 approved October 31, 1964 (enabling legislation).

Public Law 88-268 approved February 10, 1964 (\$5 million appropriated for fiscal year 1964).

Public Law 88-605 approved September 9, 1964 (\$7½ million appropriated for fiscal year 1965).

Public Law 89-156 approved August 31, 1965 (\$10 million appropriated for fiscal year 1966).

Title 42, public health, chapter 1, subchapter D, part 54, subpart A (regulations published September 5, 1964).

PART II. DATA BEARING ON ECONOMIC ASPECTS AND IMPACTS OF THE PROGRAM

9. *Economic effects*

An estimated 3 percent of the population is retarded. By 1970 we will have at least 1 million more retarded persons. Deaths at birth have been reduced by 75 percent in the last 20 years as a result of advances in medical science, but the prevalence of mental retardation has steadily increased. Over 700,000 draftees were rejected as unfit for military duty during World War II because they were mentally deficient. The number of retarded who could not participate in the war effort was even greater.

The Nation cannot afford the impact on the economy of this waste of human resources. Although the contribution that the retarded can make to the growth of the GNP has not been measured, it can be stated that the Nation is being denied the benefit of the work product of these individuals. To reverse this trend, more trained professional personnel are needed to determine the causes of mental retardation, prevent and reduce the incapacity, where possible, and prepare the retardate for a useful role in society and industry.

10. *Economic classification of program expenditures.* (See table 2.)

Program: University-affiliated facilities for the mentally retarded.
Department or agency, and office or bureau: Department of Health, Education, and Welfare; Public Health Service—Bureau of State Services (Community Health).

TABLE 2.—*Economic classification of program expenditures for fiscal year 1965*

[In thousands of dollars]

Federal Government: ¹	
Grants to State and local governments.....	3, 363
Transfer payments to nonprofit organizations.....	3, 860
Total, Federal expenditures.....	7, 223

¹ Expenditures here refer to obligations.

COMMUNITY FACILITIES FOR THE MENTALLY RETARDED

(Title I, Part C, Public Law 88-164)

PART I. DESCRIPTION OF THE PROGRAM

1. *Objectives*

To assist States and communities in providing adequate community facilities and services for the mentally retarded, through a construction program for diagnostic and evaluation clinics, day facilities, and residential facilities providing the following services: diagnosis, treatment, education, training, custodial care, sheltered workshop.

2. Operation

The program is a formula grants program administered at the Federal level by the Division of Hospital and Medical Facilities, Public Health Service, and at the State level through an officially designated State agency. A State advisory council is required to advise and consult with the State agency for carrying out the provisions of title I, part C, of Public Law 88-164.

Funds allocated to the States become available for distribution upon the submission and approval of the State plan. The State plan presents a program for the construction of facilities for the mentally retarded which is based on a statewide inventory of existing facilities and survey of need. The State plan sets forth the priority of projects on the basis of the relative need for facilities in the area to be served by the project, taking into consideration existing facilities and services.

Individual projects are entitled to Federal financial assistance provided they conform with the State plan and have the approval of the State agency administering the program and of the Public Health Service. Applications may be for new construction or replacement, expansion, remodeling, or alteration of existing buildings. The Federal share ranges from one-third to two-thirds of the eligible costs of construction and equipment. Payments of the Federal share are made on the basis of work completed as determined by inspections of the project by the State agency.

3. History

The Mental Retardation Facilities and Community Mental Health Centers Construction Act of 1963 (Public Law 88-164) was enacted in response to the report of the panel of outstanding consultants appointed by President Kennedy in 1961 to develop a national plan to combat mental retardation.

Title I, part C, of this legislation provides grants to States for assistance in the construction of specially designed public and non-profit facilities for the diagnosis, treatment, education, training, or custodial care of the mentally retarded, including sheltered workshops which are a part of facilities providing comprehensive services for the mentally retarded.

The act authorizes the appropriation of a total of \$67½ million over a 4-year period beginning with fiscal year 1965. Appropriated funds have been allocated to States on a formula basis for fiscal years 1965 and 1966. State plans, a legal requirement for the utilization of allocated funds by States, have been received by the Public Health Service from 25 States. Assistance is provided State agencies on the techniques and procedures involved in the development of State plans through central office guidelines and consultation with State agencies by central office and regional office staff.

Ten State plans have been approved, and 15 others are in various stages of review. It is anticipated that approximately 7 of the 15 presently being reviewed will be approved by the first of November.

No applications for the construction of community facilities for the mentally retarded have been approved as of this date [November, 1965]. Partial returns of a recent inquiry show that at least 175 potential applicants exist at this time, as indicated by actions ranging from responsible inquiries received by State agencies to submission of applications.

4. *Level of operations.* (See table 1.)

Program: Community facilities for the mentally retarded (title I, part C, Public Law 88-164).

Department or agency, and office or bureau: Department of Health, Education, and Welfare; Public Health Service—Bureau of State Services (Community Health).

TABLE 1.—*Level of operations or performance, fiscal years 1964-67*

[Dollar amounts in thousands]

Measure and unit ¹	Fiscal year 1964	Fiscal year 1965	Fiscal year 1966 estimate	Fiscal year 1967 ² estimate
(a) Magnitude of the program (projects approved).....			50	50
(b) Applicants or participants:				
State government agencies (projects approved).....			15	15
Local communities or governments (projects approved).....			10	10
Individuals or families.....				
Other, voluntary nonprofit (projects approved).....			25	25
(c) Federal finances:				
Unobligated appropriations available.....		\$10, 000	\$22, 500	\$24, 000
Obligations incurred.....			\$13, 500	\$14, 000
Allotments or commitments made (appropriation).....		\$10, 000	\$12, 500	\$15, 000
(d) Matching or additional expenditures (matching).....			\$13, 500	\$14, 000
(e) Number of Federal employees (man-years).....	2. 5	26	30	34
(f) Non-Federal personnel.....	(3)	(3)	(3)	(3)
(g) Other measures of performance.....				

¹ See committee inquiry for definitions.² President's budget.³ Not available.5. *Estimated magnitude of program in 1970*

Not answered.

6. *Prospective changes in program orientation*

Not answered.

7. *Coordination and cooperation*

The Division of Hospital and Medical Facilities in the Public Health Service has administrative responsibility for the program. Coordination is maintained through participation in the review of State plans by the following agencies at the central office and regional office levels: Office of Education, Division of Handicapped Children and Youth.

Vocational Rehabilitation Administration, Division of Rehabilitation Facilities.

Welfare Administration, Children's Bureau.

Public Health Service:

Division of Chronic Diseases.

National Institute of Mental Health, Community Mental Health Facilities Branch.

8. *Laws and regulations*

Public Law 88-164.

[In millions]

	Fiscal year 1965	Fiscal year 1966	Fiscal year 1967	Fiscal year 1968
Authorized appropriation.....	\$10	\$12. 5	\$15	\$30
Appropriated.....	10	12. 5		

NOTE.—Total authorized appropriations, \$67,500,000.

PART II. DATA BEARING ON ECONOMIC ASPECTS AND IMPACTS OF THE PROGRAM

9. Economic effects. (See overall statement from Office of the Surgeon General.)

As noted above, about 3 percent of the population of the United States are mentally retarded. About one-third of this 3 percent, or 1 percent of the total population, are in need of the services which may be housed in facilities for which Federal assistance is available for construction under this program. Approximately 25 percent (500,000) of this number are already receiving some form of care and treatment with considerable drain on family and community resources. Additional facilities are needed to house services for 1.5 million retarded persons. Since these persons would need services the year around, this number compares with 1.43 million average daily census in 1964 in hospitals of all types in the United States as reported in the Guide Issue of Hospitals on August 1, 1965.

In addition to the vast sums expended for the care and treatment of the mentally retarded, the Nation is denied a large amount of economic output because of the underachievement, underproduction, or complete incapability of the mentally retarded. The impact on the national economy becomes more significant when it is considered that an estimated 126,000 babies born each year will be regarded as mentally retarded at some time in their lives.

10. Economic classification of program expenditures

Not operating in fiscal 1965.

HOSPITAL AND MEDICAL FACILITIES CONSTRUCTION

(Appalachian Program)

(Secs. 204 and 214)

PART I. DESCRIPTION OF THE PROGRAM

1. Objectives

To assist the Appalachian States in providing adequate hospitals and medical facilities through comprehensive and coordinated plans, programs, and priorities, giving due consideration to other Federal, State, and local health facility planning in the Appalachian region.

2. Operation

The President's Appalachian Regional Commission was established on April 9, 1963. In establishing the Commission, the President realized the intense economic distress of the region, and called for a new joint commitment of efforts by Federal, State, and local governments and private agencies to deal more effectively with this problem.

The Commission is to prepare a comprehensive program for the economic development of the Appalachian region, consult with the appropriate Federal agencies and with the Governors of the affected States, and implement a plan for comprehensive remedial action.

This program provides that, in order to demonstrate the value of adequate health and welfare facilities to the economic development

of the regions, the Secretary of Health, Education, and Welfare is authorized to make grants for the construction, equipment, and operation of multicounty demonstration health facilities. Grants for such construction shall be made in accordance with the applicable provisions of title VI of the Public Health Service Act and the Mental Retardation Facilities and Community Mental Health Centers Construction Act of 1963, without regard to any provisions therein relating to appropriation authorization ceiling or to allotments among the States. No grant for construction shall exceed 80 percent of the cost of the project. Grants for operation may be made up to 100 percent of the costs thereof for a 2-year period. For the next 3 years of operations such grants shall not exceed 50 percent. No grants may be made after 5 years following the commencement of operations.

Supplements to Federal grant-in-aid programs are provided for in section 214 of the act and in order to enable States and local communities to take maximum advantage of Federal grant-in-aid programs for which they are eligible but for which, because of their economic situation, they cannot supply the required matching share. The Secretary of Commerce is authorized, pursuant to specific recommendations of the Commission, to allocate funds to the heads of departments of the Federal Government responsible for the administration of such Federal grant-in-aid programs. Funds so allocated shall be used for the sole purpose of increasing the Federal contribution to projects under such programs above the fixed maximum portion of the cost of such projects otherwise authorized by the applicable law. Funds shall be so allocated for Federal grant-in-aid programs for which funds are available under the act authorizing such programs. Further, the Federal portion shall not be increased to exceed 80 percent of project costs.

3. History

The Appalachian region of the United States, while abundant in natural resources and rich in potential, lags behind the rest of the Nation in its economic growth and its people have not shared properly in the Nation's prosperity. The region's uneven past development, with its historical reliance on a few basic industries and a marginal agriculture, has failed to provide the economic base that is a vital prerequisite for vigorous, self-sustaining growth. The State and local governors and people of the region understand their problems and have been working and will continue to work purposefully toward their solution. The Congress recognized the comprehensive report of the President's Appalachian Regional Commission, documenting these findings, and concluded that regionwide development is feasible, desirable, and urgently needed.

The purposes of this program are, therefore, to assist the region in meeting its special problems, to promote its economic development, and to establish a framework for joint Federal and State efforts toward providing the basic facilities essential to its growth and attacking its common problems and meeting its common needs on a coordinated and concerted regional basis. As the region obtains the needed physical and transportation facilities and develops its human resources, it is anticipated that the region will generate a diversified industry, and that it will be able to support itself through the workings of a strengthened free enterprise economy.

4. Level of operations. (See table 1.)

Program: Hospital and medical facilities constructions (Appalachian program).
Department or agency, and office or bureau: Department of Health, Education,
and Welfare; Public Health Service—Bureau of State Services (Community
Health).

TABLE 1.—*Level of operations or performance, fiscal years 1964–67*

[Dollar amounts in thousands]

Measure and unit ¹	Fiscal year 1964	Fiscal year 1965	Fiscal year 1966 estimate	Fiscal year 1967 ² estimate
(a) Magnitude of the program (projects approved).....			2	50
(b) Applicants or participants:				
State government agencies (projects approved).....			1	10
Local communities or governments (projects approved).....			1	15
Individuals or families.....				25
(c) Federal finances:				
Other, voluntary nonprofit (projects approved).....				
Unobligated appropriations available.....		\$20, 875	\$20, 875	\$19, 375
Obligations incurred.....		0	\$1, 500	\$19, 375
Allotments or commitments made (appropria- tion).....		\$20, 875		\$2, 500
(d) Matching or additional expenditures (matching).....			\$500	\$6, 800
(e) Number of Federal employees (man-years).....		1	10	10
(f) Non-Federal personnel.....		(³)	(³)	(³)
(g) Other measures of performance.....				

¹ See committee inquiry for definitions.

² President's budget.

³ Not available.

5. Estimated magnitude of program in 1970

Not answered.

6. Prospective changes in program orientation

Not answered.

7. Coordination and cooperation

The Division of Hospital and Medical Facilities has extensive working relationships with other programs throughout the Public Health Service and other units of the Department which have responsibility in the health facility construction field. For example, frequent cooperative efforts are made with the Appalachian Regional Commissions, Hill-Burton authorities, in both the central and regional offices, and the National Institute of Mental Health.

8. Laws and regulations

For the period July 1, 1965, through June 30, 1967, Congress appropriated \$41 million for construction and \$28 million for operation of comprehensive health facilities.

PART II. DATA BEARING ON ECONOMIC ASPECTS AND IMPACTS OF THE PROGRAM

9. Economic effects

The Appalachian Regional Development Act should have a tremendous impact upon the local community by: (1) providing jobs with the construction of health facilities, (2) increasing sales and manufacture of hospital and health facility equipment, (3) adding supporting jobs in the local communities, (4) attracting professional and technical staff personnel, and (5) improving health of local citizens

to provide additional needed labor force. Collectively the above would financially boost the local economy.

10. *Economic classification of program expenditures*

No expenditures were made in fiscal 1965.

DIRECT OPERATIONS

PART I. DESCRIPTION OF THE PROGRAM

1. *Objectives*

The mission of the programs in the community health area is to foster the availability of the best health services for the people when they need them and where they need them.

The objectives of many community health programs have been described in one fashion or another under programs supported by grants. However, there are three programs which will be described more fully in this section.

Accident prevention.—Accidental injury and death constitute a major problem of public health with far-reaching social, economic, and medical implications. Injuries resulting from accidents are the leading cause of death among children and young adults in the United States, and they rank fourth as a cause of mortality in the total population. Accidents kill 95,000 Americans a year, and injure 45 million. Motor vehicle accidents alone accounted for 48,000 fatal injuries in this country last year.

The injury control program administered by the Public Health Service is aimed at minimizing this loss of life and the injuries caused by accidents, and alleviating insofar as possible the effects of injury-producing accidents as these occur. Basically, accidents are caused by specific things that people do or fail to do, or by errors and momentary behavioral lapses. Successful applications of effective control measures have demonstrated over and over again that accidental injuries are preventable. The injury control program is designed to prevent accidents by developing and applying adequate preventive measures. This involves research aimed primarily at the human aspects of accident causation and the application of proven control measures through public health channels. The program is designed to minimize the effects of accidental injuries by assuring adequate emergency medical services for the accident victim between the time of his injury and the initiation of medical treatment.

Dental diseases.—The Division of Dental Health seeks to protect and improve the dental health of the American people by stimulating the widespread application of health knowledge. The objective of the Division is to conquer dental disease in the same way that certain communicable diseases have now been conquered. At the present time, dental disease is so prevalent that less than 5 percent of our population has achieved optimum dental health.

The efforts of the Division are concentrated in four areas: control of dental disease; economics of dental care; improvement in the quantity and quality of dental care; research and development in dental health, materials and technology.

Medical Care Administration.—This Division was established on August 11, 1965. Its creation was precipitated by the passage of Public Law 89-97, the Social Security Amendments of 1965. The

Division is the focal point for liaison between the Public Health Service, the Social Security Administration, and the Bureau of Family Services, Welfare Administration, in the establishment and maintenance of standards for the professional health aspects of the health insurance for the aged program (title XVIII) and the medical assistance program (title XIX).

Health Insurance for the Aged.—The Secretary of Health, Education, and Welfare will enter into agreements with State agencies, under which these agencies will determine and certify that hospitals, extended care facilities, home health agencies and independent laboratories meet and continue to meet conditions for participation in the program. In addition to certification, the State agency, which is usually the health department, will give consultation to assist providers who have difficulty in meeting and maintaining the standards. The State agency will also perform certain coordinating functions to insure that the health insurance program is closely integrated with ongoing or new health and medical care activities within the States.

Standards for the four kinds of providers of service mentioned above are being drafted by joint work groups of the Public Health Service and the Social Security Administration. These work groups are chaired by staff of this Division. After review by appropriate advisory groups and the Health Insurance Benefits Advisory Council, these standards will be revised and subsequently included in regulations promulgated by the Secretary. Another joint staff working group responsible for principles and methods applicable to reimbursement for the health benefits is also chaired by the Public Health Service.

The hospital and home health services benefits of this program will be available on July 1, 1966. The extended care facilities benefit becomes available January 1, 1967. The number of potential beneficiaries in 1966 is 19 million.

Medical Assistance.—Title XIX of Public Law 89-97 makes sweeping changes in the Federal-State medical assistance programs with complementary relationships to the title XVIII program. This Division will give consultation and technical assistance to the Welfare Administration in such matters as:

1. The formulation of standard, and conditions of participation for providers of health services, including the extent to which conditions of participation for title XVIII will be applied in title XIX. Because the latter has a potentially broader benefit structure and involves both State and Federal financing, the standards will not be identical.

2. The development of requirements relating to patient care planning, including transfer agreements, utilization reviews and other mechanisms for assuring use of the most appropriate resource for a patient at a given time.

3. The development of optimal relationships between State health and welfare agencies.

Statistical data on the number of public assistance beneficiaries are not presented. This program, unlike title XVIII, gives States several options and provides for progressive phasing-in features which make such forecasts of doubtful value, especially by an agency whose relationship to the program is largely consultative.

Home Health Services Development.—Under the health insurance program, the aged are entitled to home health services as part of their benefits. At present, however, sufficient resources are not available to meet the needs of this age group, much less the needs of the entire population.

The Public Health Service, for several years, has made funds and technical assistance available to State and local agencies which provide home health services: health departments, visiting nurse associations, hospitals, and other types of agencies. This effort is now being enlarged to help existing agencies expand their programs and to help new ones organize in advance of July 1, 1966, when the benefit becomes available.

The network of existing agencies within which home health services can be expanded and developed include 1,700 State and local official health agencies, 700 visiting nurse associations, 50 combination agencies, and 100 multiservice agencies including 70 programs administered by hospitals. Many more are needed. At present, only about 16 percent of the aged who need this type of care are able to secure the service.

The basic service included in the health insurance home health services benefit is skilled nursing care. Agencies must also provide one or more therapeutic services to be certified as providers. Only a minimal number of the nursing organizations provide these other services: physical, speech, and occupational therapy; medical social service; and home health aid services. The accelerated development program will help agencies add these services to their armamentarium.

The characteristics of this home health program have special significance for investment in human resources as well as in economic benefits. This program in a sense is an antidote to the overproliferating hospitalization and institutional system. At the same time, the coordination by a single agency of a multiplicity of services for a patient at home should tend to give to home care some of the same qualities of excellence generally, if not always deservedly, attributed to hospital care. For the physician, his patient, or the patient's family, shopping throughout the community for the many services a patient at home is likely to need is so time consuming and difficult that it is likely to be self-defeating. Surveys of hospitals and extended care facilities repeatedly reveal patients who could be cared for in less costly surroundings.

Nursing Homes and Related Facilities.—The health insurance for the aged program will meet a small portion of the needs of older persons commonly referred to as nursing home care. The "extended care facility" benefit is designed to meet the immediate short-term post-hospital needs of older persons who still require inpatient medical or nursing care or rehabilitation services. The period during which the benefit is payable is limited.

Standards prescribed by law include 24-hour nursing service. Only a small percentage of institutions which the general public considers nursing homes will meet this standard. Thus, it is not the intent of the law to meet the long-term needs for institutional care of sick aged persons or the needs of well aged persons who may, because of infirmity, lack of relatives or other reasons, need domiciliary or custodial care. The Division will have a twofold purpose concerning nursing home care: (1) to assist with activities related to the health insurance

program; and (2) to continue efforts to upgrade the 23,000 nursing home establishments of all kinds which now provide care to about 500,000 persons. Both purposes will require activities related to augmenting and improving staffing patterns and performance in the several kinds of institutions.

Fortunately, the health insurance program will meet the reasonable cost of care. Nursing homes in the United States developed, for the most part, after passage of the Social Security Act in 1935. They are a fairly direct result of a prohibition in that law against assistance payments to inmates of public institutions and of a maximum on payments in which the Federal Government could share. Thus, the almshouse established in colonial days was in the midtwenties displaced in large part as a result of Federal law. Now titles XVIII and XIX of Public Law 89-97 will set in motion standards and moneys which again will play a part in the future facilities to be developed.

Improving Medical Care Administration.—The broad purposes of the Division are an outgrowth of 5 years effort in the specific areas of medical care administration and health economics. Through research, studies, demonstrations, and technical assistance, staff recently transferred to form this Division have developed and promoted concepts and methods related to organization, interrelationships, delivery, quality and evaluation of public and private personal health services. Concurrently, through the same mechanisms, systems of financing costs of services and methods of payment for personal and public medical care programs have been analyzed. Research studies and demonstrations have also been carried on concerning the effects of social and economic factors on the volume, services, and economic productivity of such programs.

2. Operation

In carrying out its mission, the Community Health program utilizes a wide variety of techniques.

These may be broadly classified under grants or financial assistance, and direct operations or technical assistance. The grant programs are described in the preceding portion of this report. The direct operations are described in this portion of the report. For budgetary analysis, the direct operations are broken out into several areas: research, training, technical assistance, review and appraisal of grants, and program direction.

There are more than 4,000 persons in the Bureau located in eight divisions:

<i>Division</i>	<i>Number¹</i>
Total.....	4, 510
Accident Prevention.....	153
Chronic Diseases.....	850
Communicable Disease Center.....	2, 225
Community Health Services.....	276
Dental Health.....	219
Hospital and Medical Facilities.....	336
Medical Care Administration.....	97
Nursing.....	153
BSS-CH Management Fund.....	199
Gift Funds.....	2

¹ Budget positions, fiscal year 1965.

In each of the nine regional offices operated by the Department of Health, Education, and Welfare in Boston, New York, Charlottesville, Atlanta, Chicago, Kansas City, Dallas, Denver and San Francisco there is an Associate Regional Health Director for Community Health Services. He is supported by various program specialists from each of the Community Health Divisions who furnish technical assistance and leadership to the community health programs in the States in the region.

How most of the programs of the BSS(CH) operate is described in other sections of the report. However, it seems desirable to present more information about the injury prevention program.

The injury control program of the Division of Accident Prevention provides technical leadership to health departments in the design, establishment, and operation of services aimed primarily at prevention. Guidance is provided in the development and testing of new preventive measures, in the application of these measures to the accident problem, and in the use of a wide range of public health resources for the prevention of accidental injuries. Twenty-seven State and territorial health departments now conduct full-time programs for the control of accidental injuries, and all State health departments provide some services in this field. Limited financial support is provided by the Division of Accident Prevention for demonstration and other types of projects in this field, for education and training of professional personnel in accident prevention, and for assignment of accident prevention specialists to health department staffs.

A major element of the program is the conduct and support of research relating to the causes and means of prevention of accidents. Research in this field is carried out directly by the Division, largely through contracts with universities and other scientific organizations, and by means of grants-in-aid. Intramural and extramural research in which the Division has participated has resulted in the wide acceptance of automobile seat belts, improved safety, improved standards for glass doors and the use of glass paneling in building, and greater acceptance of safety devices used in outdoor recreation.

The National Clearinghouse for Poison Control Centers, operated by the Division's Poison Control Branch, serves 550 of these centers throughout the country by providing prompt information on ingredients, toxicity, symptoms and findings, and treatment for the accidental ingestion of medicines and household products. A nationwide educational program aimed at preventing accidental poisonings is an element of the injury control program.

Description of Community Health Divisions

Office of Deputy Bureau Chief.—Administers Federal-State programs concerned with (1) the development of techniques for the application of scientific observations in the fields of biology and medicine; (2) the social and behavioral aspects of major health problems; (3) the organization and delivery of comprehensive community health services; (4) the development and effective utilization of professional, technical, and supplementary manpower; and (5) the planning, construction, coordination, and operation of hospitals and related medical facilities including teaching facilities for certain medical personnel to stimulate the widespread application of health knowledge; and (6)

assisting and supplementing State and local activities by direct operations or through grants-in-aid in the community health area. This office works with a variety of official agencies and professional and voluntary groups to define and develop effective ways of dealing with public health problems appropriate to the needs of communities.

Division of Accident Prevention.—Conducts technical assistance, education and intramural research programs to assist and encourage health departments and other public and private agencies to develop and operate community services aimed at preventing accidental deaths and injuries and at providing adequate emergency medical services for the sick and injured; investigates poisonings having public health implications and carries out measures to prevent accidental poisonings; operates the National Clearinghouse for Poison Control Centers; administers extramural research project and research training grant programs and communicates and fosters the application of research findings; cooperates with other PHS components in the development and/or operation of related programs.

Division of Chronic Diseases.—Conducts technical assistance, education, formula, and project grant and intramural research programs to prevent the occurrence and progression of chronic long-term illness (cancer, diabetes, heart disease, arthritis, kidney disease, neurological and sensory diseases, etc.) including mental retardation and the problems of the aged; provides consultation in specific coordinated chronic disease prevention and care services (home nursing, homemaking, dental and nutritional services, coordinated home care), referral services, multiple screening, periodic health appraisals, and restorative services (and promotes the elevation of standards of care in nursing homes); operates the National Clearinghouse on Smoking and Health; administers an extramural research grant program and communicates and fosters the application of research findings; cooperates with other PHS components in the development and/or operation of related programs.

Division of Community Health Services.—Conducts technical assistance, education, formula, project and training grant and intramural research programs to determine effective means of providing community health services through public and private channels, to promote improved organization, financing, and practices in public health and medical care administration, including services related to rural, migrant, metropolitan and school health; conducts program of counseling and referral of selective service medical rejectees; administers student loan programs for physicians, dentists, osteopaths, optometrists, and nurses; promotes programs for the continuing education of physicians and other health professionals; provides leadership in the development and conduct of public health education activities; assesses and projects medical and paramedical manpower needs and resources; administers extramural research project and research training grant programs and communicates and fosters the application of research findings; cooperates with other PHS components in the development and/or operation of related programs.

Communicable Disease Center.—Conducts technical assistance, education, training, project grant and intramural research programs to diagnose, prevent and control communicable and certain other preventable diseases and to train public health workers in methods and techniques of communicable disease prevention and control; adminis-

ters a program to eradicate the yellow fever (*aedes aegypti*) mosquito; operates an immunization program to provide vaccination against poliomyelitis, diphtheria, whooping cough, and tetanus; maintains surveillance over communicable and certain preventable diseases and provides epidemic aid and epidemiological services; enforces the medical aspects of interstate quarantine regulations; produces, disseminates, and exchanges medical audiovisual materials; administers an extramural research grant program and communicates and fosters the application of research findings; cooperates with other PHS components in the development and/or operation of related programs.

Division of Dental Health.—Conducts technical assistance, education, formula grant, training and intramural research programs to prevent, control and treat dental diseases and disorders and to develop and improve the utilization of dental resources; assesses dental manpower supply, distribution, utilization and productivity and projects future manpower requirements; stimulates the development of modern organized dental health programs; administers extramural research project and research training grant programs and communicates and fosters the application of research findings; provides consultation on facilities planning and financing, the design of teaching and treatment facilities and on student loan programs and cooperates with other PHS components in the development and/or operation of these and other related programs.

Division of Hospital and Medical Facilities.—Conducts technical assistance, education, formula and project grant and intramural research programs to assist communities and nonprofit organizations in the planning, design, construction, modernization, equipping and operation of hospitals and related health facilities, university affiliated facilities for the mentally retarded, other facilities for the mentally retarded, community mental health centers (in conjunction with NIMH) and teaching facilities for the training of physicians, pharmacists, optometrists, podiatrists, dentists, and professional public health personnel; assesses health facility needs and resources and develops measures of adequacy for a comprehensive health facility system; assists communities in the areawide planning of health facilities to provide medical, diagnostic, preventive, treatment or rehabilitative services; administers an extramural research grant program and communicates and fosters the application of research findings; cooperates with other PHS components in the development and/or operation of related programs.

Division of Medical Care Administration.—Provides the focus in the Public Health Service for medical care administration activities in general, and for the administration of the professional health aspects of the health insurance for the aged program in particular. Administers operational and grant programs for the development, expansion, and improvement of medical care systems, services, and resources. Administers the professional health aspects of the health insurance for the aged program in such areas as standards, State and local agency activities, training, evaluation, studies, utilization review, and relationships with the National Medical Review Committee. Develops and implements an integrated approach to the planning, organization, administration, financing, and evaluation of medical care services and resources. Conducts and supports studies related to the health insurance program and to advance knowledge

and understanding in the field of medical care administration generally. Provides consultation and technical assistance to other related programs of the Department and to official, voluntary, and professional agencies and organizations in such areas of medical care administration as health insurance program administration, reimbursement, quality and standards of personal health services, patient care planning and management, administrative processes and methods in medical care settings, community and regional planning and coordination of medical care services and resources, health personnel and the economics of health, and education in medical care administration. Evaluates the impact of new and existing medical care systems, financial mechanisms, and services on the health services and resources of the country.

Division of Nursing.—Conducts technical assistance, education, training, formula and project grant, and intramural research programs to improve and augment public health and institutional nursing education and services, the utilization of public health nursing skills and public health nursing administration; administers the professional nurse traineeship program of financial aid to graduate nurse students in administration, supervision, and teaching; maintains a continuing review of national nursing needs and resources and projects future nursing requirements and supply; administers an extramural research grant program and communicates and fosters the application of research findings; provides consultation in developing program requirements and plans for the construction or remodeling of nursing education facilities and for student loan programs; and cooperates with other PHS components in the development and/or operation of these and related programs.

3. History

The concept of comprehensive health care gradually has come into clearer focus. The principal challenge was the development of health services which provide for the American people a level of health care commensurate with the Nation's scientific capabilities.

During the past two decades the Congress has authorized programs which have brought about great progress in this area.

The Community Health Services and Facilities Act of 1961 authorized the Service to support community studies and demonstrations to develop new and improved out-of-hospital services, particularly for the chronically ill and aged.

The Vaccination Assistance Act of 1962 authorized the Service to help States and communities carry out communitywide immunization programs against poliomyelitis, tetanus, diphtheria, and whooping cough. Measles has been added by later legislation.

Under the Health Professions and Educational Assistance Act of 1963 and its 1965 amendments, the Service assists schools of medicine, dentistry, and other health professions with grants for construction, educational improvement, and student loan and scholarship funds. The Nurse Training Act of 1964 aids schools of nursing.

With the enactment of the health insurance program for the aged (medicare), the Service was assigned responsibility that encompasses such matters as the vital question of standard setting, cooperative endeavors with the States and other agencies, and studies in the fields of health personnel and economics.

4. Level of operations. (See table 1.)

Program: Direct operations, Bureau of State Services—Community Health (summary).

Department or agency, and office or bureau: Department of Health, Education, and Welfare; Public Health Service—Bureau of State Services (Community Health).

TABLE 1.—*Level of operations or performance, fiscal years 1964–67*

[Dollar amounts in thousands]

Measure	1964	1965	1966 estimate	1967 estimate
(c) Federal finances:				
Obligations incurred:				
Direct research.....	\$16,302	\$17,396	\$19,650	\$22,314
Direct training.....	3,120	3,989	5,639	6,635
Technical assistance.....	25,281	33,893	52,917	56,669
Review and approval of grants.....	2,139	2,772	3,491	3,951
Program direction.....	1,790	1,998	2,288	2,829
Total, direct operations.....	48,632	60,048	83,985	92,398
(d) Matching or additional expenditures: Direct research ¹ (total, direct operations)....	12	16	18	22
(e) Number of Federal employees (budgeted positions):				
Direct research.....	1,354	1,479	1,490	1,546
Direct training.....	311	344	412	412
Technical assistance.....	2,178	2,241	2,646	2,864
Review and approval of grants.....	190	247	346	354
Program direction.....	199	199	214	229
Total, direct operations.....	4,233	4,510	5,108	5,405

¹ Gift funds, mostly from World Health Organization for special studies such as influenza, shigella, etc.

5. Estimated magnitude of program in 1970

Not answered.

6. Prospective changes in program orientation

Not answered.

7. Coordination and cooperation

The Bureau of State Services, Community Health Divisions, as described earlier in this report, carry on their activities and programs in close cooperation with State and local health programs and with a variety of organizations and groups—public, professional, and voluntary. The following are examples of organizations with whom divisions work.

The Division of Accident Prevention has had a long and close association with the Bureau of Public Roads. The recent National Conference on Medical Aspects of Driver Safety and Driver Licensing was sponsored jointly by the American Medical Association, the American Association of Motor Vehicle Administrators, and the Public Health Service.

The Food and Drug Administration and the Bureau of State Services have developed procedures for the regular exchange of program information of mutual interest, including information from poison control records about outbreaks of selected communicable diseases.

The Division of Dental Health is cooperating with the Bureau of Standards and the National Institute of Dental Research to test, clinically, new dental materials and techniques.

The Division of Chronic Diseases maintains continuing working relations with many public, professional, and voluntary organizations: the American Medical Association, the National Society for Crippled Children and Adults, the American Hospital Association, and the American Nursing Home Association. The Division works closely with the National Interagency Council on Smoking and Health.

The Division of Hospital and Medical Facilities has established working relationships with more than 90 professional and voluntary business organizations; with more than 25 Federal departments and agencies; and with all of the State and local health departments, Hill-Burton agencies, mental retardation agencies, and mental health agencies.

The Division of Medical Care Administration maintains close liaison with the Social Security Administration. The development of standards for the hospitals, extended care facilities, home health agencies, and health laboratories which provide services to the aged has been an effort of many groups. The Public Health Service, which is responsible for the professional aspects of the program, and the Social Security Administration have sought and received the counsel of a great number of professional associations. Currently, the Public Health Service is carrying on discussions with the Welfare Administration with regard to the application of conditions for participation in title 18 (medicare) to the title 19 program, which greatly broadens coverage under the existing Federal-State program for medical assistance to the aged.

The Interagency Conference on Nursing Statistics is composed of representatives from the American Hospital Association, American Nurses' Association, Bureau of the Census, Bureau of Labor Statistics, the National League for Nursing, and the Public Health Service.

8. Laws and regulations

Division of Accident Prevention—PHS Act, as amended, particularly secs. 301, 314 (42 U.S.C. 241, 246).

Division of Chronic Diseases—PHS Act, as amended, particularly secs. 301, 311, 314, 316, 402, 403 and title XVIII of the Social Security Act (42 U.S.C. 241, 243, 246, 247, 282, 1391-1394).

Communicable Disease Center—PHS Act, as amended, particularly secs. 301, 311, 314, 317, 361, 363 (42 U.S.C. 241, 243, 246, 247b, 264, 266).

Division of Community Health Services—PHS Act, as amended, particularly secs. 301, 306, 309, 310, 311, 314, 316, title VIII (42 U.S.C. 241, 242, 242g, 242h, 243, 246, 247a, 294-294e, 296-298b, and Executive Order 11074).

Division of Dental Health—PHS Act, as amended, particularly secs. 301, 311, 314, 422 (42 U.S.C. 241, 243, 246, 288a).

Division of Medical Care Administration PHS Act, as amended, particularly secs. 301, 311, 314 and title XVIII of the Social Security Act (42 U.S.C. 241, 243, 246, 1395-1395 *ll*).

Division of Hospital and Medical Facilities:

A. Hill-Burton program, title VI of the PHS Act, as amended, and sec. 202 of the Appalachian Regional Development Act of 1965 (42 U.S.C. 247c, 40 U.S.C. app. 202).

B. Mental retardation construction program, Mental Retardation Facilities Construction Act. Part B and part C (42 U.S.C. 2661-65, 2671-2677, 2691-96.)

C. Health professions construction program, title VII, part B of the PHS Act (42 U.S.C. 293-293h).

D. Community Mental Health Centers, construction program—Title II of the Community Mental Health Centers Construction Act; section 202 of the Appalachian Regional Development Act of 1965. (42 U.S.C. 2681-2687; 40 U.S.C. app. 202).

E. Nursing schools construction program, title VIII, part A of the PHS Act (42 U.S.C. 296-296e).

Division of Nursing, PHS Act, as amended, particularly secs. 301, 311, and title VIII (42 U.S.C. 241, 243, 296-298f).

PART II. DATA BEARING ON ECONOMIC ASPECTS AND IMPACTS OF THE PROGRAM

9. *Economic effects*

The following are illustrations of the economic effects of these programs:

The economic impact of accidents in the United States is virtually incalculable. Accidental nonfatal injuries require nearly 40 million people a year to seek medical care, and annually result in 107 million days of work lost and 13 million days lost from school. Accidental injuries impose enormous burdens on the Nation's medical treatment facilities. The number of visits to hospital emergency rooms necessitated by injury amounts to 10 million a year. The treatment of accident cases requires the use of 50,000 hospital beds and absorbs more than 18 million hospital bed days. The loss to the economy resulting from accidental deaths and disabling injuries, particularly within the work force, are of staggering proportions. Injury control programs in the Division of Accident Prevention have resulted in the reduction of injuries and deaths in selective areas where tested preventive measures have been applied. However, estimates concerning the economic value of such services are not yet available.

Receipt of dental care is very closely linked with income level. As a result of this, only 40 percent of the American public sees a dentist even once a year. To lower the cost barrier, plans of dental prepayment or insurance are being developed. The Division of Dental Health analyzes prepayment plans of various types in different parts of the country, serves as a clearinghouse of information on such programs, and offers consultative service to groups planning and developing dental insurance programs. Approximately 1½ million Americans are now covered by plans of this kind.

It is estimated that dental diseases account for a loss from work of 85 to 100 million man-hours a year. Prevention of dental decay and control of periodontal disease, which are now quite feasible, would reduce this toll by one-half to two-thirds.

The national bill for professional dental services is about 2.5 billion dollars a year. In cities with fluoridated water, the bill for children's dental care is half or less than half the amount in nonfluoridated cities.

It has been demonstrated that children in fluoridated cities require 30 percent less orthodontia than in nonfluoridated cities.

Some groups of patients—the aged, the chronically ill, the disabled, the handicapped, the mentally retarded and mentally ill—cannot as a rule seek dental care. The dental health programs are providing support to States and communities and dental schools so that such

care may be available and methods of caring for such groups can be developed. How many such people can be made more productive members of society cannot be readily calculated.

Expansion of job opportunities in the field of dental assisting has been a definite result of the programs in dental schools and junior colleges.

The primary benefit from the training branch program is the increase in the effectiveness of those professional health workers who attend training branch courses in their efforts to reduce the disability and mortality of infectious diseases.

The cost in human misery and death, as well as the cost to the Nation in man-days of labor, productivity, and wealth, is difficult to measure. However, some figures are available:

The National Health Survey data indicated that, during the period 1963-64, there were over 30 million incidences of infective and parasitic diseases (excluding upper respiratory infections, such as the common cold and influenza, and the common childhood diseases). Among employed persons, these diseases alone extracted a total of 20,735,000 days lost from work.

However, there are some indications that an impact is being made. For example: (1) As a direct result of an educational seminar on viral hepatitis held in Indiana, five physicians changed their procedures for sterilizing instruments from boiling to autoclaving. This one change will considerably reduce the possibility of an outbreak of serum hepatitis among the more than 5,000 patients cared for by these physicians. (2) Another example can be found in the analysis of the cost benefit (medical, wage, burial) of U.S. tularemia control, 1950-1964. Training branch, CDC, in addition to training in the control of some 100 other vector-borne diseases, has done training in the control of tularemia since 1950. Since 1948, the incidence of this disease has decreased but still remains a serious problem. Reduction in incidence can be attributed to widespread control efforts at the State and local level to which training branch, CDC, furnishes support. As a conservative minimum, it is estimated that 1,000 cases per year (average considering that tularemia is highly cyclical) would have occurred had the control program not been effective. Cost benefits, 1950-64, from medical expenses, wage loss, and related costs alone total \$7,803,000 which rises to \$10,920,000 when population increase is taken into account. The total benefit in terms of the gross national product is probably much greater than this, especially if effects on tourism are calculated. The impact of the training branch activities in the field of vector-borne disease control becomes even more impressive when it is considered that the total budget for training in all vector-borne disease over the last 25 years has only been \$3½ million.

Quality of hospital and medical care furnished to aged patients.—The program will enhance the quality of care furnished to aged patients because it will:

(a) Remove economic barriers to needed care and eliminate financial considerations from decisions concerning the need for hospitalization;

(b) Facilitate continuous medical supervision by the patient's own physician by guaranteeing free choice of institution;

(c) Provide for the establishment of national standards in consultation with appropriate professional and other organiza-

tions. These standards for health and safety will be a significant addition to the efforts of State licensing agencies to improve quality;

(d) Pay for the cost of quality care beyond minimum standards. The program offers a financial incentive for high quality care by operating under the principle of reasonable cost reimbursement for service provided;

(e) Pay for certification, consultation, and coordination services: certification to assure that standards are met, consultation to assist providers in meeting the standards, and coordination to integrate the health insurance program with ongoing or new health and medical care activities in each State.

Utilization of hospitals and related medical facilities.—An increase in days of hospital care for the aged resulting from the program has been estimated as 20 percent nationally, over and above the increases that would simultaneously occur through expansion of the population age 65 and over. Spread across all ages, the impact is expected to produce a national increase of 5 percent in bed occupancy.

The expansion in bed requirements will be uneven, community by community and hospital by hospital, affecting some more than others. There will be some shifting of geriatric patients, since the program will not finance care in nonaccredited hospitals. There may be shifts from public to voluntary hospitals resulting from the new resource for financing care privately. A variety of factors may be expected to alter the current patterns of care and increase the effective demand of the aged for hospital and nursing home care, including the requirement that there be effective utilization review committees functioning for each hospital and extended care facility.

When examining the impact of the program on utilization, there is a tendency to overlook the fact that a large proportion of the aged have had some kind or amount of voluntary hospital insurance and another segment has been eligible for care at public expense. While not all of those with voluntary insurance were adequately protected for the costs of care, it is probably true that the inadequacy of their coverage was not brought home to them until they had received hospital care. Effective demand could be said to have existed, then, for most of them. The same might be said of those whose care was publicly financed. Of the remainder some would have received all the care they required, in some cases at a sacrifice. Others would have had unmet needs.

Summing up, utilization of hospital care by geriatric patients is expected to rise, but is unlikely to expand markedly unless there is sudden expansion in the number of hospital beds. Dislocation in beds will undoubtedly occur, but the requirements for beds for acutely ill, younger patients will remain as a strong deterrent to unsound hospitalization of the elderly. Expansion of beds should not be undertaken without areawide planning to see if dislocations can be corrected through upgrading existing facilities, etc.

Extended care facilities.—Beginning in January 1967, there will be an increased demand for nursing home beds, since a means of financing will be available to many aged for the first time.

The shortage of nursing home beds will be a major problem, and the supply varies greatly from one part of the country to another.

The five States with the most beds average 42 beds per 1,000 persons over age 65. The five States with the fewest beds average 7 per 1,000. If all States were at the present higher level of beds, it would require an estimated 500,000 new beds.

There is currently a boom in nursing home construction. The new medical care program may be expected to stimulate the boom further so that the bed shortage may be somewhat alleviated in the future. When hospitals can convert closed wings into extended care facilities, some of the need will be filled without new construction.

Factors offsetting these pressures are the utilization review committee requirement and the provision of rehabilitative services which should shorten the nursing home patient's stay. The deductible of \$5 a day for the 21st through 100th days of covered care may also have a deterrent effect.

Financing.—The program will alter the sources for financing hospital care by transferring from the private sector to the public sector most of the payments for hospital care of the elderly. It will result in increased use of hospitals by the aged; and, hence, increased hospital revenue from public funds. It also provides for payment of reasonable costs of care by State welfare programs, after July 1, 1967, a provision which will ultimately correct the inadequacies of welfare payments for hospitalization in most jurisdictions.

The program is also expected to change existing reimbursement arrangements among nongovernmental third-party agencies purchasing hospital care. The 77 Blue Cross plans may well adopt the Federal reimbursement formula when paying for care of persons under age 65. To the extent that insurance plans provide coverage to supplement the benefits provided by Public Law 89-97, this portion of care of the aged may also reflect the Federal approach to reimbursing hospitals.

The law also provides that reimbursement paid to hospitals will be on the basis of current costs. This language means that any inflation in hospital costs will be covered: heretofore the rate of reimbursement reflected a hospital's cost in a prior period and was seldom adjusted upwards to reflect the cost of care in the period during which the care was provided.

Certain costs incurred by hospitals have not been recognized in many existing reimbursement formulas. Public Law 89-97 recognizes such costs, including nursing education, intern and residency training costs, and depreciation.

In summary, hospitals will be in an improved financial position for the following reasons:

1. They will be fully reimbursed for the actual cost of care (as defined);
2. Their occupancy rate will rise;
3. They will be paid at the current level of costs;
4. The costs of several hospital activities and some part of capital will henceforth be recoverable;
5. Some portion of their present bad debts will henceforth be paid in full.

Some hospitals will be adversely affected by the new law:

1. Overcrowding may occur.
2. Their costs may increase because of the upgrading of standards required to qualify under the law, and they may not be able

to modify reimbursement from third-party agencies other than Health Insurance Benefits to cover these added costs and to adjust charges to reflect their higher costs.

3. If they cannot be accredited, their geriatric patient load will drop.

Home health services.—Public Law 89-97 introduces a new source of financial support to the field of services brought to the patient in his home. In so doing it will alter and expand the patient load that existing agencies have been serving as well as promoting the development of new home health agencies.

Health manpower.—Recent advances in medicine have resulted in marked changes in the structure of medical practice. Techniques and equipment for accurate diagnosis of illness and effective treatment have become increasingly numerous and complex. The technological achievements in medicine and the subsequent complex developments in the application of new knowledge have tended to increase specialization and fragmentation of medical practice. This, in turn, has led to an interdependence of a variety of personnel, including a multiplicity of paramedical professions. Diagnostic procedures now call for the services of medical laboratory and X-ray technicians as well as the physician and nurse. Effective disease prevention requires the services of the biostatistician, epidemiologist, sanitary engineer, and radiological health specialist, in addition to the physician, nurse, social worker, and public health worker. The country's expanding and aging population and the associated chronic illnesses require the combined services of the physician, professional and practical nurse, pharmacist, physical, speech and occupational therapist, home health aide, and social worker.

There are now about 3 to 4 million persons in the United States working in some aspect of health services in hospitals, clinics, health organizations, private offices, laboratories, and remaining places where medical and other health services are provided. Physicians, dentists, and professional nurses comprised two-fifths of the total in health occupations in 1960. Other professional health occupations with sizable employment are dietitians, pharmacists, hospital and dental laboratory technicians. Large numbers are also employed as practical nurses, aides, orderlies, and attendants.

The shortages in the supply of physicians, dentists, and nurses have been well documented. The supply of manpower in these areas can barely keep pace with the population growth, and the enactment of the health insurance program for the aged will impose additional demands.

It is generally recognized that increased and more effective use of auxiliary medical personnel will assist in the alleviation of current and projected shortages in the supply of key professional medical personnel.

10. *Economic classification of program expenditures.* (See table 2.)

Program: Direct operations, Bureau of State Services—Community Health (summary).

Department or agency, and office or bureau: Department of Health, Education, and Welfare; Public Health Service—Bureau of State Services (Community Health).

TABLE 2.—*Economic classification of program expenditures for fiscal year 1965*

[In thousands of dollars]

Program: Direct Research:		
Federal Government:		
Purchases of goods and services:		
Wages and salaries.....	\$11,893	
Other.....	5,519	
Total Federal expenditures ¹	17,412	
Program: Direct Training:		
Federal Government:		
Purchases of goods and services:		
Wages and salaries.....	2,766	
Other.....	1,223	
Total Federal expenditures.....	3,989	
Program: Technical Assistance:		
Federal Government:		
Purchases of goods and services:		
Wages and salaries.....	17,908	
Other.....	15,985	
Total Federal expenditures.....	33,893	
Program: Review and approval of grants:		
Federal Government:		
Purchases of goods and services:		
Wages and salaries.....	1,978	
Other.....	794	
Total Federal expenditures.....	2,772	
Program: Program Direction:		
Federal Government:		
Purchases of goods and services:		
Wages and salaries.....	1,729	
Other.....	269	
Total Federal expenditures.....	1,998	
Program: Total Direct Operations (sum of above):		
Federal Government:		
Purchases of goods and services:		
Wages and salaries.....	36,274	
Other.....	23,790	
Total Federal expenditures ¹	60,064	

¹ Includes \$16,000 of matching gift funds, mainly from World Health Organization.

SUPPLEMENTARY REPLY FROM OFFICE OF THE SURGEON GENERAL

ECONOMIC EFFECTS OF THE PROGRAMS OF THE BUREAU OF STATE SERVICES (COMMUNITY HEALTH)

This statement is supplied to the Joint Economic Committee of the Congress in response to question 9 (economic effects of the program). The Bureau of State Services (Community Health) has prepared a very extensive report for the Joint Economic Committee, responding comprehensively and in considerable detail to the committee's inquiry. However, the wide range of diversity in the programs of the Bureau of State Services precluded a sharply specific answer to question 9. This supplement to the Bureau's report is supplied as a response in broad terms, based, in part, on Public Health Service publication No. 1178, "Economic Benefits From Public Health Services—Objectives, Methods, and Examples of Measurement." In part, the statement is

designed to indicate Bureau of State Service (Community Health) programs that have important economic effects that are not susceptible to measurement.

One approach to anticipating or appraising the economic effects of a health program is represented by Public Health Service publication No. 1178 (hereinafter identified as publication No. 1178). The two leading ideas in it are far from novel, but the document tries to show ways of utilizing them. The ideas are (1) that health services can pay off in terms of the productivity of workers whose early death is averted or whose sickness is avoided, shortened, or made less severe; and (2) that some types of preventive health service are much cheaper than the treatment which is needed if the preventive approach is not used.

A completely different economic approach considers, in a direct way, the contribution of health programs to the gross national product. The shortcoming of this idea is that the GNP is simply the total of what is paid for goods and services; and a statement that another \$1 million worth of health services has been added to the GNP gives no clue as to whether this was relatively desirable or undesirable apart from the increase in GNP. For example, a million-dollar consignment of thalidomide would provide precisely the same direct increment to GNP as a million-dollar consignment of a clinically more trustworthy drug. Health services need to be appraised, if that be possible, in the light of the good that they do to people who receive them, whether the recipients are workers, prospective workers, retired persons, the hopelessly ill, or anyone else. From the standpoint of an overall appraisal of the economy and consideration of what the national effort is being used for, there is good reason for considering the health services component of GNP. This approach, however, does not provide an appropriate appraisal of the usefulness of health services to humanity.

In the fiscal year 1965, public and private expenditures for health services in the United States were \$38,441 million, which amounted to almost 6 percent of the gross national product of about \$650 billion. That expenditure for health services—which includes medical research, medical care, protection of the environment, etc.—breaks down as follows:¹

Health expenditures	Amount (millions)	Percent
Total health expenditures.....	\$38,441	100
Private expenditures (i.e., expenditures other than by governments).....	28,492	74
Governmental expenditures.....	9,949	26
Federal Government expenditures.....	5,092	13
State and local government expenditures.....	4,857	13

While the importance of this expenditure to the GNP is certainly worthy of note, it is not the accent in this supplementary response to question 9.

The eight divisions here mentioned are the sections of the Bureau of State Services (Community Health) report.

¹ Data derived from figures in the following: (a) U.S. Social Security Administration, Social Security Bulletin, October 1965, pp. 5, 10 and 11; (b) U.S. Council of Economic Advisers, Economic Indicators, October 1965, p. 2. Omitted from the above data are the sums spent for income maintenance of the sick and their dependents, such as disability benefits for the long-term disabled under the social security insurance system, and public assistance (on a means-test basis) to the blind and the permanently and totally disabled.

1. RESEARCH GRANTS

Chronic diseases.—In terms of the effect on actual and potential patients, the economic impact of this research grant program is important both (a) from the standpoint of enabling people to remain productive for a longer period of years, and (b) from the standpoint of enabling them to be more productive, per day on the job, than they would be if they were employable but in poorer health. Measurement of the latter type of benefit from health services (greater productivity per hour or day) is a task recognized as desirable but not thus far achieved. (See publication No. 1178, pp. 7 and 14, where the problems of economic losses from mortality and morbidity are discussed.)

Communicable Disease Center.—The economic and other significance of CDC's research grant program cannot be assessed independently of other aspects of the control of communicable diseases. The United States has, by this time, brought various communicable diseases under a high degree of control through the efforts of the various levels of government, and through the efforts of private individuals, foundations, etc. In consequence, we tend to take for granted the freedom from heavy economic and other losses of, for example, a smallpox epidemic. However, there is an occasional opportunity to make meaningful estimates of the economic benefit when a breakthrough occurs in the control of a communicable disease, as happened recently with regard to vaccination against poliomyelitis. (See publication No. 1178, p. 7.) Somewhat less spectacular are the benefits from vaccination, sanitation, etc., where the means of control have been in use for a long time. With regard to vaccination, there are very marked external benefits—the economists' way of saying that, if vaccination is widespread but not universal, even the unvaccinated get substantial protection. (See publication No. 1178, p. 6.)

Community health services.—In this research grant program, the measurement of the comparative cost-effectiveness of two or more alternative ways of delivering the same sort of service is probably feasible but remains to be done. Likewise, it is probably feasible to measure the relative effectiveness of two or more ways of delivering the same sort of service in terms of a performance measure—that is, given that two approaches require expenditure of identical sums of money, which reaches the greater number of beneficiaries? (See publication No. 1178, p. 16, last two paragraphs.) Such studies remain to be done.

Dental health.—The economic impact of this research grant program is considered along with the economic impact of the formula grant program in dental health; topic 4, below.

Nursing.—This research grant program makes itself felt ultimately through improved patient care; and it thus needs to be considered along with other BSS(CH) programs related to nursing, especially the following: the nursing student loan program, the formula grant program for home health services, and the several training grant programs for nurses.

In publication No. 1178, page 11, the staffing pattern of nursing homes is used to illustrate the fact that, to an important extent, health services can be expanded without even a short-run reduction in the other services and goods produced by the economy. The report mentions that the unemployed—

do not include any conspicuous numbers of physicians or professional nurses; but consider for a moment the staffing pattern in nursing homes, with their heavy reliance on nurses' aids, orderlies, and attendants. If added funds were made available, to pay for nursing home care, vastly increasing the number of patients in nursing homes, the nursing homes would—even if they substantially increased their ratio of professional nurses and licensed practical nurses to the less skilled personnel—be able to acquire prospective aids, orderlies, and attendants by suitable selection from among the unemployed and brief training of them. There would thus be an increase in nursing home care without a proportionate decline in the other services and goods produced by the economy.

Hospital and medical facilities.—The ideas and practices emerging from this research grant program are best viewed as having their effect—economic and other—through nonresearch programs focused on the construction of hospital and medical facilities. The economic effect of the latter sort of programs is discussed in the Bureau of State Services—Community Health report, under, "Construction Grants."

2. FELLOWSHIPS

If these fellowships were viewed primarily as an education program rather than as a health program, the consideration of economic impact might be very different from what it needs to be in view of the fact that the fellowships are granted for furtherance of health. As a health measure, the fellowships have whatever economic impact is achieved through the health services ultimately rendered by the health professionals thus trained. This is a diverse and complex matter, not susceptible of estimation of such results as the prospective savings in the man-years of labor by prospective patients who are kept alive or made healthy. But the economic impact is both large and important.

For this program, publication No. 1178 as a whole is relevant, for the reason that the training of health professionals is essential to all types of health programs and makes itself felt through them. In addition, there are specific references in that report (such as that on p. 20), to the need for more personnel in the health professions, for greater effectiveness of health programs.

3. STUDENT LOANS

The economic impact is discussed in the BSS(CH) report.

The comment made above, regarding fellowships, is equally relevant here.

4. FORMULA GRANTS

The economic impact is discussed in the BSS(CH) report. The following additional comments are offered:

Cancer control program.—Substantial work has been done in estimating the economic burden of cancer. See the remarks in publication No. 1178, pages 4 and 7, and the estimates in volume II of the Report of the President's Commission on Heart Disease, Cancer, and Stroke. However, what needs to be done—as a first installment in estimating economic benefits from cancer control—is to study both the economic burden of the disease and the cost of its prevention, so far as they concern some category (such as cervical cancer) that is relatively specific as to site and is susceptible of early detection by mass methods and susceptible of effective treatment.

Dental health.—The economic importance of this formula grant program and of the dental health research grant program is documented by "The False Economy of Dental Neglect," which is chapter III of publication No. 1178 (pp. 18-23).

* * * the evidence available is convincing; our dental problem places a heavy financial burden on the economy, and much of this is due to dental neglect (Pub. No. 1178, page 19).

In the cited source, the problem stemming from dental neglect is discussed in terms of some of the major components and some of the major preventive measures.

5. TRAINING GRANTS

The economic impact is discussed in the BSS(CH) report. In addition, it should be noted that the most important economic impact of these programs is like that of the fellowship program (topic 2, above).

6. PROJECT GRANTS

The economic impact is discussed in the BSS(CH) report. Also, in broad terms, publication No. 1178 is relevant here, as it is in other health programs. In addition, the following comments are offered:

Cancer control program.—The comments made above, regarding the formula grant program for cancer control, are equally relevant here.

Immunization.—Insofar as the above comment regarding the Communicable Disease Center research grant program (in the BSS(CH) report) relates to vaccination, that comment is relevant here.

7. CONSTRUCTION GRANTS

As noted above, the economic impact is discussed in the BSS(CH) report. Also, in broad terms, publication No. 1178 is relevant here, as it is in other health programs.

8. DIRECT OPERATIONS

Illustrations are given of the economic effects of these programs in the BSS(CH) report.

BUREAU OF STATE SERVICES—ENVIRONMENTAL HEALTH: RESEARCH AND TRAINING IN ENVIRONMENTAL HEALTH

PART I. DESCRIPTION OF THE PROGRAM

1. Objectives

In fiscal year 1964, the Bureau of State Services (Environmental Health) through the Office of Resource Development initiated a program to provide extramural grants to stimulate and support research and training programs in environmental health at universities and other nonprofit institutions.

2. Operation

This is a program of grants to universities for the conduct of research and training in the field of environmental health.

3. History. (See item 1, above.)

4. Level of operations. (See tables 1 and 2.)

Program: Extramural program to support research and training in environmental health.

Department or agency, and office or bureau: Department of Health, Education, and Welfare; Public Health Service; Bureau of State Services—Environmental Health; Office of Resource Development.

TABLE 1.—Level of operations or performance, fiscal years 1964–66

Measure	Fiscal year 1964	Fiscal year 1965	Fiscal year 1966 estimate
RESEARCH			
4(a) (grants awarded).....	23	50	80
4(b) other (universities).....	20	40	50
4(c) obligations incurred.....	\$1, 608, 000	\$3, 078, 000	\$4, 719, 000
4(d) (not applicable).....			
4(e) (man-years).....	6	10	16
4(f) (National Advisory Environmental Health Committee, 12 members).....			
4(g) (not applicable).....			
TRAINING			
4(a) (grants awarded).....	36	46	55
4(b) other (universities).....	24	31	40
4(c) obligations incurred.....	\$1, 519, 000	\$2, 262, 000	\$3, 578, 000
4(d) (not applicable).....			
4(e) (man-years).....	6	10	12
4(f) (National Advisory Environmental Health Committee and Environmental Sciences Training Committee, 24 persons).....			
4(g) (not applicable).....			

TABLE 2.—Level of operations or performance, for fiscal year 1967

Measure	Fiscal year 1967 estimate ¹
(a) Magnitude of program (projects).....	172
(b) Applicants or participants: Other (academic institutions)....	90
(c) Federal finances:	
Obligations incurred.....	\$11, 372, 000
Allotments or commitments.....	\$11, 372, 000
(d) Matching or additional expenditures for the program (none, except cost sharing, per appropriations act).....	
(e) Number of Federal Government employees administering, operating, or supervising the activity (man-years).....	32
(f) Non-Federal personnel employed in the program (National Advisory Environmental Health Committee and Environ- mental Sciences Training Committee, 24 persons).....	
(g) Other measures or magnitude of performance (not applicable)....	

¹ Unlike the data for fiscal years 1964–66, those for 1967 are for research and training combined.

5. Estimated magnitude of program in 1970

Not answered.

6. Prospective changes in program orientation

Not answered.

7. Coordination and cooperation

(a)(i) Opportunity for coordination and cooperation arises in respect to: joint funding of extramural grant projects with the Divisions of the Bureau of State Services—Environmental Health (BSS-EH); cross-divisional utilization of research grant specialists on site visits; development of an advanced automatic data processing system to include all intramural and extramural research programs of BSS-EH Divisions; conduct of manpower need studies for BSS-EH Divisions; development of uniform BSS-EH-wide policy in respect to extramural

grant operations; stimulation of divisional programs supported by Public Law 480 funds.

(ii) The Office of Resource Development does the following: coordinates the BSS-EH activities supported by the foreign currency program (Public Law 480) through review of technical and budgeting aspects of proposed international agreement; provides policy guidance on extramural grant operations to other Divisions of BSS-EH through its Program Coordination Branch; maintains an automatic data processing program on extramural grant programs of BSS-EH through its Program Analysis Branch.

(b)(i) Opportunities for coordination and cooperation arise in respect to: Office of Resource Development participation in program of Division of Research Facilities and Resources, National Institutes of Health, by reviewing applications from universities conducting research supported by BSS-EH funds, and by advising the Division concerning universities which may submit applications for facilities grants as a result of BSS-EH supported projects: Office of Resource Development utilization of full supporting services provided by the Division of Research Grants, Public Health Service; development of a Department-wide automatic data processing system; Office of Resource Development utilization of resources of Office of Education on manpower studies.

(ii) Coordination and cooperation are promoted by informal meetings, frequent exchanges of information, and invitations to attend and participate in meetings of advisory committees where appropriate.

(c)(i) Opportunities for coordination and cooperation arise in respect to Office of Resource Development utilization of National Academy of Science-National Research Council.

(ii) Coordination and cooperation are promoted by joint organization of seminars and by means of Office of Resource Development extramural grants to National Academy of Science-National Research Council.

(d) Not applicable.

(e) Not applicable.

(f) Not applicable.

(g)(i) Opportunities for coordination and cooperation arise in respect to expanded participation of universities and other nonprofit agencies in environmental health research and training operations.

(ii) These activities are supported by financial grants. The Public Health Service manuals on administrative policies and procedures for extramural grant programs are used for this activity.

(h) Not applicable.

(i) Not applicable.

8. *Laws and regulations*

The legal basis for Office of Resource Development activities is section 301, Public Health Service Act as amended (42 USC 241) and CFR title 42, chapter 1.

PART II. DATA BEARING ON ECONOMIC ASPECTS AND IMPACTS OF THE PROGRAM

9. *Economic effects*

The Office of Resource Development program utilizes extramural grants to universities and other nonprofit institutions for research and training in environmental health. While the program may have no direct bearing on the economy, it seeks to obtain knowledge that is essential to the development and maintenance of a healthful environment. On a long-term basis, therefore, the program may affect the economy through its beneficial influence on the health and well-being of man.

10. *Economic classification of program expenditures.* (See table 3.)

Program: Extramural program to support research and training in environmental health.

Department or agency, and office or bureau: Department of Health, Education, and Welfare; Bureau of State Services—Environmental Health; Office of Resource Development.

TABLE 3.—*Economic classification of program expenditures for fiscal year 1965*

Federal Government:	
Grants to State and local governments.....	\$1, 869
Transfer payments to individuals and nonprofit organizations.....	1, 080
Total Federal expenditures.....	2, 949

OFFICE OF PESTICIDES

PART I. DESCRIPTION OF THE PROGRAM

1. *Objectives*

The Office of Pesticides plans, institutes, and directs the national program of the Public Health Service in the detection, assessment, control and reduction of potentially harmful and/or unnecessary exposure of man to pesticides.

2. *Operation*

The program encompasses (1) a field laboratory, (2) negotiated contracts (with State health departments, universities, research institutes) for pesticide research and support, (3) a direct operations staff (located in Washington), and (4) a headquarters staff (also located in Washington).

3. *History*

The program was established officially on November 27, 1964, by order of the Surgeon General, PHS. Prior to that date, the program had operated as a part of the Program Office of the Bureau of State Services—Environmental Health, since the spring of 1963, when one professional employee was assigned responsibility for the public health aspects of pesticides in the Bureau of State Services. The total staff had grown to about 15 employees by the date of establishment. The staff presently numbers 65. The first direct appropriation for the program came in fiscal year 1965.

4. *Level of operations.* (See table 1.)

Program: Office of Pesticides.

Department or agency, and office or bureau: Department of Health, Education, and Welfare; Public Health Service; Bureau of State Services—Environmental Health.

TABLE 1.—*Level of operations or performance, fiscal years 1964-67*

Measure	Fiscal year 1964	Fiscal year 1965	Fiscal year 1966 estimate	Fiscal year 1967 estimate
(a) Contracts (number).....	0	13	18	24
Field laboratories (number).....	0	1	1	1
(b) State government agency participants (number).....	0	10	12	17
Local government agency participants (number).....	0	0	1	1
Private universities and research institutes (number).....	0	3	5	5
(c) Appropriation.....	0	\$2,394,000	\$3,992,000	\$7,319,000
Obligations.....	0	\$2,394,000	\$3,990,000	\$7,319,000
Allotments.....	0	\$2,394,000	\$3,990,000	\$7,319,000
(d) Matching or additional expenditures.....	0	0	0	0
(e) Federal employees (man-years).....	0	24	66	115
(f) Non-Federal personnel (number).....	0	72	90	120
(g) Other measures (pesticide registration ap- plications).....	0	13,250	15,000	15,000

5. *Estimated magnitude of program in 1970*

Not answered.

6. *Prospective changes in program orientation*

Not answered.

7. *Coordination and cooperation*

A. Within the Bureau of State Services-EH, the program has been assigned responsibility for all matters relating to pesticides. The Divisions of BSS-EH regularly and routinely refer to the program for all such matters, and the program, in turn, cooperates fully with the Divisions. This working relationship has been most fruitful for all concerned.

B. Under a memorandum of agreement dated April 8, 1964, certain Government agencies, including PHS and the Food and Drug Administration, cooperate closely in matters relating to pesticides. Under this agreement, the program and FDA keep each other fully informed on pesticidal problems. The program also works closely with the Poison Control Center, PHS, in an evaluation of hazards posed by accidental ingestion of pesticides by people, particularly children. The program is increasingly cooperating with the National Institutes of Health, PHS, in an estimation of the potential hazard of pesticides to humans, particularly with reference to cancer, heart disease, and mental disease.

C. Under the memorandum of agreement referred to above, the program cooperates closely with the U.S. Department of Agriculture and the Department of the Interior in activities relating to pesticides. Further, the program furnishes the secretariat staff for the Federal Committee on Pest Control. This committee, composed of high officials from the Government agencies that are the principal users of pesticides, concerns itself with all federally sponsored pesticidal programs.

D. As shown in table 1, above, the program had contracts with 10 State government agencies in fiscal year 1965. This number will increase to 12 in fiscal year 1966.

E. As shown in table 1, above, the program anticipates establishing a contract with a local government agency (viz., city of Chicago Board of Health) during fiscal year 1966.

F. The program has no formal association with foreign governments or international organizations.

G. The program has contracts with one private university (viz., Tulane University) and one nonprofit institution (viz., Southwest Research Institute).

H. The program is enjoying increasing cooperation from the chemical industry, which is furnishing valuable data from its files to the pesticide registration staff. In turn the program advises the chemical industry on hazards to public health posed by individual pesticides.

I. The program handles an ever-increasing number of public inquiries relating to pesticides.

8. *Laws and regulations*

The program functions under Public Law 78-410, as amended, and receives its current appropriation from the Departments of Labor and Health, Education, and Welfare Appropriation Act, 1966, Public Law 89-156.

PART II. DATA BEARING ON ECONOMIC ASPECTS AND IMPACTS OF THE PROGRAM

9. *Economic effects*

Although the pesticide program is new, having had funds for only 1 year, assumptions can be made about economic impact in general. Since pesticides contaminate all segments of the environment, it is estimated in the light of past medical findings that one-half of 1 percent of chronic diseases are the result of long-term, low-level exposure effects.

PHS community studies show that in certain areas, individuals under high exposure are improving safety and health practices to protect themselves and their environment. This will reduce lost time and acute illness episodes. It is too early to determine industrial and salary savings, but they should be in the millions of dollars as the program progresses.

10. *Economic classification of program expenditures.* (See table 2.)

Program: Office of Pesticides.

Department or agency, and office or bureau: Department of Health, Education, and Welfare; Public Health Service; Bureau of State Services—Environmental Health.

TABLE 2.—*Economic classification of program expenditures for fiscal year 1965*

[In thousands of dollars]

Federal Government:

Purchases of goods and services:

Wages and salaries.....	1, 110
Other.....	490

Total Federal expenditures.....	1, 600
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DIVISION OF AIR POLLUTION

PART I. DESCRIPTION OF THE PROGRAM

1. *Objectives*

The objectives of the Division of Air Pollution program are to protect the Nation's air resources so as to promote the public health and welfare and the productive capacity of its population; to initiate and accelerate a national research and development program to achieve

the prevention and control of air pollution; to provide technical and financial assistance to State and local governments in connection with the development and execution of their air pollution prevention and control programs; and to encourage and assist the development and operation of regional air pollution control programs.

2. Operation

The Division of Air Pollution carries out its program research through direct Federal operation conducted in the field, primarily at Cincinnati, with headquarters supervision; by providing funds to support projects carried out by other Federal agencies; and by contracting with nongovernmental organizations and institutions and providing grants to individuals and nonprofit organizations. It also provides grants and technical assistance to State, regional, and municipal agencies to initiate and develop better air pollution control programs. An extensive short-term intramural training program for technical personnel is provided as well as training grants to institutions and individuals for academic training at specified universities.

3. History

The Federal air pollution program is a relatively recent one. The first statutory authorization for an organized, coordinated Federal program was the Air Pollution Research and Technical Assistance Act of 1955 (Public Law 84-159). The initial full-year appropriation made in 1956 to carry out this act was relatively small, \$1,722,000. The principal research and technical assistance staff were located at the Robert A. Taft Sanitary Engineering Center, Cincinnati, Ohio, as a means of providing maximum support to this group in the form of necessary supporting services for laboratory work.

Since the enactment of Public Law 84-159, the legislative authorizations for the Federal air pollution program have increased substantially, and the program level has increased from \$1,722,000 in 1956 to \$26,622,000 appropriated in 1966, an increase of 1446 percent. The level of staffing has grown from 94 positions in 1956 to 609 positions authorized in 1966. Public Law 84-159, as amended, was replaced in 1963 by the Clean Air Act (Public Law 88-206), and this has recently been amended by Public Law 89-272 of October 20, 1965.

4. Level of operations. (See table 1.)

Program: Division of Air Pollution.

Department or agency, and office or bureau: Department of Health, Education and Welfare; Public Health Service; Bureau of State Services—Environmental Health.

TABLE 1.—*Level of operations or performance, fiscal years 1964-67*

[Dollar amounts in thousands]

Measure	Fiscal year 1964	Fiscal year 1965	Fiscal year 1966 estimate	Fiscal year 1967 estimate
(a) Magnitude of progress, excluding research grants (projects).....	140	154	175	200
(b) Not applicable.....				
(c) Federal finances (obligations incurred):				
Research:				
Intramural.....	\$4,432	\$4,953	\$5,334	\$5,855
Contracts.....	2,405	2,907	3,595	5,465
Grants.....	3,851	4,600	5,339	6,958
Control grants.....		4,180	5,000	7,000
Survey and demonstration grants.....		765	1,850	2,000
Abatement activities.....		599	1,748	2,497
Technical services.....	873	1,235	1,441	2,639
Training:				
Direct.....	355	427	614	695
Grants.....	955	1,250	1,687	2,468
Total.....	12,911	20,916	26,608	35,577
(d) Matching funds.....		1,916	2,249	3,150
(e) Number of Federal employees (people).....	414	525	609	775

5. *Estimated magnitude of program in 1970*

Not answered.

6. *Prospective changes in program orientation*

Not answered.

7. *Coordination and cooperation*

The Division of Air Pollution—

(a) Coordinates in studies concerning community planning, urban renewal, pesticides, atmospheric analysis, and exchange of technical information with other divisions of the Bureau of State Services;

(b) Has an agreement with the National Center for Health Statistics, PHS to receive mortality data for use in air pollution epidemiology studies;

(c) Supports air pollution research by the Tennessee Valley Authority, the National Bureau of Standards, and the Bureau of Mines. Through funds provided by the Division, the Weather Bureau and the Department of Agriculture assign staffs to programs of the Division. The Library of Congress screens literature to obtain air pollution technical information. Arrangements are underway for a joint study with the Army of the disease syndrome "Tokyo Yokohama asthma". The General Services Administration is assisting in an automotive vehicular emission testing program sponsored by the Division. The Division also provides technical representatives and staff work for DHEW on the Interdepartmental Committee for Atmospheric Sciences (ICAS) and the Interdepartmental Committee for Applied Meteorological Research (ICAMR) which include membership by other Federal agencies. In connection with the responsibilities for preventing and controlling air pollution from Federal facilities, close cooperation has been received from all agencies;

(d) and (e) Provides technical assistance and program grants to air pollution control agencies at the State, local, and regional levels;

(f) Participates in international activities in the field of air pollution, including a wide range of participation of air pollution experts in international organizations, such as the World Health Organization (WHO), Organization for Economic Cooperation and Development (OECD), Economic Commission for Europe (ECE), Council of Europe (COE), World Meteorological Organization (WMO), European Coal and Steel Community (ECSC), and Eurotox, the loan of temporary advisers; presentation of technical papers at international meetings; exchange visits of key personnel; orientation and training of foreign nationals; the translation of foreign technical publications; and the international dissemination of U.S. reports on air pollution. The Division provides representation on the International Joint Commission—United States and Canada, which has been authorized to make investigations and recommend preventive or remedial measures for air pollution in the vicinity of the cities of Detroit and Windsor, Canada.

(g) Provides contracts and grants to universities and to nonprofit research institutes and public assistance organizations to ascertain the effects of air pollution on the population and to cooperatively provide abstracts of current literature on air pollution to about 4,000 technical personnel in the field;

(h) Enters into contracts for research concerning air pollution with business activities of all types which have competence in specialized areas of interest to the Division programs.

8. *Laws and regulations*

Public Law 88-206 (the Clean Air Act) and Public Law 89-272—the current laws providing appropriation authorizations, and title 42, part 56, Code of Federal Regulations (pertaining to grants for air pollution control programs).

Specifically, appropriation authority for current operation is provided under section 13 of Public Law 88-206 of December 17, 1963 and section 101, title I, Public Law 89-272 of October 20, 1965 (section 209, title II, Clean Air Act, as amended) (42 U.S.C. 1857-1857g).

PART II. DATA BEARING ON ECONOMIC ASPECTS AND IMPACTS OF THE PROGRAM

9. *Economic effects*

Present efforts to desulfurize fossil fuels, revise chemical engineering technologies, devise new control devices, et cetera, to reduce or eliminate air pollution will have varying influences on the economy. For example, it is probable, that when automobile manufacturers add control devices to the 1968 model automobiles, this will increase the price to the consumer, as did the addition of safety devices to certain 1966 year models. On the other hand, it is quite possible that in revising a chemical manufacturing process to reduce pollution the new process could become more efficient or generate a salable by-product and thus become more economical.

10. *Economic classification of program expenditures.* (See table 2.)

Program: Division of Air Pollution.

Department or agency, and office or bureau: Department of Health, Education, and Welfare; Public Health Service; Bureau of State Services—Environmental Health.

TABLE 2.—*Economic classification of program expenditures for fiscal year 1965*

(In thousands of dollars)

Federal Government:	
Purchases of goods and services:	
Wages and salaries.....	4, 172
Other.....	4, 259
Grants to State and local governments.....	5, 196
Transfer payments to individuals and nonprofit organizations.....	2, 685
Total Federal expenditures.....	16, 312

DIVISION OF ENVIRONMENTAL ENGINEERING AND FOOD PROTECTION

INTRODUCTION AND SUMMARY OF DIVISION ACTIVITIES

Total program.—The Division of Environmental Engineering and Food Protection has evolved from a series of reorganizations of sanitary engineering activities. The Division of Sanitary Engineering Services, the parent division for environmental health programs, was created in April 1954. As certain of the categorical engineering activities, notably water pollution, air pollution, and radiological health, gained sufficient stature, they were established as separate divisions in 1958, 1959, and 1960.

The Division carries out its mission to improve and protect public health and general welfare by: (1) conducting research, investigations, demonstrations, and training; (2) administering a grants-in-aid program; (3) providing consultation and technical services to other Federal, interstate, State, and local agencies to private industries, and organizations; and (4) developing program guides, model codes, ordinances, and standards. Program activities are administered by the Division Chief through six branches, from field research centers, and staffs assigned to the nine HEW regional offices. For a list of selected publications, see "Bibliography of Selected Publications on Environmental Engineering and Food Protection," published periodically by the Department of Health, Education, and Welfare—Public Health Service.

Legal basis.—Public Law 78-410, as amended, Public Health Service Act, particularly sections 301, 311, 314, 361 (42 U.S.C. 241, 243, 246, 264) and title II, the Solid Waste Disposal Act, Public Law 89-272. In this document, "Public Law 410" means Public Law 410 of the 78th Congress.

Source of funds. (See table 1.)

TABLE 1.—*Environmental engineering and sanitation—Appropriations available*

	Fiscal year 1964	Fiscal year 1965	Fiscal year 1966 ¹
Direct operations.....	\$4, 350, 000	\$4, 263, 000	\$5, 930, 000
Grants.....	4, 720, 000	4, 907, 000	7, 899, 000
Total.....	9, 070, 000	9, 170, 000	13, 829, 000

¹ Estimate.

4. *Level of operations.* (See table 2.)

Program: Division of Environmental Engineering and Food Protection (summary).

Department or agency, and office or bureau: Department of Health, Education, and Welfare; Public Health Service; Bureau of State Services—Environmental Health.

TABLE 2.—*Level of operations or performance, fiscal years 1964-67*

Program activity	Fiscal year 1964		Fiscal year 1965		Fiscal year 1966 (estimated)		Fiscal year 1967 (estimated)	
	Unobligated appropriations available	Obligations incurred	Unobligated appropriations available	Obligations incurred	Unobligated appropriations available	Obligations incurred	Unobligated appropriations available	Obligations incurred
Grants (research, training, demonstration, and planning)-----	\$4,720,000	\$4,715,112	\$4,907,000	\$4,897,327	\$7,899,000	\$7,870,000	\$12,595,000	\$12,586,000
Review of approval of grants-----	161,000	139,888	162,000	160,976	135,000	135,000	135,000	135,000
Milk and food-----	1,460,000	1,437,354	1,357,000	1,343,000	1,538,000	1,524,000	1,553,000	1,550,000
Shellfish sanitation-----	1,883,000	1,573,700	1,545,000	1,533,000	1,732,000	1,712,000	1,742,000	1,740,000
Interstate carriers-----	98,000	805,000	839,000	824,000	1,079,000	1,069,000	1,109,000	1,100,000
Special engineering services-----	98,000	67,000	98,000	98,000	82,000	82,000	82,000	82,000
Solid wastes-----	70,000	67,800	71,000	66,500	994,000	990,000	4,250,000	4,220,000
Urban environmental health-----	176,000	174,000	191,000	181,500	370,000	368,000	505,000	500,000
Total-----	9,070,000	9,030,354	9,170,000	9,116,053	13,829,000	13,750,000	21,971,000	21,913,000

10. *Economic classification of program expenditures.* (See table 3.)

Program: Division of Environmental Engineering and Food Protection (summary).
 Department or agency, and office or bureau: Health, Education, and Welfare;
 Public Health Service; Bureau of State Services—Environmental Health;
 Division of Environmental Engineering and Food Protection.

TABLE 3.—*Economic classification of program expenditures for fiscal 1965*

[In thousands of dollars]

Federal Government:	
Purchases of goods and services:	
Wages and salaries.....	3, 013
Other.....	1, 134
Grants to State and local governments.....	2, 896
Transfer payments to individuals and nonprofit organizations.....	1, 210
Total Federal expenditures.....	8, 253

RESEARCH GRANTS

PART I. DESCRIPTION OF THE PROGRAM

1. *Objectives*

The primary objective of the program is the development of new scientific information which will aid in the resolution of problems on such environmental factors as food, shelter, water supply, solid wastes disposal, and community planning. A secondary product is development of trained manpower for study of problems in these areas.

2. *Operation*

The program operates through the grant-in-aid mechanism. Proposals for research on program-related problems are accepted from investigators located in nonprofit institutions such as universities, State and local agencies, research foundations, etc. Each proposal so submitted is reviewed by a consultant panel of scientists knowledgeable in the scientific area, and by the National Advisory Environmental Health Committee. Only proposals favorably recommended by the Committee are eligible for funding.

3. *History*

Although research grants have been made by the Public Health Service in support of health-related research since 1948, it was not until 1962 that any grants were awarded by this Division. At that time an appropriation was approved by the Congress in the amount of \$2,548,000. Since that time the program has gradually increased to its present level, resulting in the attraction of more non-Government scientists to the study of problems within the Division's area of responsibility.

4. *Level of operations.* (See table 1.)

Program: Research grants.
 Department or agency, and office or bureau: Department of Health, Education, and Welfare; Public Health Service; Bureau of State Services (Environmental Health); Division of Environmental Engineering and Food Protection.

TABLE 1.—*Level of operations or performance, fiscal years 1964-67*

Measure	Fiscal year 1964	Fiscal year 1965	Fiscal year 1966 estimate	Fiscal year 1967 estimate
(a) Magnitude of program (projects).....	252	248	268	293
(b) Applicants or participants:				
State government agencies ¹ (projects)...	188	182	194	-----
Local communities or governments (none).....	-----	-----	-----	-----
Individuals or families ² (individuals) ..	0	0	12	12
Other ³ (projects).....	64	66	74	74
(c) Federal finances. (See table for total program of the Division.)				
(d) Matching or additional expenditures for the program (none).....	-----	-----	-----	-----
(e) Number of Federal Government employees administering, operating, or supervising the activity ⁴	9	9	15	15
(f) Non-Federal personnel employed in the program ⁵	1,000	1,000	1,200	1,200
(g) Other measures of level or magnitude of performance (none).....	-----	-----	-----	-----

¹ Includes State universities.

² Estimate of number of individual grants for training to be awarded under Solid Wastes Disposal Act, Public Law 89-272.

³ Includes non-State supported universities and research foundations.

⁴ Staff consists of scientific, management, administrative, and supporting personnel responsible for programming activity and processing of grant applications and other pertinent documents.

⁵ This is an estimate of the number of individuals at grantee institutions.

5. *Estimated magnitude of program in 1970*

Not answered.

6. *Prospective changes in program orientation*

Not answered.

7. *Coordination and cooperation*

The research grants program is coordinated with the appropriate operating programs of the Division through frequent contacts and distribution of information as to the nature of research being conducted and publications resulting therefrom. Servicewide coordination exists with respect to the review of applications and procedures followed in the award and funding of grants. The Food and Drug Administration is kept informed of the nature of all grants awarded, and coordination with other agencies of the Government is achieved on a case-by-case basis as the need arises.

8. *Laws and regulations*

The research grants program is carried out under authority of section 301 of the Public Health Service Act (42 U.S.C. 241) with regulations (pt. 52, title 42 of CFR; ch. 1, subpt. d). Grants in solid wastes will be carried out under authority of Public Law 89-272.

PART II. DATA BEARING ON ECONOMIC ASPECTS AND IMPACTS OF THE PROGRAM

9. *Economic effects*

A substantial part of the research grants appropriation is devoted to support of personnel working on grant-supported projects. Of the personnel supported, there are on the average two graduate students per grant during the advanced portion of their doctorate training, which enhances their capability and employability.

10. *Economic classification of program expenditures.* (See table above showing total program of the Division.)

FOOD PROTECTION ACTIVITIES

The food protection activities of the Division of Environmental Engineering and Food Protection provide a basic focal point for the Public Health Service foodborne illness control functions. These activities, while concentrating on certain foods and particular groups of food merchandisers, have effectively reduced the amount of milk-borne illness; have provided safeguards for food service on interstate carriers; have pioneered a system of State-Federal-industry cooperative effort to improve the safety and quality of shellfish; and have provided guidance to State and local health and other food protection agencies in the development of State laws, local ordinances, and programs of food hazards control.

The programs described in the following pages form a closely related and coordinated effort to develop and apply knowledge of foodborne disease control through research, training, technical assistance and consultation, and direct regulatory functions.

MILK AND FOOD PROGRAM

PART I. DESCRIPTION OF THE PROGRAM

1. Objectives

The basic objective of the milk and food program is the prevention and control of foodborne illness.

2. Operation

Since protection of the public health is primarily the function of State and local governments, unless specific problems of an interstate nature are involved, the milk and food program is designed to assist such jurisdictions in the development and maintenance of effective food protection programs. Such assistance is implemented through the conduct of the following coordinated and related activities:

(a) Development of model ordinances, codes, and standards recommended for State and local adoption and utilization, such as those governing milk sanitation, food service establishments, food and beverage vending machines, and poultry processing.

(b) Conduct of research and investigations of food protection problems associated with foodborne illness.

(c) Participation with States, and with industry in the conduct of voluntary programs for certification of fluid milk and milk products involved in interstate commerce.

(d) Conduct of formalized and inservice type food protection training courses for State, local, and industry personnel.

(e) Cooperation with national groups in the development of uniform standards for the sanitary design and construction of food equipment.

(f) Provision of technical services to the States and industry in the development and maintenance of effective food sanitation programs.

These activities are carried out through nine regional offices, under the general direction and supervision of the branch headquarters located in Washington, D.C.

3. *History*

The food protection program of the Public Health Service is one of its oldest and most respected activities. The Service's direct interest dates back to 1896, when the President requested the Public Health Service to undertake a study of the relationship between milk and the epidemic incidence of typhoid fever in the District of Columbia.

During the period 1900-22, the Public Health Service studied the thermal death points of organisms associated with foodborne illness, the processes in commercial use designed to effect control of pathogenic micro-organisms, and the efficacy of such processes.

At the request of the State of Alabama, in 1922 the PHS initiated the development of a statewide milk sanitation program. The PHS-recommended model milk ordinance was an outgrowth of the program. This model ordinance, recommended by the PHS for voluntary adoption by States and communities, has been revised 13 times since 1924 to recognize technological development and to translate new knowledge into public health practice.

During the 1930's a recommended model sanitation ordinance and code was developed for food service operations and procedures were developed for evaluation of State and local milk and food programs. In response to the needs of State and local health agencies, and in the exercise of national leadership, the PHS recommended model ordinances and other program guides for frozen desserts, poultry and poultry products, vending machines, dry milk products, and ice. Currently, similar recommendations are being developed for smoked fish, commercial baby formulas, eggs and egg products, and convenience foods.

All these program guides are periodically evaluated and updated in recognition of technological developments and emerging public health hazards. Solution to problems is sought through field studies, investigation, and research. Use of the resultant model ordinances by States is implemented through technical assistance and training programs for official agencies and industry.

4. *Level of operations.* (See table 1.)

Program: Food protection activities—Milk and food program.

Department or agency, and office, or bureau: Department of Health, Education, and Welfare; Public Health Service; Bureau of State Services—Environmental Health; Division of Environmental Engineering and Food Protection.

TABLE 1.—*Level of operations or performance, fiscal year 1964-67*

Measure	Unit	Fiscal year			
		1964	1965	1966 estimate	1967 estimate
(a) Magnitude of program.....	U.S. population.....	(1)	(1)	(1)	(1)
(b) Applicants or participants:					
States.....	States.....	48	48	48	48
Local.....	Local jurisdictions..	3,000	3,000	3,100	3,200
(c) Federal finances (see table for total program of the Division).					
(d) Additional expenditures for program of States and communities (estimated).	Thousands of dollars.	30,000	30,000	30,000	30,000
(e) Number of Federal Government employees administering, operating, and supervising program.	Consulters.....	33	33	33	33
	Researchers.....	25	27	30	30
	Trainers.....	4	4	4	4
	Clerical.....	40	42	46	46
(f) Non-Federal personnel employed in program.	State and local official agency and industry.	6,500	6,500	6,500	6,500

¹More than 97 percent.

(a) Population coverage by 1 or more of the PHS recommended model ordinances implemented by State and local health agencies, with technical advice and counsel by milk and food program. Progress will be in terms of State and local use of an increasing number of PHS model ordinances.

(b) Number of States using one or more of the PHS model regulations.

(d) Several years ago it was estimated that State and local agencies spent more than \$29,000,000 for milk, meat, poultry, and other food protection programs. There has been only small increase in expenditures by State and local governments in these areas during the past few years because of the demands of some of the newer, more glamorous programs with public health problems of a speculative nature.

(e) The roles of the milk and food program personnel are broken down into 3 professional and 1 subprofessional categories in order to specify broadly the roles of these employees.

(f) The number of State and local official agency and industry personnel engaged in milk and food program activities is estimated.

5. *Estimated magnitude of program in 1970*

Not answered.

6. *Prospective changes in program orientation*

Not answered.

7. *Coordination and cooperation*

Coordination and cooperation with other programs and agencies as to purposes, policies, operations and financing:

(a) *Within Bureau, Division, or Office.*—The Interstate Carrier Branch participates in the development of Milk and Food Branch model ordinances, standards, and other program guides which have applicability in the regulatory function of that Branch. Such guides are used in the technical interpretation and enforcement of the Interstate Quarantine Regulations. In addition, regional Milk and Food Branch personnel evaluate the acceptability of milk and other food sources used by interstate carriers.

(b) *With other units of Department or Agency.*—The Milk and Food Branch is dependent upon the Communicable Disease Center, Atlanta, Ga., for epidemiological investigations of foodborne disease outbreaks. When these occur on interstate carriers, both groups usually assist the Interstate Carrier Branch with studies necessary to enforce the Interstate Quarantine Regulations. Research and surveillance related to radionuclides in food are coordinated closely with the Division of Radiological Health, which, in fact, provides fiscal support for some Milk and Food Branch activities in this field.

In 1959, a document entitled Shellfish, Milk and Food Service Sanitation Activities of the Public Health Service and the Food and

Drug Administration was developed jointly by the two agencies and the Office of the Secretary, Department of Health, Education, and Welfare. This document, which is currently under revision, identifies and compares the activities of these agencies, and summarizes the cooperative agreements, understandings, and working relationships between PHS and FDA in the area of milk, food service, and shellfish sanitation. A similar document on PHS-FDA activities concerned with pesticide hazards indicates that the enforcement efforts of FDA against adulteration and misbranding of foods in interstate commerce are strengthened by the collateral efforts of PHS to support intrastate and local food protection programs. The differences in responsibilities of the two agencies are effective deterrents to duplication, even in research, when both may work on different facets of the same problem to the mutual advantage to all concerned. Continued cooperation and coordination are needed (1) in other areas of food protection; (2) to keep pace with the rapid developments in food science and technology; and (3) to keep abreast of the needs, requirements and desires of the American people.

(c) *With other Federal Government departments or agencies.*—PHS and the Fish and Wildlife Service of the Department of the Interior have a memorandum of agreement relative to the certification of interstate shellfish shippers. This relationship provides the basis for informal liaison and collaboration in research efforts and development of sanitation guides of mutual concern, such as those for public health protection in fish-smoking processes and operations.

Working relationships with the U.S. Department of Agriculture are primarily related to dairy, meat, and poultry products. The Public Health Service, the Atomic Energy Commission, and USDA have undertaken cooperatively the development of a feasible process for the removal of radioactive contamination from milk. The method of treatment of milk with ion-exchange resins to remove radionuclides was derived by Milk and Food Branch research staff of the PHS and pilot plant studies of the process were undertaken at the Beltsville Laboratory of the USDA.

A variety of relationships is maintained with the Department of Defense, ranging from individual consultation to formal agreements. The various departments within the Department of Defense use the technical food sanitation recommendations of the Milk and Food Branch, PHS, and rely on PHS for assistance in the resolution of specific food safety problems. PHS and DOD, together with FDA and the Food Research Institute of the University of Chicago, collaborate on problems, such as the study of staphylococcal enterotoxin, which is a commonly reported cause of food poisoning in the United States. Cooperative relationships also exist with other components of the Department of Defense, including the Armed Forces Food and Container Institute, and the Army Biological Laboratories.

(d) *With State governments or their instrumentalities.*—The basic mission of the Milk and Food Branch of the PHS is to assist State and local agencies in establishment and maintenance of effective food protection programs. Cooperation and coordination between the PHS and these governmental levels are both well established and close. The States traditionally look to the Public Health Service for leadership in the food protection area and closely follow PHS recommendations.

(e) *With local governments or communities.*—Cooperation with State and local governments and communities exists through the responsible State agencies.

(f) *With foreign governments or international organizations.*—Many professional milk and food program counterparts in foreign countries have sought guidance of PHS in the form of recommended model ordinances, standards, and other program guides for their domestic programs. The PHS, through the Milk and Food Branch, is represented on World Health Organization Expert Committees in the milk and food area and on the Codex Alimentarius development efforts.

(g) *With nonprofit organizations or institutions.*—Many of the professional organizations, such as the American Public Health Association, International Association of Milk, Food and Environmental Sanitarians, the National Association of Sanitarians, Conference of State Sanitary Engineers, the Association of State and Territorial Health Officers, and many others, undertake studies and program promotional efforts in the milk and food sanitation areas. To the extent permitted by resources and governmental propriety, the Milk and Food Branch of the PHS cooperates fully and consults with these organizations in milk and food protection efforts.

(h) *With business enterprises.*—Many segments of the food industry recognize the desirability of public health protection of products offered to the American consumer. The competitive nature of private enterprise is a barrier to acceptance by industry of full responsibility for food protection, but it willingly cooperates with health agencies to protect the consumer from foreseeable hazards.

The Milk and Food Branch participates with other health agencies and industry in the development of standards for the sanitary design and construction of milk and food equipment. Notable among these cooperative standards development efforts are the 3-A Sanitary Standards for dairy equipment; National Sanitation Foundation standards for food service equipment; Baking Industry Sanitation Standards Committee for bakery and related equipment; and the Automatic Merchandising Health-Industry Council standards for milk and food vending equipment.

The PHS and industry cooperate in the identity and evaluation of food protection problems requiring research for solution. The food industry frequently supports projects in universities and privately owned laboratories on problems relating to health, such as sanitary requirements, foodborne diseases, nutrition, microbiological content, chemical composition, toxicology of additives, and a wide variety of related problems. Findings are generally published in technical periodicals of professional and trade associations, thus assisting in the resolution of public health problems.

(i) *With others.*—The Milk and Food Branch, in response to inquiries and by publication of recommendations, acquaints the private citizen with food protection problems and provides recommendations for their resolution.

8. *Laws and regulations*

The Public Health Service Act of 1944, as amended, particularly sections 301, 311, 314, and 361 of Public Law 410 (42 U.S.C. 241, 243, 246, 264). This broad authorization provides for the Public Health Service to assist the States and communities and to carry out interstate

quarantine activities, primarily directed at the control of communicable diseases. Under its mandate, the PHS is engaged in activities designed to assist State and local authorities in the development, operation, and maintenance of programs for the prevention and control of food-borne illness.

PART II. DATA BEARING ON ECONOMIC ASPECTS AND IMPACTS OF THE PROGRAM

9. *Economic effects*

Since the basic objective is the prevention of disease caused by or transmitted by food, economic gain is of secondary consideration but inherently associated with freedom from debilitating illness. There can be no effective measure of numbers of cases of illness prevented, but estimates of current foodborne illness give a basis for judgment of the current problem.

Conservative estimates indicate that more than 1 million persons are made acutely ill each year by some type of foodborne health hazard. The average illness may result in a loss of 2 to 4 days of productive effort. The total cost, therefore, of 1 million cases of foodborne disease each year at a conservative personal income of \$20 a day is in excess of \$60 million in lost productive time.

While death is infrequently caused directly by foodborne disease, such disease does produce an extreme burden on infants and children suffering from other illness and is too often the "final straw" which terminates a young life. While this loss to society is rarely measured in terms of loss to the national economy, such economic loss is a reality.

It is impossible to estimate with any accuracy, the number of persons who would be made ill or the number who would die if we did not have governmental food protection systems. While the present level of such illness is unnecessarily high, there could well be a tenfold or even hundredfold increase if present services did not exist.

Medical care costs have produced hardships on individuals which are at least equivalent to the cost of productive time lost.

A distinctly different but important aspect of the economics of the PHS food protection system is the resultant saving to the food industries. By providing nationwide guidance in public health food protection standards, a basis has been established for uniformity of food equipment and acceptance of high-quality food products, particularly milk, in intrastate and interstate commerce. For example, there are in the United States, many hundreds of local milk ordinances. Each prescribes certain criteria regarding the sanitation of equipment in milk processing plants. Without the leadership of the Public Health Service in making recommendations in the form of a model milk ordinance, these local ordinances would have unlimited variables of requirements for milk processing equipment, causing excessive expense to manufacturers, processors, and ultimately the consumer of milk products.

10. *Economic classification of program expenditures.* (See table above showing total program of the Division.)

NATIONAL SHELLFISH SANITATION PROGRAM

(Cooperative State-PHS-Industry Program for the Certification of Interstate Shellfish Shippers)

PART I. DESCRIPTION OF THE PROGRAM

1. Objectives

To prevent the transmission of disease by oysters, clams, and mussels and thereby to permit the continued use of a valuable, renewable, widely distributed natural resource.

2. Operation

The program is based on cooperative agreements between the Public Health Service, other interested Federal agencies, the States, and the shellfish industry. International agreements have been negotiated with Canada and Japan to assure the quality of shellfish imports from these two countries.

Public Health Service is responsible for the development of uniform standards, the training of State and industry personnel in new techniques, research necessary for the development and maintenance of effective standards, continuing technical audit of State programs, and publication of a semimonthly listing of State-certified shellfish shippers.

States are responsible for the adoption of laws or regulations based on recommended uniform standards; for the sanitary evaluation of growing areas; for the prevention of illegal harvesting of polluted or toxic shellfish from unacceptable areas; and the sanitary inspections of all elements of the growing, harvesting, processing, and the distribution of shellfish. (Program standards are outlined in National Shellfish Sanitation Program Manual of Operations, published by PHS.)

3. History

The program was established in 1925 by joint action of the States, Public Health Service, other interested Federal agencies, and the shellfish industry. This action followed a major typhoid epidemic attributed to oysters, and it was one which had a disastrous economic impact on the shellfish industry. Administrative and technical elements are subject to continuing technical review and revision through the mechanism of regional meetings and national shellfish sanitation workshops. The most recent workshop was held in 1965. (Copies of the proceedings of the workshop are published.)

4. Level of operations. (See table 1.)

Program: Food protective activities—National shellfish sanitation program.
Department or agency, and office or bureau: Department of Health, Education, and Welfare; Public Health Service; Bureau of State Services (Environmental Health).

TABLE 1.—*Level of operations or performance, fiscal years 1964–67*

Measures	Fiscal year 1964	Fiscal year 1965	Fiscal year 1966 estimate	Fiscal year 1967 estimate
(a) Magnitude: Program coverage ¹				
(b) Applicants or participants (State agencies):				
Shellfish producing (number).....	21	21	21	21
Shellfish receiving (number).....	29	29	29	29
State-certified interstate shippers (number).....	1,524	1,443	² 1,500	1,500
(c) Federal finances. (See table for total program of the Division.).....				
(d) Estimated expenditures of States (millions).....	\$2.707	\$2.791	\$2.996	\$3.100
(e) Number of Federal employees administering program, including research.....	112	112	118	118
(f) Estimated number of State employees.....	408	417	435	450
(g) Other measures of workload:				
Total shellfish production resources (millions of acres).....	8.09	9.00	11.89	12.00
Areas.....	777	811	845	860
Approved areas (millions of acres).....	6.81	8.47	10.12	10.60
Areas.....	335	346	358	370
Conditionally approved areas (millions of acres).....	0.30	0.17	0.05	0.30
Areas.....	51	43	34	25
Closed areas (millions of acres).....	0.98	1.35	1.73	1.80
Areas.....	391	422	453	470
Individuals employed in industry (direct or indirect) (thousands).....	(³)	50	60	60

¹ Public health benefits accrue to all persons in the United States who consume oysters, clams, and mussels. Economic gains accrue to the coastal counties in which shellfish are produced and processed. Secondary financial gains accrue to distribution, trades, and restaurant operators in all States which handle the product. International relations gains accrue through better understanding with Canada and Japan.

² Estimate.

³ Not available.

5. *Estimated magnitude of program in 1970*

Not answered.

6. *Probable changes in program orientation*

Not answered.

7. *Coordination and cooperation*

The program was established in cooperation with other interested Federal agencies. Formal agreements now exist with the Department of the Interior and Food and Drug Administration. All interested Federal agencies and the shellfish industry participate in the development of uniform standards. International agreements exist with Canada and Japan and representatives of these countries also participate in technical meetings for the development and maintenance of program standards.

The primary areas of weakness are in the coordination of program activities with those of the water pollution control agencies (State, interstate commission, and Federal), and with foreign governments other than Canada and Japan. Substantial progress has been made within the past year in the coordination of water pollution control and shellfish sanitation goals. Further progress is anticipated. Less satisfactory progress has been made in the development of sanitation agreements with foreign nations interested in shipping their products into the United States. Informal meetings have been held with representatives of many countries including France, Mexico, Venezuela, Korea, Australia, the Netherlands, and Denmark.

8. Laws and regulations

The Deficiency Appropriation Act, U.S. Statutes, volume 43, approved March 4, 1925, stated: “* * * for cooperation with State and municipal health agencies in the prevention of the spread of contagious and infectious disease in interstate traffic through oysters and other shellfish * * *.” Public Law 410 also provides authority for cooperation with the States in preventing interstate spread of communicable disease.

PART II. DATA BEARING ON ECONOMIC ASPECTS AND IMPACTS OF THE PROGRAM

9. Economic effects

Effect on personal income.—Continuing production and sale of shell fish products are dependent upon the maintenance of acceptable sanitary quality. The industry employs, directly or indirectly, approximately 50,000 persons. Thus the livelihood of 200,000 to 250,000 persons are, fully or in part, dependent upon the industry. Most of the jobs are concentrated in the coastal areas where the industry is, in many cases, an important element of the economic base. For example, a Public Health Service-sponsored study in Franklin County, Fla., discloses that 65 percent of the jobs and 55 percent of the income were generated by the oyster industry.¹ Any restrictions on marketing shellfish would be a great economic blow to many coastal regions and would result in a significant loss of income for coastal communities. Conversely, the effective administration of this program permits the continued utilization of this unusual natural resource.

Effects on earnings.—In many coastal areas shellfish resources are a significant source of income. Workers now employed in the industry could not be readily trained for other jobs nor could capital investments be readily utilized in other endeavors.

Effects on business.—Approximately 1,500 firms, mostly small businesses, are involved in the production and processing of shellfish. Their continuation in business is dependent upon protection of growing areas from pollution and other public health measures which will assure the sanitary quality of the product. The “protection” is provided by the national shellfish sanitation program.

Effects on wage levels.—Unknown.

Other benefits.—It is difficult to calculate the costs to the community of a major disease outbreak. For example, in 1961-62 approximately 1,100 cases of infectious hepatitis were attributed to raw clams or oysters which had apparently been harvested from polluted areas. The cost to the community in terms of hospitalization, loss of work, and welfare benefits must have been significant.

Geographic differentials.—The economic benefits of the program accrue most directly to the 21 States which have areas used for the production of shellfish. The distribution of these areas is shown in table 2.

¹ Marshall R. Colberg and Douglas M. Windham (both of Florida State University, Tallahassee), “The Oyster-Based Economy of Franklin County, Fla.”; Public Health Service, U.S. Department of Health Education, and Welfare, Washington, D.C.; July 1965.

TABLE 2.—National register of shellfish production areas^{1 2}

State	I. Interstate areas									
	A. Active areas					B. Inactive areas				
	Total areas	Num-ber	Areas fully approved	Num-ber	Closed areas	Num-ber	Total areas	Num-ber	Areas fully approved	Num-ber
REGION I										
Maine.....	14, 295	6	0	0	0	6	0	0	0	0
New Hampshire.....	400	1	0	0	14, 295	1	0	0	0	0
Massachusetts.....	5, 625	6	548	1	400	3	0	0	0	0
Rhode Island.....	91, 493	27	60, 941	1	2, 034	20	0	0	0	0
Connecticut.....	7, 700	6	75	1	18, 904	5	0	0	0	0
					7, 695					
Total.....	119, 513	46	61, 564	3	43, 328	35	0	0	0	0
REGION II										
New York.....	411, 000	3	371, 000	1	40, 000	2	0	0	0	0
New Jersey.....	239, 000	3	196, 000	1	28, 000	1	0	0	0	0
Delaware.....	196, 000	1	196, 000	1	0	0	2, 300	2	0	2
Total.....	846, 000	7	775, 000	3	68, 000	3	2, 300	2	0	2
REGION III										
Maryland.....	877, 820	14	864, 710	6	8, 430	6	1, 147, 300	4	1, 120, 804	2
Virginia.....	1, 215, 410	6	1, 014, 773	3	635	3	(¹)	(¹)	(¹)	(¹)
North Carolina.....	946, 000	1	946, 000	1	0	0	0	0	0	0
Total.....	2, 439, 230	21	2, 425, 483	10	9, 065	9				
REGION IV										
South Carolina.....	31, 500	3	0	0	31, 500	3	0	0	0	0
Georgia.....	7, 000	1	0	0	7, 000	1	3, 300	2	2, 500	1
Florida.....	292, 000	10	200, 000	5	50, 000	4	15, 000	1	0	1
Alabama.....	289, 500	6	132, 000	2	2, 500	3	0	0	0	0
Mississippi.....	0	0	0	0	0	0	1, 000	1	1, 000	1
Total.....	620, 000	20	332, 000	7	91, 000	11	19, 300	4	3, 500	2

II. Intrastate areas															State totals	Number
State	A. Active areas						B. Inactive areas									
	Total areas	Num-ber	Areas fully approved	Num-ber	Closed areas	Num-ber	Total areas	Num-ber	Areas fully approved	Num-ber	Closed areas	Num-ber				
REGION VII																
Louisiana.....	38,200	1	38,200	1	0	0	0	0	0	0	0	0	0	2,500	1	
Texas.....	0	0	0	0	0	0	0	0	0	0	0	0	0	2,500	1	
Total.....	38,200	1	38,200	1	0	0	0	0	0	0	0	0	0	5,000	2	
REGION IX																
California.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Oregon.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Washington.....	500	2	0	0	300	1	200	1	600	1	0	0	0	600	1	
Total.....	500	2	0	0	300	1	200	1	600	1	0	0	0	600	1	
United States ⁵	4,063,443	97	3,632,249	24	219,671	14	211,593	59	1,174,500	13	1,124,304	4	50,196	9	9	
REGION I																
Maine.....	350,000	164	291,567	68	0	58,433	96	9	0	0	0	0	0	364,295	170	
New Hampshire.....	0	0	0	0	0	0	0	0	0	0	0	0	0	400	1	
Massachusetts.....	33,577	90	24,585	33	3,080	5,012	41	0	0	0	0	0	0	39,202	96	
Rhode Island.....	4,934	9	3,921	4	192	821	7	0	0	0	0	0	0	96,427	36	
Connecticut.....	54,340	23	47,000	16	0	7,340	7	20,000 (*)	20,000	(*)	0	0	0	82,010	29	
Total.....	442,851	286	367,073	121	3,272	72,506	118	20,000	0	20,000	0	0	0	582,364	332	
REGION II																
New York.....	560,400	86	385,000	56	0	181,400	30	0	0	0	0	0	0	977,400	89	
New Jersey.....	100,530	92	76,000	33	1,100	23,430	58	19,500	12	13,500	2	10	5	359,030	107	
Delaware.....	16,900	14	14,500	3	0	2,400	11	520	5	0	0	520	5	215,720	22	
Total.....	683,830	192	475,500	92	1,100	207,230	99	20,020	17	13,500	2	6,520	15	1,552,150	218	
REGION III																
Maryland.....	8,790	12	0	0	1	6,138	11	37,800	2	36,800	1	1,000	1	2,071,710	32	
Virginia.....	53,126	15	0	0	7	49,880	8	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	
North Carolina.....	26,710	16	0	0	0	26,710	16	756,472	12	712,929	6	43,543	6	1,320,182	29	
Total.....	88,626	43	0	0	8	82,728	35									

See footnotes at end of table, p. 744.

TABLE 2.—National register of shellfish production areas ^{1,2}—Continued

II. Intrastate areas														State totals	Num-ber	
State	A. Active areas							B. Inactive areas								
	Total areas	Num-ber	Areas fully approved	Num-ber	Closed areas	Num-ber	Areas conditionally approved	Num-ber	Total areas	Num-ber	Areas fully approved	Num-ber	Closed areas			Num-ber
REGION IV																
South Carolina.....	165,750	19	149,250	13	12,500	5	4,000	1	0	0	0	0	0	0	197,250	
Georgia.....	143,250	16	97,250	8	46,000	2	0	0	19,750	4	0	0	500	2	173,300	
Florida.....	573,750	44	418,100	21	114,650	18	41,000	5	130,500	8	0	0	139,500	8	1,020,250	
Alabama.....	107,150	0	0	0	0	0	0	0	0	0	0	0	0	0	283,500	
Mississippi.....	107,150	7	10,550	3	87,200	2	9,400	2	0	0	0	0	0	0	283,500	
Total.....	989,900	86	675,150	45	260,350	33	54,400	8	150,250	12	19,250	2	140,000	10	1,788,450	
REGION VII																
Louisiana.....	1,033,000	8	1,010,000	7	23,000	1	0	0	300,000	1	300,000	1	0	0	1,373,700	
Texas.....	733,200	11	602,000	5	121,200	5	10,000	1	100,000	2	95,000	1	5,000	1	833,700	
Total.....	1,766,200	19	1,612,000	12	144,200	6	10,000	1	400,000	3	395,000	2	5,000	1	2,209,400	
REGION IX																
California.....	5,041	4	2,734	3	2,307	1	0	0	1,237	5	610	3	627	2	6,278	
Oregon.....	3,356	3	1,150	1	0	0	3,205	2	10,550	7	1,500	1	9,050	6	13,906	
Washington.....	44,020	47	43,240	37	783	10	0	0	0	0	0	0	0	0	43,120	
Total.....	52,417	54	46,124	41	3,090	11	3,205	2	11,787	12	2,110	4	9,677	8	65,304	
United States ⁵	4,023,824	680	3,175,847	311	770,104	332	77,876	37	1,405,329	58	1,199,589	17	205,740	41	65,304	

¹ All values in acres.² Figures represent data compiled between October 1963 and April 1964.³ No breakdown as to specific areas.⁴ Data not available.⁵ Column totals in I-B, I-C, II-B, and II-C do not include Virginia.

Hawaii does not have commercial shellfish areas. Alaska has a large resource, but it cannot be used at the present time because of the presence of toxic materials. A recent meeting of State, Federal, and industry representatives in Alaska has concluded there is an urgent need for further studies to develop and apply public health control measures which would permit utilization of this resource in Alaska.

Effect on business or industrial organization.—Total contribution of the shellfish industry to the gross national product is estimated at \$250 million.

Other data or comments.—There is a substantial economic relationship between utilization of shellfish resources and tourism in many areas. No attempt has been made to define the economic benefits of this element, but it is well known that areas such as Maine, Florida, Washington, and California stress seafoods and marine resources in promotion of tourism. There is also substantial recreational harvesting of shellfish in many parts of the country, although specific data are not available.

10. *Economic classification of program expenditures.* (See table above showing total program of the Division.)

INTERSTATE CARRIER PROGRAMS: A AND B

A. CONSTRUCTION AND OPERATION PROGRAM

PART I. DESCRIPTION OF THE PROGRAM

1. *Objectives*

The Interstate Carrier Branch acts as the Surgeon General's agent in discharging his statutory responsibility for the health of the Nation's traveling public. This responsibility is defined in the provisions of the interstate quarantine regulations, and includes Public Health Service surveillance of interstate carrier food sources and service, water supply service, waste disposal, and insect and rodent control. Daily, over 2 million people travel on airlines, buses, railroads, and vessels. Annually, over 700 million days are spent by people on interstate conveyances. Surveillance of the sanitation problems is required in the servicing of over 5,800 conveyances and catering establishments serving them. The Branch reviews the construction and installation of equipment having public health significance on carriers and in carrier-connected establishments and areas, to determine that it complies with Public Health Service requirements. It evaluates and approves methods and procedures for the packaging and shipment of etiologic agents, and reviews the technical activities relating to the shipment of etiologic agents by the Department of Defense.

2. *Operation*

The interstate carrier program is a direct Federal operation conducted in regional and field offices with headquarters supervision. The program furnishes technical assistance and training to the interstate carrier industry (vessel companies, railroads, bus companies, and airlines), including their builders and suppliers of equipment, food, and water. Through routine inspections, the program furnishes surveillance of the health-related aspects in the construction and operation of interstate carriers. This includes review of construction plans, inspection, and consultation during construction, and routine inspec-

tions during the operation of conveyances related to water, food, waste handling and disposal, and insect and rodent control. Epidemiological investigations are conducted of reported foodborne outbreaks occurring on interstate conveyances to determine measures needed to prevent reoccurrence.

3. History

The first interstate quarantine regulations were promulgated on September 27, 1894, and were first amended in 1912. Many additional amendments have been made since that date. It was not until 1917, however, that interstate sanitary districts were established by the Service. Following this, sanitary standards were developed for interstate carriers and supervision of their operation became a regular function of the Public Health Service. In 1930, the Maritime Commission, now the Maritime Administration, established a policy that all ships constructed under its jurisdiction and subsidized by it must be constructed in accordance with Public Health Service sanitation standards. Virtually all American-flag ships today are built and operated in compliance with them. The greatest impetus to the vessel program occurred during 1940 to 1945, when all the Liberty and Victory ships were built. The later decline in ship construction was accompanied, however, by expansion of the airline industry. Similarly, although transportation by way of railroads has greatly declined, this has been accompanied by a huge expansion in bus travel.

4. Level of operations. (See table 1.)

Program: Interstate carrier program (construction and operation).

Department or agency, and office or bureau: Department of Health, Education and Welfare; Public Health Service; Bureau of State Services—Environmental Health; Division of Environmental Engineering and Food Protection.

TABLE 1.—*Level of operations or performance, fiscal year 1964-67*

Measure	Unit	Fiscal year 1964	Fiscal year 1965	Fiscal year 1966 estimates	Fiscal year 1967 estimates
(a) Magnitude of program:					
Construction.....	Conveyances ¹ and establishments.	320	388	450	475
Operation.....	do ¹	7,937	7,912	7,950	7,975
(b) Applicants or participants:					
State government agencies.....	Health departments.	50	50	50	50
Local communities or governments.....	do.....	140	150	160	170
Individuals or families.....	None.....				
Other.....	do.....				
(c) Federal finances (see table for total program of the Division).					
(d) Number of Federal Government employees administering, operating, or supervising the activity.....		58	49	49	40
(e) Non-Federal personnel employed in the program.	Estimated man-years.	3.5	3.75	4	4.25
(f) Other measures of level or magnitude of performance.....	Inspections.....	9,125	9,165	9,250	9,300

¹ Aircraft, railroad dining cars, vessels, buses, caterers, commissaries, watering points, servicing areas.

5. Estimated magnitude of program in 1970

Not answered.

6. Prospective changes in program orientation

Not answered.

7. *Coordination and cooperation*

The program activities are carried out in cooperation with other branches of the Division and with the Federal Water Pollution Control Administration (Department of the Interior), the Departments of the Army, Navy, and Air Force, the Maritime Administration, the Federal Aviation Agency, and the Coast Guard. State health departments assist in providing inspectional services, particularly in regard to watering points and airline catering facilities. Some local health departments also provide this type of assistance. Foreign shipping companies partially or wholly owned by their governments have requested assistance and consultation in construction of foreign-flag passenger vessels in the Atlantic traffic to the city of New York. This is provided, with the requesting company meeting the cost of travel. The nature of the program is such that full cooperation of the railroad, airline, vessel and bus industry is required. This applies to not only the operation of conveyances, but also in their construction.

8. *Laws and regulations.* (See Interstate Quarantine Regulations, of Public Health Service regulations.)

PART II. DATA BEARING ON ECONOMIC ASPECTS AND IMPACTS OF THE PROGRAM

9. *Economic effects*

The program to guard the health of the traveling public obviously has an effect on the personal incomes and productivity of all who utilize the various modes of travel. An outbreak of an intestinal disease or food poisoning usually incapacitates the victims for varying periods of time from at least 1 week to several months. The program benefits business and industry by assuring the traveler that he will arrive at his destination in good health and is an incentive to the individual to utilize this mode of travel. Although a specific measure of contributions to the growth of industry or the gross national product cannot be identified, such industries as airlines and buses certainly would relate their expansion to the patronage enjoyed from the healthy traveler.

10. *Economic classification of program expenditures.* (See table above showing total program of the Division.)

B. WATER SUPPLY PROGRAM

PART I. DESCRIPTION OF THE PROGRAM

1. *Objectives*

(a) To provide regulatory supervision and certification of interstate carrier water supply sources in accordance with the provisions of the interstate quarantine regulations; (b) to provide health hazard intelligence to other Federal units, State and local health departments, and public water supply groups; (c) to provide technical assistance to other Federal and State groups on water supply problems; (d) to assist the States in the development of water supply programs; (e) to provide assistance to organizations such as the Pan American Health Organization and the Agency for International Development, in the field of water supply; (f) to revise and update as needed the

PHS drinking water standards for application to water supplies throughout the Nation.

2. Operation

These activities are carried out under headquarters supervision by field representatives in nine regional offices, a research staff at the Robert A. Taft Sanitary Engineering Center, and overseas representatives in Brazil, Bolivia, and the Somalia Republic, as well as engineers assigned to cover Latin America generally through the Pan American Health Organization. The enforcement phase of the program is conducted with the assistance of sanitary engineers in the 50 State health departments. Emphasis is placed on promoting training of water supply operators, both at home and abroad, where—as in Brazil, for example—a team of engineers is engaged in a national effort to train water works operators.

3. History

The interstate quarantine regulatory responsibilities of the water supply program have been in existence since 1914 when the first Public Health Service drinking water standards were promulgated. Comprehensive water supply work had its beginning in 1960. Since that time the Water Supply Section has developed many projects, ranging from study of waterborne infectious hepatitis to investigations of water possibly related to cancer and heart disease jointly with the National Cancer and Heart Institutes. Since 1963, the impact of the work has been extended overseas.

4. Level of operations. (See table 1.)

Program. Interstate carrier program (water supply program).

Department or agency, and office or bureau: Department of Health, Education, and Welfare; Public Health Service; Bureau of State Services—Environmental Health, Division of Environmental Engineering and Food Protection.

TABLE 1.—Level of operations or performance, fiscal years 1964–67

Measure	Fiscal year 1964	Fiscal year 1965	Fiscal year 1966 (estimate)	Fiscal year 1967 (esti- mate)
(a) Magnitude of program:				
Interstate carrier water supplies.....	760	760	760	770
Overseas countries.....	0	2	4	16
Water supply special projects.....	4	4	5	3
(b) Applicants or participants:				
State and territorial health departments.....	52	52	52	52
Municipal water departments.....	1,000	1,000	1,000	1,100
Interstate travelers, daily.....	2,000,000	2,000,000	2,000,000	2,300,000
Residents using interstate carrier water supplies.....	77,000,000	77,000,000	77,000,000	80,000,000
(c) Federal finances (see table for total program of the Division).				
(e) Number of Federal Government employees administering, operating, or supervising the activity....	12	17	56	56
(f) Non-Federal personnel employed in the program ¹ ..	52	52	52	52

¹ Sanitary engineers in State health departments who contribute their time in making surveys of interstate carrier water supplies.

5. Estimated magnitude of program in 1970

Not answered.

6. Prospective changes in program orientation

Not answered.

7. Coordination and cooperation

The Water Supply Section, Interstate Carrier Branch, cooperates with other divisions of the Public Health Service and with other Federal agencies such as the U.S. Forest Service, U.S. Navy, Agency for International Development, and the Food and Drug Administration. There is close liaison and cooperation with the 52 State and territorial health departments and with many municipal water supply agencies. On the international front, the section is working with the Governments of Brazil, Bolivia, and the Somalia Republic on cooperative water supply projects. The section has close ties with the American Water Works Association and the American Public Health Association.

8. Laws and regulations

Public Law 78-410, as amended.

PART II. DATA BEARING ON ECONOMIC ASPECTS AND IMPACTS OF THE PROGRAM

9. Economic effects

The program has a beneficial effect upon the health of over 76 million American citizens for it is directed toward upgrading and improving the quality of the water they drink. A directly measurable effect of the program is its contribution to the gross national product (GNP). During the past 3 years the contribution to the GNP has been over \$100 million by way of creating additional markets for goods and services required for improvement of water supplies. Nearly all these funds are from local sources.

10. Economic classification of program expenditures. (See table above showing total program of the Division.)

SPECIAL ENGINEERING SERVICES PROGRAM

PART I. DESCRIPTION OF THE PROGRAM

1. Objectives

The special engineering services program seeks to improve and protect public health by providing technical assistance and advice to State and local health and other agencies, national associations, and organizations, and other Federal agencies on the environmental health and sanitation aspects of individual water supply and sewage disposal systems, institutions and schools, recreational areas, swimming pools and bathing places, plumbing, mobile home parks, travel trailer parking areas, and other problems requiring the application of sanitation principles.

2. Operation

Technical consultation on program activities is conducted primarily by regional office personnel of the Division of Environmental Engineering and Food Protection with appropriate supervision and assistance from headquarters. In addition, headquarters is responsible for the production or updating of technical manuals, guides, bulletins, standards, and criteria in the several areas covered by the program. Constant efforts are maintained to identify emerging problems and to watch and collect intelligence on industry and consumer trends in order to meet requests for pertinent information and advice. Data

and information derived from Federal, State, and local programs and new approaches to the administration and operation of control programs arising from investigations of university or professional organizations and from experience are evaluated and appropriately used to stimulate and improve practices at all levels of government and private endeavor in the several fields covered in the program.

3. History

The status of this program has changed during a series of reorganizations of sanitary engineering activities in the Public Health Service. This program encompasses a broad spectrum of activities which represent many of the basic environmental health problems existing in our urban and rural communities.

4. Level of operations. (See table 1.)

Program: Special engineering services program.

Department or agency, and office or bureau: Department of Health, Education, and Welfare; Public Health Service; Bureau of State Services—Environmental Health; Division of Environmental Engineering and Food Protection.

TABLE 1.—Level of operations or performance, fiscal year 1964–67

Measure	Unit	Fiscal year 1964	Fiscal year 1965	Fiscal year 1966 (estimate)	Fiscal year 1967 (es- timate)
(a) Magnitude of the program:					
Septic tank sewerage systems....	Thousands.....	16, 000	16, 300	16, 600	16, 850
Population served.....	do.....	57, 000	58, 000	59, 000	59, 840
Individual water supply system.....	do.....	13, 000	13, 250	13, 500	13, 750
Population served.....	do.....	45, 000	45, 800	46, 400	47, 000
(b) Participants:					
State government agencies.....	(1).....	50	50	50	50
Local communities or govern- ments (percent).....	(1).....	100	100	100	100
Individuals or families.....	See (a) above.....				
(c) Federal finances (see table for total program of the Division).					
(e) Number of Federal Government em- ployees administering, operating, and supervising activity.....	Man-years.....	7	7	7	6
(f) Non-Federal personnel employed in program.....	.....	(2)	(2)	(2)	(2)

¹ See "measure" column.

² Estimated 2 to 3 man-years at the local level and at least 4 man-years at the State level.

5. Estimated magnitude of program in 1970

Not answered.

6. Prospective changes in program orientation

Not answered.

7. Coordination and cooperation

The broad spectrum of environmental health activities in this program requires active coordination and cooperation with many programs and agencies.

(a) The development of technical manuals, guides, bulletins, and criteria is done in cooperation with other branches of the Division, including the Interstate Carrier Branch, Shellfish Sanitation Branch, Milk and Food Branch, and the Office of Urban Environmental Health Planning. Program policies and operating procedures are appropriately coordinated within the Division.

(b) Technical standards, etc., are developed in cooperation with other departments or agencies as appropriate within the Department. "Environmental Engineering for the School," PHS Publication No. 856, was developed in cooperation with the Office of Education. The Division of Accident Prevention and the Division of Water Supply and Pollution Control assisted in the development of chapters included in "Environmental Health Practice in Recreational Areas," PHS Publication No. 1195.

(c) Branch activities on recreational sanitation are under the general coordination of the Bureau of Outdoor Recreation, Department of the Interior.

(g) Various standards are developed in cooperation with other organizations and agencies with the PHS providing representation to special committees such as:

(1) "Suggested Ordinance and Regulations Covering Public Swimming Pools," American Public Health Association Joint Committee on Swimming Pools and Bathing Places.

(2) "American Standards Installation of Plumbing, Heating, and Electrical Systems in Mobile Homes," American Standards Association (ASA) A119.1-1963 and "American Standards Installations of Plumbing, Heating, and Electrical Systems in Travel Trailers," ASA A119.2-1963.

(3) "Report of Public Health Service Technical Committee on Plumbing Standards," PHS Publication No. 1038.

(h) "Environmental Health Guide for Mobile Home Parks With a Recommended Ordinance" and "Environmental Health Guide for Travel Trailer Parking Areas With a Recommended Ordinance" were developed in cooperation with the Mobile Homes Manufacturers Association, Chicago, Ill.

8. Laws and regulations

Public Law 78-410, as amended.

PART II. DATA BEARING ON ECONOMIC ASPECTS AND IMPACTS OF THE PROGRAM

9. Economic effects

There is a direct and indirect economic effect on the growth of the Nation as a result of activities of the Branch in dealing with problems of environmental health. These activities are subject to some control and guidance through Federal and State leadership.

It is estimated that 250,000 to 300,000 individual house sewage disposal systems are installed annually. Based on research conducted by the Public Health Service, major advancements have been made in assuring better operation of these systems, extension of their life expectancy, and dollar savings in the construction of the facilities. For example, a revision in these criteria regarding the need for distribution boxes resulted in an estimated savings of \$15 million per year. The plumbing standards should permit the installation of adequate plumbing at a saving of approximately \$50 per residence. Based on an estimated 1 million residential units per year, this represents annual savings of \$50 million.

Indirectly it is impossible to determine for other programs many of the detailed savings that have been effected from these activities.

Publications developed:

1. Manual of Septic Tank Practice, PHS Publication No. 526.
2. Manual of Individual Water Supply Systems, PHS Publication No. 24.
3. Environmental Health Practice in Recreational Areas, PHS Publication No. 1195.
4. Environmental Engineering for the School, PHS Publication No. 856.
5. Safe Drinking Water in Emergencies, PHS Publication No. 389 (pamphlet).
6. Home Sanitation, PHS Publication No. 231 (pamphlet).
7. Septic Tank Care, PHS Publication No. 73 (pamphlet).
8. Environmental Health Guide for Mobile Home Parks With a Recommended Ordinance.
9. Environmental Health Guide for Travel Trailer Parking Areas With a Recommended Ordinance.
10. Report of Public Health Service Technical Committee on Plumbing Standards, PHS Publication No. 1038.
10. *Economic classification of program expenditures.* (See table above showing total program of the Division.)

SOLID WASTE DISPOSAL PROGRAM

PART I. DESCRIPTION OF THE PROGRAM

1. Objectives

Public Law 89-272, the Solid Waste Disposal Act, states the purposes of the solid wastes program as follows:

(1) To initiate and accelerate a national research and development program for new and improved methods of proper and economic solid waste disposal, including studies directed toward the conservation of natural resources by reducing the amount of waste and unsalvageable materials and by recovery and utilization of potential resources in solid wastes; and

(2) To provide technical and financial assistance to State and local governments and interstate agencies in the planning, development, and conduct of solid waste disposal programs.

2. Operation

The program will include several methods of operation: (1) direct Federal management and research; (2) technical assistance; (3) contracts and matching grants, and (4) training programs with public authorities, agencies, and institutions, and with private agencies, institutions, and individuals.

3. History¹

The solid wastes engineering program has been a very small operation with an average of five professional people. Solid wastes legislation has been submitted by Congress several times over the past few years, but no action was taken until this year. In the past, only very limited funds were available for program activities. Technical assistance was provided as funds and personnel allowed. With the signing of Public Law 89-272, the program is expected to grow to approximately 200 people and \$14 million for fiscal year 1967.

4. Level of operations. (See table on Federal finances for all programs of the Division of Environmental Engineering and Food Pro-

¹ After the response was submitted, responsibility for administration of the Solid Waste Disposal Act (title II of Public Law 89-272) was placed in a newly created Office of Solid Wastes. This is separate from the Division of Environmental Engineering and Food Protection but (like that Division) is in the Bureau of State Services (Environmental Health).

tection, and also research grants of the Division, question 4, footnote 2.)

5. *Estimated magnitude of program in 1970*

Not answered.

6. *Prospective changes in program orientation*

Not answered.

7. *Coordination and cooperation*

(a) Within Division: Appropriate branches through contacts and distribution of information.

(b) Within Department: Solid wastes disposal, when improperly performed, often involves air and water pollution. Therefore, close contact will be maintained with the Division of Air Pollution and the Water Pollution Control Administration to make a more complete solid waste program.

(c) With other Federal departments or agencies: The Tennessee Valley Authority and Public Health Service have a cooperative composting research project underway. An operating agreement could be made with the Department of Housing and Urban Development for the review by PHS of plans for solid waste handling facilities submitted to the Department with applications for construction loans.

Contact will be maintained by the PHS with the Department of the Interior, as stated in Public Law 89-272, for activities involving minerals or fossil fuels.

(d), (e) With State and local governments: Grants and/or contracts will be made for solid waste planning and demonstration projects.

(f) With international organizations: Information on solid wastes handling will continue to be exchanged with various international organizations.

(g) With nonprofit organizations or institutions: There has been close cooperation with universities and organizations such as the American Public Works Association. This is expected to increase.

(h), (i) With business enterprises and individuals: Contracts may be made with business enterprises and individuals for planning and demonstration projects.

8. *Laws and regulations*

Public Law 89-272, the Solid Waste Disposal Act of 1965.

PART II. DATA BEARING ON ECONOMIC ASPECTS AND IMPACTS OF THE PROGRAM

9. *Economic effects*

(c) The solid wastes disposal program will probably lead to more construction of disposal plants which will in turn lead to increased business for the engineers and construction companies involved.

(g) Solid waste disposal operations cost close to \$3 billion per year.

10. *Economic classification of program expenditures.* (See table above showing total program of the Division.)

URBAN ENVIRONMENTAL HEALTH PLANNING

PART I. DESCRIPTION OF THE PROGRAM

1. *Objectives*

Program consists of two elements: activity to encourage better short-and-long range planning for health-related environmental facilities in urban areas, and activity to improve the healthfulness of the residential environment primarily through systematic enforcement by neighborhoods of hygienic standards in minimum and healthful housing codes.

2. *Operation*

Program operates from regional offices with headquarters supervision. Technical assistance and training are provided (a) to State and local health agencies, (b) to corresponding public works and planning officials, and (c) to other related inspection-enforcement personnel at the State and local level.

3. *History*

Environmental health planning activity has been in progress 6 years. About 25 medium-sized urban areas have been assisted in locally conducted studies of their planning needs for water, sewerage, housing, solid wastes, air pollution control, etc. The program has resulted in better understanding of facility needs, environmental health planning and provision of public works and public services for future urban requirements of what are often multijurisdictional areas. The activity involves demonstrations in urban areas selected by State health departments, and in some instances training of personnel from outside the survey area so they may be prepared to do similar surveys in their home communities.

Residential environment hygiene activities are just beginning after a 10-year lapse. Emphasis will be on (a) research to fill gaps in knowledge of housing-health relationships focusing on health-related criteria for two levels of standards based on thresholds of tolerance of healthy persons and families and thresholds of those predisposed to some form of ill health, (b) development of model standards and manuals and technical assistance on their administration, and (c) training for local housing inspectors.

4. *Level of operations.* (See table 1.)

Program: Urban environmental health planning

Department or agency, and office or bureau: Department of Health, Education, and Welfare; Public Health Service; Bureau of Public State Services—Environmental Health; Division of Environmental Engineering and Food Protection.

TABLE 1.—*Level of operations or performance, fiscal years 1964-67*

Measure and unit	Fiscal year 1964	Fiscal year 1965	Fiscal year 1966 estimate	Fiscal year 1967 estimate
(a) Technical assistance in field studies (communities).....	6	10	14	18
Training courses (persons).....	500	650	1,600	2,100
(b) Applicants or participants:				
Local communities.....	6	10	14	18
Individuals.....	500	650	1,600	2,100
(c) Federal finances (see table for total program of the Division).....				
(d) Additional expenditures.....	(¹)	(¹)	(¹)	(¹)
(e) Number of Federal employees.....	9	9	18	24
(f) Non-Federal personnel (State and local agency employees).....	375	550	2 900	2 900

¹ Not available.

² State and local personnel operating within the scope of this program.

5. *Estimated magnitude of program in 1970*

Not answered.

6. *Prospective changes in program orientation*

Not answered.

7. *Coordination and cooperation*

(a) With all divisions of Bureau. (b) Improved coordination with programs which are involved in individual health care programs may be desirable in developing a total urban health planning operation. (c) Several preliminary coordination meetings have been held with components of the Department of Housing and Urban Development, and further meetings are planned on a continuing basis. (d) Community study projects have been conducted with State coordination, and increased State responsibility is being assumed. One goal is the establishment, perhaps with a Federal support program, of an urban public health planning operation within the State level of government. (e) The Division coordinates with State and local governments in selected areas in assisting in the development of environmental health plans and training of personnel. (g) Activity planning has been reviewed with institutions such as the American Institute of Planners, National Association of Housing and Redevelopment Officials, Urban Land Institute, American Public Health Association.

8. *Laws and regulations.*

Public Health Service Act, as amended.

PART II. DATA BEARING ON ECONOMIC ASPECTS AND IMPACTS OF THE PROGRAM

9. *Economic effects*

(a), (b) No direct effect on personal income. Indirect improvement may result from improved housing conditions allowing greater productivity.

(c), (d) Improved community facility planning and requirements projection are expected to provide greater incentive for business retention and attraction. Capital improvement programs should result in expanded opportunities for construction industries concerned with water and sewerage works, solid wastes disposal facilities, etc. Minimum housing code enforcement activity should greatly expand business opportunities for small building supply businesses and tradesmen, such as plumbing, electrical, appliances and construction material supply.

10. *Economic classification of program expenditures.* (See table above showing total program of the Division.)

DIVISION OF OCCUPATIONAL HEALTH

PART I. DESCRIPTION OF THE PROGRAM

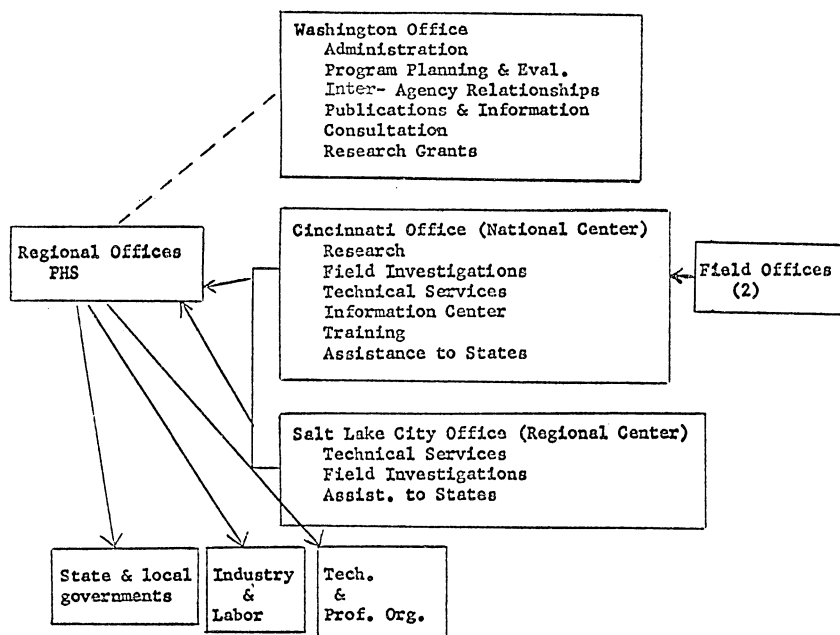
1. *Objectives*

The objective of the occupational health program is to protect and improve the health of the working population, through the prevention and control of occupational diseases and hazards to health, and through the promotion of preventive health service at the worksite.

The effects of occupation on health, and of health on productivity, are of great significance. Identification of occupationally related disease is often difficult and mechanisms for reporting their incidence and prevalence are inadequate. New chemicals are being introduced into American industry at a prodigious rate and the chemical industry is growing at a rate about three times that of industry generally. The increasing industrial use of chemicals and radioactive substances and the proliferation of new industrial processes are multiplying the number of workers exposed to situations dangerous to health and have increased the complexity of such exposures. Workers can be overwhelmed swiftly by lethal exposure to micro-organisms, chemicals, radiation, physical stress, trauma, and other factors associated with the work environment. On the other hand, many of the effects of such exposures are especially pernicious because they are not readily detected, revealing themselves usually only after long exposure and frequently simulating diseases of nonoccupational origin. Consequently, protection of workers' health from damage arising from their work requires extensive research, calling upon a broad range of scientific disciplines, close cooperation between government, industry and labor, and dissemination of technical information.

2. Operation

The program is wholly a Federal operation but has a working relationship with States and local governments which is carried out through the regional offices of the Public Health Service. The following is a schematic diagram of the program's operational procedures.



The essential elements of the program are:

Problem identification.—Problem areas are identified through various techniques such as morbidity and mortality studies, literature reports, occupational disease reports, problems referred by management and labor, conferences with international sources, and information supplied by State and local governments, universities and professional organizations. Such information is quantified and the necessary action is identified.

Field studies.—Some problems require field epidemiologic studies which involve medical evaluations of the workers at their worksite together with environmental evaluation of the workplace. This technique has been very effective in identifying the etiology of occupational diseases and the necessary medical and engineering procedures for their control.

Research.—Many health problems require a research effort. Therefore, most of the research is problem oriented and related to the toxicity of industrial chemicals, mechanisms of biologic action, diagnostic procedures, development of analytical procedures, engineering controls, and instrumentation.

Technical assistance.—Professional assistance is provided State and local governments and through these agencies to industry and labor for the solution of health problems, which for the most part requires the application of existing knowledge.

Standard setting.—Although the program has no legal responsibility for standard setting, the information gathered in its field investigations and research effort is supplied to official and nonofficial agencies which have a standard-setting role. The widely used threshold limit values have been an outgrowth of this activity.

Training.—The program operates a continuous training program for employees of State, local, and Federal Governments. Training relates to the basic principles of occupational health as well as specialized courses in new problem areas and refresher courses as new information becomes available. Although priority is given to government, a limited number of trainees are accepted from private industry and labor.

Administrative assistance.—Aid is provided to State and local governments in establishing and operating occupational health programs, the administration of programs, and the development of new program areas.

Information center.—To meet a very large demand for technical information on the part of the general public, technical and professional organizations, industry and labor, the program operates a technical information center. Information can be provided quickly on a broad spectrum of subjects including the health effects of almost any industrial chemical and process.

Preventive medical services.—The provision of occupational health services is best done at the worksite through medical and environmental surveillance. To promote the expansion of occupational health services in industry, the program offers a consultation service, makes studies of the most efficient methods of providing services, and maintains a current roster of industry and labor programs.

Implementing findings.—To implement its findings and recommendations the program publishes its scientific works, holds workshops and seminars, develops worker information, and disseminates infor-

mation to the scientific and technical communities through established channels.

Research grants.—Grants are made to universities, hospitals, research institutes, State and local health departments, private and public nonprofit institutions, and to individuals. These grants support basic and applied research in all facets of occupational health. Grants are administered through the Division of Research Grants, National Institutes of Health.

3. History

At the turn of the century, the Nation was plagued with many problems brought on by a rapidly expanding industry. Not the least of these was the severe health problem resulting from uncontrolled exposures to toxic materials. Tuberculosis, silicosis, lead poisoning, and many other occupational diseases were an accepted risk of people entering the work force, and constituted a significant proportion of the Nation's morbidity pattern. Recognizing the severity of occupational diseases and the impact that this was having on industry and labor, the Public Health Service, in 1910, organized a small unit to study several acute areas. The first studies were made in the garment industry of New York, where an excessive rate of tuberculosis was known to exist. This study paved the way to the abolition of the sweatshop and resulted in the establishment of the first union health center, which is still active and providing services to the garmentworkers of New York.

Because of the competence that this group had developed in chest diseases, it was logical that their next studies would be devoted to silicosis, which was rampant in the mining and construction industries and other dusty trades. In 1914 the Public Health Service first established an organized activity in occupational health which was designated as the Office of Industrial Hygiene and Sanitation. This unit has been active for the last 50 years; however, it has had several changes in title as well as administrative location within the Public Health Service.

The early work of the program developed the epidemiology technique for the study of occupational diseases in industry. Such studies were carried out in the pottery industry, the brass foundries, glass and chemical industries, steel plants, textile mills, and others. Through the use of this technique, the program developed an international reputation for the study of occupational diseases. The dust studies undertaken between 1914 and 1940 developed the fundamental principles of prevention, which are in use throughout the world, for the prevention of silicosis and the pneumoconioses. Other milestones were established by the Division during its early years. In 1914 the first investigation of radioactive hazards was initiated in the radium dial plants of New Jersey. In 1931 a full-scale study of industrial dermatoses was launched which led to their recognition as a major health problem of industrial workers. Studies of air pollution in such places as Los Angeles, Donorra, New York, and other major metropolitan centers laid the groundwork for the large-scale program of the Public Health Service regarding air pollution, which came into being in 1956.

With the advent of World War II, the occupational health program turned its attention almost completely to war-related activities. It

was designated as the coordinating agency for industrial hygiene activities in the national defense effort. The program worked closely with the Army, the Navy, the Maritime Commission, the War Production Board, the War Manpower Commission, the Department of Labor, and other agencies in providing adequate protection for industrial manpower. One of the program's major activities was the protection of employees in Government-owned, contractor-operated munitions plants. During the war years, the program also initiated pioneer studies in aviation medicine, effects of exposure to elevated and reduced pressures, and the efficacy of breathing apparatus.

At the end of World War II, emphasis was shifted from a strong research effort to the development of programs in State and local governments. As a result of this activity, occupational health programs are found in 86 jurisdictional units in 41 States. Because of this shift of emphasis, the administrative location of the program was changed from the National Institutes of Health to the Bureau of State Services. In 1949 the program established a regional center in Salt Lake City, Utah, to provide services to the Western States. In 1951 the research and investigation activities of the program were moved from Washington to Cincinnati, Ohio.

There is little doubt that the work of the program has a significant role in bringing about improved health conditions in industry. In addition to its research and investigative activities, it has served as a training ground for many individuals who were ultimately to become outstanding leaders in the field of occupational medicine and hygiene. The training of these individuals, who later went into private industry and universities, was probably the dominant factor in elevating industrial medicine from a first-aid endeavor to the high-prestige level that it has today in providing total preventive health services for workers. Although much remains to be done in the provision of medical services for workers in small plants, the Nation can look with pride to the occupational health services which are being provided by our major corporations.

Changing times bring about changing concepts and problems. Although the program is yet concerned with the classical occupational diseases which have not been totally eliminated, its present planning embraces the concept of the total health of the industrial worker. It is known that although occupational diseases constitute a part of the total morbidity-mortality problem, a much larger proportion is due to those diseases in which the occupational component has not been fully defined. With this in mind, the program is now planning attacks on broad disease entities rather than isolated disease problems. For example, a respiratory disease research unit is being established which plans to attack the total problem of occupational respiratory diseases rather than directing concentrated effort to specific disease conditions such as silicosis or coalworkers' pneumoconiosis.

4. *Level of operations.* (See table 1.)

Program: Division of Occupational Health.

Department or agency, and office or bureau: Department of Health, Education, and Welfare; Public Health Service; Bureau of State Services (Environmental Health).

TABLE 1.—*Level of operations or performance, fiscal years 1964-67*

[Dollars in thousands]

Measure	Fiscal year 1964	Fiscal year 1965	Fiscal year 1966, estimate	Fiscal year 1967, estimate
(a) Magnitude of the program (thousands of persons affected).....	4, 565	4, 705	5, 305	5, 835
(b) Applicants or participants (occupational health staff): ¹				
State government agencies.....	519	540	575	600
Local government agencies.....	162	151	170	175
Other.....	(2)	(2)	(2)	(2)
(c) Federal finances:				
Unobligated appropriations available.....				
Obligations incurred.....	\$5, 022	\$5, 174	\$5, 837	\$6, 345
Allotments or commitments made.....	0	0	0	0
(d) Matching or additional expenditures for the program.....	(2)	(2)	(2)	(2)
(e) Number of Federal Government employees administering, operating, or supervising the activity, total (man-years).....	200	209	213	240
Research (man-years).....	136	145	149	169
Training (man-years).....	27	27	27	30
Technical service (man-years).....	37	37	37	41
(f) Non-Federal personnel employed in the program, total (estimated man-years).....	171	171	213	236
Contracts (estimated man-years).....	25	14	28	36
Research grants (estimated man-years).....	146	157	185	200
(g) Other measures of level or magnitude of performance.....	(2)	(2)	(2)	(2)

¹ Not funded through Division of Occupational Health.² Not available.5. *Estimated magnitude of program in 1970*

Not answered.

6. *Prospective changes in program orientation*

Not answered.

7. *Coordination and cooperation*

The success of the program has been largely dependent upon its cooperative efforts with industry, State and local governments, labor unions, nonprofit organizations, foreign governments and international organizations, and professional societies. The principle of cooperation and coordination has been basic to the execution of the scientific and technical assistance program. The following are given as examples but are not intended to be all inclusive:

(a) Informal agreements with the Division of Air Pollution, PHS, relate to the respective responsibilities for research and studies on the health effects of exposure to asbestos and to bituminous coal, and with the Division of Radiological Health regarding radiation exposures of workers, especially uranium miners.

(b) By direction of the Bureau Chief, the Division of Occupational Health has the responsibility for the initial development, support, and housing of specified environmental health sciences activities.

(c) There has been a cooperative agreement between the Division of Occupational Health (and its predecessor organizations) and the Bureau of Mines, Department of the Interior, since about 1914. When the Bureau of Mines was organized, it was given responsibilities for health and safety in the minerals extraction industries. Because of the availability of medical talent in the Division of Occupational

Health, many cooperative studies have been carried out by these two agencies in the metal- and coal-mining industries, as well as in the training and other related fields. Through this cooperative arrangement, a better quality of investigation has been possible, which has been of economic advantage to each agency. A written memorandum of agreement exists between the Division of Occupational Health and the Health and Safety Activity of the Bureau of Mines. Examples of recent studies conducted by the two agencies are (1) a re-evaluation of silicosis in the metal-mining industry; (2) a study of pneumoconiosis in the bituminous coal mines of the Appalachian region; and (3) cooperative activities in evaluating the health hazards associated with radioactive gas and nuclei in the uranium mines. Cooperative studies which are in the planning stage at the present time include an evaluation of dust conditions in bituminous mines and a long-term followup study of silicosis and dust conditions in the metal-mining industry. Upon request, this Division also carries out certain medical functions for the Bureau of Mines, such as the medical evaluation of Federal coal mine inspectors; the toxicologic appraisal of chemicals being introduced into the mining environment; and the assessment of health effects resulting from mining operations such as diesel fumes, nitrous oxides, and other gases resulting from the use of internal combustion engines.

Because of certain health problems that have recently become apparent in the coal-mining industry, the two agencies are sponsoring a training program for management level personnel in mining companies, professional and technical organizations, and labor unions. Through a joint technical committee, a communication channel has been established with the coal- and metal-mining industries as well as allied professional and technical organizations. This committee has been successful in solving several major problems in the industry before they became national issues.

Almost since the inception of the Department of Labor, there has been a close working relationship between that Department and the Division of Occupational Health. An agreement between the Bureau of Labor Standards and the Division of Occupational Health results in the cross-referral of problems, technical assistance by this Division to the Bureau in performing its responsibilities under the Walsh-Healey Act, and cooperation in the training of labor inspectors in the recognition of industrial health problems. The two agencies also work cooperatively in the training of foreign students in health and safety, the assignment of specialized personnel to foreign countries for consultation in program development, and provision of expert assistance to the International Labour Office.

(d) and (e). The entire program of the Division of Occupational Health depends upon a close working relationship with State and local governments, through their departments of health and labor. It has been a basic premise that the responsibility of the Federal program was to perform research, develop data for the establishment of standards, and provide technical assistance. The provision of direct services to industry, including inspection, consultation, guidance, and the establishment of standards, has been viewed as a State and local responsibility. There are presently 86 jurisdictional units providing occupational health services in 41 States. This Division has provided the necessary technical backup services for these State and local units

and provides a wide range of professional services including the short-term assignment of personnel for investigation of special and unusual health problems, the short-term loan of scientific equipment for evaluation purposes, and the performance of laboratory services. In addition, the Division provides administrative and technical consultation and short-term training, and sponsors a biennial training seminar for directors of State units. Through our communications channels, the State and local authorities are constantly kept abreast of new problems, new techniques, and other developments of interest in the field. Through a technical information service provided by the Division of Occupational Health, the State may receive answers to almost any problem that arises within its jurisdiction.

(f) Although there is no formal method of cooperation or coordination between this Division and foreign governments or international agencies, channels of communication have been established which permit an exchange of information with a number of foreign governments and international agencies. This Division has for many years been recognized by many foreign governments for the excellence of its work and for its leadership, especially in the field of the epidemiology of occupational diseases. The Division provides training, at some level, for an average of 25 foreign representatives each year.

More recently, the Division has engaged in a program of information exchange relative to chest diseases among coal miners with counterpart agencies in the United Kingdom, Holland, Belgium, and West Germany. The exchange of information on this subject has doubtless saved this Division as well as this Government many years of research efforts and permits the research data of these countries to be pooled. An informal conference was recently held by the representatives of the above Governments to compile research information which would permit the establishment of an international dust standard in the bituminous-coal-mining industry. The pooling of such data will doubtless result in a considerable saving of money to each of the participating countries. Cooperative working relationships have been established with the following international organizations: the Occupational Safety and Health Branch, and the Information Exchange Center, International Labor Organization (ILO), the Section on Occupational and Social Medicine, World Health Organization; and the Division of Work Problems, European Coal and Steel Community. Informal working relationships exist with professional organizations, research institutes, and quasi-governmental agencies of many of the Western European countries. Exchange missions in areas relating to occupational health have been developed with the U.S.S.R.

(g) There are few nonprofit organizations which relate to the occupational health field. However, the Division has for many years been in close association with nonprofit organizations which impinge on its activities, such as the National Tuberculosis Association, the American Cancer Society, and similar organizations. These relations are generally of short duration for the solution of specific problems.

(h) One of the basic programs of the Division is the epidemiologic study of occupational diseases at their place of origin. To accomplish this mission, it is dependent upon a close working relationship with business enterprises throughout the country, since they must volun-

teer their establishments as sites for carrying out medical examinations of workers and evaluations of the work environment. As an example, the recent study of coal pneumoconiosis involved the examination of over 2,000 employees in 75 mining companies. The re-evaluation of silicosis in the metal-mining industry involved the examination of 15,000 miners and the study of the work environment of 69 metal mines. Other recent studies include those on the effect of heat, which was carried out in aluminum reduction and glass manufacturing plants, and at construction sites. The conduct of epidemiologic studies in these industries results from the smooth working relationship which has been established with the industries of the United States but does not call for any signed agreement, reimbursement, or document which would obligate the Federal Government to a set course of action. In any one year, our studies call for admittance to about 100 different businesses or industrial enterprises.

(2) The successful pursuit of the mission of the Division of Occupational Health calls for cooperation with many other kinds of organizations and enterprises, including professional and trade organizations, societies for the development of standards, universities, and other professional groups. In this category there exist no agreements or formalized statements of cooperative effort. However, joint interest and the sharing of common missions have brought informal working relationships which are in the best interest of the Government and the Division. Examples of these organizations are:

- American Industrial Hygiene Association.
- American Conference of Governmental Industrial Hygienists.
- Industrial Medical Association.
- American Medical Association.
- Industrial Hygiene Foundation.
- American Standards Association.
- Manufacturing Chemists Association.
- American Mining Congress.
- American Public Health Association.
- American Association of Industrial Nurses.
- American Nurses Association.
- National League for Nursing.

8. *Laws and regulations*

The program has no specific or enabling legislation but operates under the legal basis of the Public Health Service Act, as amended, particularly sections 301, 311, 314 (42 U.S.C. 241, 243, 246).

PART II. DATA BEARING ON ECONOMIC ASPECTS AND IMPACTS OF THE PROGRAM

9. *Economic effects*

Since its inception in 1914, this program has had many significant economic effects and impacts on the working population of the United States. Statistics and figures, however, are not maintained or available which would measure the various economic aspects that are outlined in this question. Some examples may nevertheless be offered of the economic aspects and impact of occupational health on certain disease problems, as well as on the general health of the American worker. Although no single organization or event can be isolated as the sole source of these improvements, the research and

investigative work of this Division are known to have made important contributions.

Example A. Work life expectancy of American males at birth.¹—

	Years		Years
1900-----	32. 1	1950-----	41. 9
1940-----	38. 3	1960-----	41. 4

¹ "The Length of Working Life for Males, 1900-60," Manpower Report No. 8, Manpower Administration, U.S. Department of Labor, July 1963, p. 7. The report explains (p. 1): "During the decade of the 1950's, the length of working life—a key indicator of economic and social development—reversed its long-term rise. Work life expectancy for men declined by one-half year between 1950 and 1960. This decline is associated with a longer training period prior to entering upon a work career and a drop in the age of retirement, both of which are hallmarks of modern industrial society. During past periods the effects on the length of working life of the longer training period and earlier retirement had been offset by large increases in life expectancy, and work life expectancy had continued to increase. Between 1900 and 1950 life expectancy for a male child increased 18 years, from 48 to 66 years. Work life expectancy also rose but only by 10 years, from 32 to 42 years."

Example B. Silicosis prevention.—In the early studies of this Division conducted between 1914 and 1930, silicosis-prevalence rates as high as 75 percent were common in many industries, especially metal mining. A re-evaluation of the silicosis problem in the metal-mining industry between the years 1958 and 1961 demonstrated a prevalence rate of 3.4 percent. The continued application of engineering and medical control procedures could lead to the total elimination of silicosis in the mining industry.

In the mid-1930's this Division made a detailed study of the granite-cutting industry of Vermont and recommended control procedures. A re-evaluation study of the granite-cutting industry in 1955 indicated that not a single case of silicosis had developed in this industry among employees who started work subsequent to the installation of dust control procedures.

Example C. TNT poisoning.—As a result of this Division's work, disability and death rates during World War II from toxic exposure were lowered to a point never before achieved. The progress may be illustrated by comparison of the number of occupational diseases arising from the manufacture of TNT during World Wars I and II. During the 17½ months of World War I, 475 workers in American arsenals died and 17,000 were disabled because of TNT poisoning. In that war, the United States was supplying only 40 percent of the ammunition for its allies. In World War II, when the United States provided 95 percent of the ammunition for its allies, close supervision of TNT operations by industrial hygienists of the Division of Occupational Health succeeded in controlling the hazard so well that there were only 22 deaths in 35 months.

Example D. Lead poisoning.—In 1920 lead poisoning was a serious occupational disease in many major industries, including lead mining and refining, pottery, battery manufacture, tetraethyl lead manufacture, and others. At present, clinical lead poisoning is rare among industrial workers, although some cases of borderline lead intoxication are reported.

Example E. Mercury poisoning.—Disability due to mercury poisoning in the felt hatting industry was extremely high during the 1930's and early 1940's. Mercury causes a severe neurological disability which ultimately leads to death. Through studies of this industry the incidence of mercury poisoning was greatly reduced. Subsequently, through research, a substitute for mercury was found which totally eliminated the problem. At the present time, mercury poisoning is also a clinical rarity in the United States.

Example F. Lung cancer among chromate workers.—In recent years it was found that there was an abnormally high incidence of lung cancer among chromate workers. Studies of the industry identified the responsible component of chromate ore. As a result, most of the major chromate-ore processors have modernized or completely rebuilt their plants to eliminate this exposure. Since this disease is slow in developing, the effect of this control measure may not be apparent for several years. It is anticipated that with the application of control measures no new cases will develop.

Example G. Growth of health personnel in industry.—

Number of physicians specializing in occupational medicine (full time):

1934-----	232	1956-----	1, 141
1944-----	574	1962-----	1, 751

Number of registered nurses employed by industry (full time):

1948-----	9, 560	1964-----	18, 700
1952-----	11, 096		

Number of industrial hygienists employed by industry:

1939 (estimated)-----	10	1964-----	1, 400
1940 (estimated)-----	80		

Example H. Sickness absence.—At present the average worker is away from his job five and a half days each year due to illness. On August 18, 1965, President Lyndon B. Johnson pointed out that a reduction of 1 day in this annual rate would add \$10 billion to the gross national product. Although there are no national figures for the past decades, the evidence of scattered studies in various industries suggests that there has been a reduction in days lost due to illness. The industrial sickness absence rate is the lowest of the major industrial nations.

10. Economic classification of program expenditures. (See table 2.)

Program: Division of Occupational Health.

Department or agency, and office or bureau: Department of Health, Education, and Welfare; Public Health Service; Bureau of State Services (Environmental Health).

TABLE 2.—*Economic classification of program expenditures for fiscal year 1965*

[In thousands of dollars]	
Federal Government:	
Purchases of goods and services:	
Wages and salaries-----	1, 928
Other-----	724
Grants to State and local governments-----	615
Transfer payments to individuals and nonprofit organizations-----	1, 060
Total Federal expenditures-----	4, 327
Non-Federal expenditures financed by—	
State and local governments ¹ -----	3, 000
Individuals and nonprofit organizations ² -----	2, 000
Business enterprises ³ -----	345, 000
Total expenditures for program-----	354, 327

¹ The figure of \$3,000,000 refers to amounts spent by State and local governments on occupational health prevention and control services, primarily to industries.

² Estimated amount spent by private foundations, universities, and professional organizations on occupational health services.

³ Estimated employment covered is 15,200,000. Estimated amount spent by private industry primarily for company medical programs and some industrial hygiene programs.

DIVISION OF RADIOLOGICAL HEALTH

PART I. DESCRIPTION OF THE PROGRAM

1. Objectives

To plan, conduct, and coordinate a national program directed to the understanding and prevention of health impairments resulting from exposures to ionizing radiations, and the application of ionizing radiations and their sources to the preservation and betterment of health.

2. Operation

The rapid increase in peacetime uses of nuclear energy, including military and industrial use of power reactors, introduces problems of radiation exposure and radioactive waste disposal; the use of radioisotopes and X-rays in medical diagnosis and therapy touches all segments of the population. Radioactivity levels from nuclear weapons tests in previous years have indicated the need to improve nationwide surveillance and studies of methods to reduce and control exposure from those sources which are susceptible to control. For the most part, health agencies lack trained personnel, equipment, funds, and legislation adequate to meet these problems.

Program activities include:

State assistance.—Assist State and local health agencies in the development of radiological health program, including State program development grants; conduct demonstrations in the application of new methods and equipment for surveillance and control of health hazards from radiation.

Training.—Develop a national training program to increase the supply of professional personnel serving State, local, and Federal agencies, industry, and universities through conduct of short courses and provision of training grants to support university curriculums.

Research.—Study the biological effects of radiation through human epidemiological studies with appropriate radiological support; collate, analyze, and interpret radiation exposure data and develop control techniques; provide research grants to private investigators.

Technical operations.—Conduct nationwide environmental monitoring programs. Administer laboratories at Las Vegas, Nev., Montgomery, Ala., Rockville, Md., and Winchester, Mass. Provide technical laboratory services and training. Administer safety programs in conjunction with the Atomic Energy Commission, Department of Defense, and other Federal agencies.

3. History

In July 1958, the Surgeon General established the Division of Radiological Health in the Public Health Service. The new division was assigned the mission of developing a comprehensive program of radiological health in the Public Health Service in collaboration with other related programs of the U.S. Department of Health, Education, and Welfare.

In the development of a comprehensive program, three major tasks have been undertaken:

A nationwide system of radiation surveillance;

An evaluation of the long-term health effects of radiation;

Development of methods and programs by which radiation exposure can be reduced or prevented.

4. *Level of operations.* (See table 1.)

Program: Division of Radiological health.

Department or agency, and office or bureau: Department of Health, Education, and Welfare; Public Health Service; Bureau of State Services (Environmental Health).

TABLE 1.—*Level of operations or performance, fiscal years 1964-67*

Measure and unit	Fiscal year 1964	Fiscal year 1965	Fiscal year 1966 estimates	Fiscal year 1967 estimates
(a) Magnitude of the program:				
Research grants.....	98	95	101	99
Training grants.....	46	44	46	44
State program grants.....	53	53	53	53
Milk sampling locations (cities).....	63	63	63	63
Air sampling stations.....	74	79	79	79
Diet sampling institutions.....	44	50	28	28
Laboratories.....	5	6	6	6
(b) Participants:				
States.....	50	50	50	50
Territories.....	3	3	3	3
(c) Federal finances:				
Unobligated appropriations available:				
Direct appropriations.....	\$19,377,000	\$19,720,000	\$21,044,000	\$20,404,000
Reimbursement.....	2,300,000	2,300,000	2,800,000	2,800,000
Total.....	21,677,000	22,020,000	23,844,000	23,204,000
Obligations incurred:				
Direct appropriations.....	19,201,000	19,322,000	21,044,000	20,404,000
Reimbursement.....	1,334,000	1,817,000	2,800,000	2,800,000
Total.....	20,535,000	21,149,000	23,844,000	23,204,000
Funds available for:				
Direct operations.....	14,968,000	14,898,000	16,298,000	15,827,000
Grants:				
Research.....	2,209,000	2,122,000	2,546,000	2,377,000
Training.....	2,500,000	2,500,000	2,500,000	2,500,000
State program development.....	2,000,000	2,500,000	2,500,000	2,500,000
(d) State matching funds.....	2,990,000	3,351,000	(¹)	(¹)
(e) Federal Government:				
Employees administering and operating (man- years):				
Appropriation.....	782	788	788	795
Reimbursement.....	129	166	198	248
Total.....	911	954	986	1,043
(f) Non-Federal personnel (State personnel).....	297	346	(¹)	(¹)
(g) Other measures of magnitude or performance:				
Training:				
Short courses:				
Resident (trainees).....	1,044	357	350	350
Field (trainees).....	536	317	400	400
Students supported by stipends from grants.....	296	360	425	425
Surveys of dental X-ray machines:				
Number of States.....	48	52	52	53
Number of machines.....	7,000	9,400	9,400	9,400
Surveys of medical X-ray machines:				
Number of States.....	30	35	40	45
Number of machines.....	20,000	22,000	25,000	29,000
Milk samples analyzed.....	2,076	2,076	2,076	2,076
Air samples analyzed.....	25,000	25,000	25,000	25,000
Diet samples analyzed.....	600	600	300	300

¹ Not available.

Notes for question No. 4:

(d) Data on State expenditures are furnished by the States after the close of each fiscal year. Data for fiscal year 1965 are not yet all available. Therefore the figure given for fiscal year 1965 is an estimate based on partial returns.

(f) Same comment as for (d). State reporting for fiscal year 1965 not yet complete.

(g) Figures given for numbers of medical and dental X-ray machines surveyed by States in fiscal year 1965 are estimates based on an as yet incomplete report by States.

5. *Estimated magnitude of program in 1970*

Not answered.

6. *Prospective changes in program orientation*

Not answered.

7. *Coordination and cooperation*

(a) Milk- and food-sampling programs are conducted cooperatively with the milk and food program of the Division of Environmental Engineering and Food Protection. Technical aspects of all programs related to radiation in the environment are coordinated through an interlaboratory technical advisory committee. Medical and dental X-ray activities include services to and cooperation with the Division of Hospitals and Division of Indian Health.

(b) Milk and food collection and analyses programs are coordinated with the Food and Drug Administration.

(c) i. *Federal Radiation Council*.—The Secretary of Health, Education, and Welfare was designated chairman of the FRC when it was established in 1959. The Deputy Chief, Division of Radiological Health, is the Department's representative on the working group of the Council.

ii. *Atomic Energy Commission*.—A number of formal and informal coordination and cooperation points exist between the Department and the Service and the Atomic Energy Commission. Designated contact points exist in the Office of the Secretary, the Surgeon General's Office, and their counterparts in the Commission. The Division of Radiological Health has a variety of contacts as outlined below.

AEC Division of Biology and Medicine—Scheduled meetings of senior staff to exchange program information and provide for coordination on projects of mutual interest.

AEC Nevada Operations Office—Under a memorandum of agreement, provide off-site radiological safety support for testing activities at the Nevada Test Site and for events conducted at other locations. Also conducting a research effort related to radioiodine releases from testing activities at NTS. These activities are funded by AEC at a current level of about \$1.9 million with a personnel strength authorized at 188 officers and employees.

Less formal working level contacts exist with the following AEC divisions: Safety Standards; Materials Licensing; Reactor Licensing; State and Licensee Relations; Military Applications; Operational Safety; Production; Raw Materials; Peaceful Nuclear Explosives; Isotopes Development; Reactor Development and Technology; and Public Information.

iii. *Department of Defense*.—Joint Task Force Eight—A memorandum of agreement to conduct off-site radiological safety operations during Pacific test operations and to maintain a standby capability to conduct such operations in the event testing is resumed in the Pacific area. This work is done under reimbursement from JTF-8 and AEC.

Defense Atomic Support Agency—Maintain program planning liaison.

Department of the Air Force—Member of the Nuclear Reactor Systems Safety Group. Under memorandums of agreement, conduct off-site radiological safety activities during launches involving nuclear power sources from Cape Kennedy and Vandenberg Air Force Base. Have a liaison officer on detail to Eastern and National Test Ranges, Patrick Air Force Base, to plan and coordinate these activities.

Department of the Navy—Working with the Bureau of Ships (also AEC Division of Naval Reactors) on radiation standards and operational procedures for nuclear-powered ships and related shore installations. In this regard have an officer detailed on a reimbursable basis to the Pittsburgh Naval Reactors Office. Have acted as liaison between the Navy on this program and State health agencies in developing mutually acceptable environmental surveillance operations in the vicinity of shore installations.

iv. *Maritime Administration*.—Provide backup health physics personnel for the NS *Savannah*. Also develop radiological safety and surveillance criteria for ports of call. This is done under a memorandum of understanding that provides for reimbursement.

(d) *State governments*.—The Division of Radiological Health's State Assistance Branch administers the grant-in-aid program for States and territories. It provides program consultation and assistance (including the detail of personnel) through regional program directors located in each of the nine DHEW regional offices.

The Division's three regional laboratories located at Winchester, Mass., Montgomery, Ala., and Las Vegas, Nev., provide technical consultation, assistance, and training.

(e) *Local governments*.—In general, assistance is provided through or on behalf of the State agency.

(f) *Foreign governments and international organizations*.—Have provided expert consultation on radiological health matters to the World Health Organization and the Food and Agriculture Organization of the United Nations. Also participate on special advisory panels for these organizations and the International Atomic Energy Agency. Equipment and laboratory services for radiological surveillance are furnished on a limited basis to some Latin American governments through the Pan American Health Organization. A regular exchange of surveillance information is maintained with Canada and Mexico.

(g) Nonprofit educational and research organizations receive training and research grants. Directors of programs receiving training grants meet periodically with Division of Radiological Health staff to exchange information and discuss problems of mutual interest. A number of educational and research organizations have research contracts with the Division.

(h) *Business enterprises*.—No formal program element involves business enterprises except as program operations affect radiological health standards of their operations. Members of the staff work actively with the Atomic Industrial Forum with, for example, membership on their public understanding committee.

(i) *Others*.—Cosponsorship of meetings, seminars, publications, etc., with professional organizations such as the American College of Radiology, American Hospital Association, State Medical and Dental Societies, etc.

8. *Laws and regulations*

(a) Public Health Service Act, as amended, particularly sections 301, 311, 314 (42 U.S.C. 241, 243, 246); Public Law 87-582.

(b) Public Law 86-373.

(c) Executive Order 10831.

PART II. DATA BEARING ON ECONOMIC ASPECTS AND IMPACTS OF THE PROGRAM

9. *Economic effects*

The economic effects of the radiological health program would be difficult if not impossible to quantify except for actual program expenditures. In considering benefits to individuals, it is undoubtedly true that those who receive education and research experience through training and research grants do have their earning power enhanced and will be more productive in their chosen professions.

In considering the impact of the program, one must consider that one of its objectives is to assure that the many benefits that may occur through the use of radiation and atomic energy will not be denied because of unwarranted public fear. In this context the existence of a competent and active radiological health program within the public health structure of the Nation to evaluate the risks involved should do much to allay such fear. This should, in turn, have an economic effect, though indirect.

That part of the program dealing with the clinical radiological sciences has the potential of contributing to the availability of improved medical care to the population, by allowing more efficient use of the unique talents of available radiologists and increased use of diagnostic X-rays without a corresponding increase in radiation dose to the population. This contribution to the preservation of public health is a part of the whole which should contribute to the productivity of the country.

The program does have geographical differentials. The Nevada Test Site requires that the surrounding area be given a more concentrated radiological surveillance coverage than the balance of the Nation. This is particularly true of northern Nevada and southern Utah. However, all of the States in the western part of the country are covered by supplemental, standby milk- and air-sampling stations which can be activated as necessary.

The effect of program expenditures is probably most pronounced in those cities in which field laboratories are located; that is, Montgomery, Ala., Winchester, Mass., Cincinnati, Ohio, and Las Vegas, Nev. The relative effect of the Rockville, Md., laboratory would be somewhat less.

10. *Economic classification of program expenditures.* (See table 2.)

Program: Division of Radiological Health.

Department or agency, and office or bureau: Department of Health, Education, and Welfare; Public Health Service; Bureau of State Services (Environmental Health).

TABLE 2.—*Economic classification of program expenditures for fiscal year 1965*

[In thousands of dollars]

Federal Government:

Purchases of goods and services:

Wages and salaries.....	5, 280
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Other.....	5, 257
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Grants to State and local governments.....	5, 743
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Transfer payments to individuals and nonprofit organizations.....	2, 399
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Total Federal expenditures.....	18, 679
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BUREAU OF MEDICAL SERVICES—DIVISION OF HOSPITALS: MEDICAL CARE FOR FEDERAL BENEFICIARIES

PART I. DESCRIPTION OF THE PROGRAM

1. *Objectives*

(a) Provide health services for persons designated by Congress as Public Health Service beneficiaries; e.g., American seamen, uniformed services personnel and their dependents, narcotic addicts, persons afflicted with leprosy, and others.

(b) Conduct programs of training and research aimed toward improved resources for preserving and protecting health;

(c) Consult with other Federal agencies on employee health activities; and under contract, establish and operate Federal employee health programs for other Federal agencies.

2. *Operation*

Operates primarily on the basis of appropriated funds which are augmented by reimbursements from other Federal agencies and other nonbeneficiaries for services rendered under law and regulation; provides direct medical services through a system of general-medical-surgical (11), narcotic addiction (2), leprosy (1), and Public Health Service hospitals; outpatient clinics (27); and private physicians (205), under contract on a fee-for-services basis; also makes payments to the State of Hawaii for the care and treatment of persons afflicted with leprosy.

3. *History*

Medical care to American seamen was initiated through legislation signed by President John Adams entitled "An Act for the relief of sick and disabled seamen," on July 16, 1798. Initially, the program was supported by assessments against the pay of seamen. In 1884, a tonnage tax replaced the hospital tax and in 1905, the tonnage tax was rescinded and the program financed henceforth entirely by congressional appropriations.

Since the inception of the program numerous other categories of Federal beneficiaries were added to the original seaman group.

HISTORY OF THE DIVISION OF HOSPITALS

LIST OF BENEFICIARIES

- 1798: American seamen—for medical care.
- 1802: Foreign seamen—for medical care (on pay basis).
- 1894: Revenue cutter service and lifesaving service (Now U.S. Coast Guard)—for medical care.
- 1906: Federal employees suspected of having tuberculosis—for medical examination.
- 1911: Special study patients—for medical care.
- 1913: Field personnel of the Public Health Service injured or taken ill in line of duty—for medical care.
Commissioned officers of the Public Health Service—for medical care.
- 1915: Seamen applying for certificates and licenses—for physical examination and instruction in first aid.
- 1916: Federal employees (beneficiaries of the Employees' Compensation Commission) injured or taken ill in line of duty—for medical care.
Lighthouse keepers and assistant lightkeepers—for medical care.
- 1917: Hansen's disease patients—for medical care.
Arriving aliens—for medical examinations.
Beneficiaries of War Risk Insurance Bureau (now Veterans' Administration)—for medical care (on pay basis).

- 1918: Officers and men on vessels belonging to the Bureau of Fisheries (now Fish and Wildlife Service)—for medical care.
- 1919: Civilian seamen on vessels of the Mississippi River Commission, the Army Engineer Corps, Coast and Geodetic Survey, and Army transports—for medical care.
Officers and crew members of the Coast and Geodetic Survey—for medical care.
- 1920: Retiring civil employees—for medical examinations.
Dependents of PHS commissioned officers—for medical care (hospitalization on pay basis).
Arriving aliens—for medical care (on pay basis).
- 1924: Applicants for Federal employment—for medical examination when referred by the Civil Service Commission.
Federal employees—medical examination to determine fitness for duty.
- 1928: Retired officers and enlisted personnel of the U.S. Coast Guard—for medical care.
- 1930: Retired lightkeepers and assistant lightkeepers—for medical care.
- 1936: Seamen on Government vessels and State school ships—for medical care.
- 1937: Dependents of active and retired Coast Guardsmen—for medical care (hospitalization on pay basis).
- 1939: Retired personnel of the Coast and Geodetic Survey—for medical care.
Dependents of active and retired personnel of the Coast and Geodetic Survey—for medical care (hospitalization on pay basis).
- 1944: Maritime service enrollees on active duty—for medical care.
Retired commissioned officers of the Public Health Service—for medical care.
Dependents of retired PHS commissioned officers—for medical care (hospitalization on pay basis).
- 1956: Active duty and retired members of the Armed Forces—for medical care.
Dependents of active duty and retired members of the Armed Forces—for medical care (hospitalization on pay basis).
Dependents of deceased members of the Armed Forces—for medical care (hospitalization on pay basis).

4. Level of operations. (See table 1.)

Program: Medical care for Federal beneficiaries.

Department or agency, and office or bureau: Department of Health, Education, and Welfare; Public Health Service; Bureau of Medicinal Services—Division of Hospitals.

TABLE 1.—*Level of operations or performance, fiscal years 1964-67*

Measure and unit	Fiscal year			
	1964	1965	1966 estimate	1967 estimate
Medical care (total program inclusive of training and research):				
Inpatient days, average daily patient load....	4,919	4,770	4,832	4,338
Outpatient visits.....	1,384,092	1,449,788	1,492,350	1,516,825
Direct funding (obligations).....	\$51,293,000	\$55,064,000	\$59,038,000	\$61,643,000
Employees.....	7,027	6,595	6,900	7,183
Training:				
Employee participants.....	293	307	389	487
Direct funding (obligations).....	\$1,583,087	\$1,607,766	\$1,910,766	\$2,245,000
Research:				
Projects.....	102	77	93	129
Direct funding (obligations).....	\$1,380,000	\$995,000	\$1,093,000	\$1,402,000
Employee participants.....	142	105	121	141

5. Estimated magnitude of program in 1970

Not answered.

6. Prospective changes in program orientation

Not answered.

7. *Coordination and cooperation.* (The distinction between (i) and (ii) is that noted in the committee print, question 7.)

(a)(i) Establishment of joint facilities in selected areas with the Division of Indian Health for beneficiary care, for example, Alaska; also with the Foreign Quarantine Division. (ii) By formal agreement between divisions.

(b)(i) Participate as treatment and demonstration centers for PHS programs requiring "laboratory" facilities and patient populations.

(ii) By formal agreement and grants from other PHS Divisions and the National Institutes of Health.

(c)(i) Provides direct service and consultation to the Bureau of Employees' Compensation, Maritime Administration, Coast and Geodetic Survey (ESSA), and other Federal agencies as requested.

(ii) On basis of statute and Economy Act.

(d) Not applicable except in respect to supporting treatment of leprosy in Hawaii as provided in appropriation act.

(e) Not applicable.

(f) Not applicable except for orientation and training provided nationals of foreign countries as arranged by AID, State Department, and other Federal agencies operating in the international area.

(g)(i) Not applicable except in respect to affiliated training and research programs with university medical schools and community hospitals. (ii) Arrangements consummated through affiliation agreements for residency training in medical and adjunctive areas and collaborative research.

(h)(i) Not applicable.

8. *Laws and regulations*

Public Law 410, 78th Congress, as amended (PHS Act) title III, part C. Section 301 in respect to research.

Public Law 569, 84th Congress, Dependents' Medical Care Act.

Public Law 156, 89th Congress, Appropriation Act.

Public Law 71, 88th Congress, C. & G.S. retired ships' officers and dependents.

Public Law 658, 79th Congress, as amended, Federal employee health program.

Public Law 89-74, Drug Abuse Control Amendments of 1965.

PART II. DATA BEARING ON ECONOMIC ASPECTS AND IMPACTS OF THE PROGRAM

9. *Economic effects*

(a) Persons served are provided free medical care. To that extent, personal incomes are not used for medical care expenses. The families of seamen are not eligible for similar benefits. The families of uniformed service personnel, active duty and retired, receive varying and limited benefits. To the extent that dependents must procure medical and dental benefits at their own expense, the disposable personal income of their sponsors is affected.

(b) Medical benefits provided seamen, uniformed service members, and other beneficiaries help these persons to maintain their employability and productive years of life in the maritime industry, the uniformed services, and the Federal establishments. Both the size and productivity of the labor force are maintained as a result of the program with the broader effect of a reduction in the economic loss from sickness absenteeism.

(c) The availability of medical care to seamen represents an inducement to maritime employment and recruitment in the maritime industry. The training of medical and paramedical personnel has its impact by way of an increase in the supply of trained manpower in and out of the Federal Government.

(d) Economic activity in the maritime industry and in the Federal Government is stabilized through the fringe benefits made available to employees in those employment categories. In the maritime industry, those benefits represent a cost of transportation which thus does not have to be borne as a part of the direct operating cost of the carriers.

(e) In respect to the treatment of leprosy patients (Carville), and narcotic addicts (Lexington, Ky., and Fort Worth, Tex.), the States and communities throughout the country are benefited to the extent that care and treatment are provided without reimbursement from such States or communities.

(f) Medical care facilities of the communities in which PHS medical facilities are existent are not overtaxed to the extent that Service beneficiaries utilize Service accommodations in those areas. In the case of dependents of active duty uniformed service personnel, there is some impingement on community hospitals when nearby Federal facilities are not adequate for their requirements.

(g) The maintenance of the health of beneficiaries tends to support the growth of the gross national product through the continuing employability of beneficiaries in their respective vocations.

(h) Essentially the total economic impact of the program is covered above. In addition, it is significant that approximately 307 medical, dental and paramedical students are being trained (fiscal year 1966) through programs in the hospitals and outpatient clinics operated by the Public Health Service. As previously mentioned, training is provided in accordance with and in support of affiliations with university programs. The research activities carried on in PHS hospitals in collaboration with other Federal programs and medical schools and institutions tend to enlarge the knowledge of the causes and treatment of disease. This activity also fosters the creation of new ideas, methodologies, and other forms of innovation in the field of medical and hospital administration.

10. *Economic classification of program expenditures.* (See table 2.)

Program: Medical care for Federal beneficiaries.

Department or agency, and office or bureau: Department of Health, Education, and Welfare; Public Health Service; Bureau of Medical Services—Division of Hospitals

TABLE 2.—*Economic classification of program expenditures for fiscal year 1965*

[In thousands of dollars]

Federal Government:

Purchases of goods and services:

Wages and salaries..... 41, 297

Other..... 11, 990

Grants to State and local governments..... 1, 194

Total Federal expenditures..... 54, 481

Non-Federal expenditures financed by: State and local governments..... 251

Total expenditures for program..... 54, 732

DIVISION OF FOREIGN QUARANTINE

PART I. DESCRIPTION OF THE PROGRAM

1. Objectives

The objective of the Division of Foreign Quarantine is to prevent the introduction, transmission or spread of communicable disease from abroad. The programs carried out to meet these objectives are divided into two direct responsibilities:

(a) To prevent the introduction of quarantinable and other dangerous, contagious diseases into the United States by quarantine measures, such as—inspection and vaccination of persons and animals, and inspection of conveyances and things specified by quarantine law.

(b) To evaluate for excludable conditions all aliens with mental or physical defects specified under immigration law.

2. Operation

The Division of Foreign Quarantine is a direct Federal operation, conducted through 52 local Public Health Service quarantine stations, which serve 408 ports of entry in the United States. The Foreign Operations Branch has 25 staffed stations, 6 of which operate as area headquarters abroad. In addition to the Public Health Service stations there are contract facilities which function under the support and direction of area offices and are supervised by the Division of Foreign Quarantine headquarters staff. The Division of Foreign Quarantine gives technical assistance to State, local and private health organizations and to segments of private industry as well as to the activities of the Departments of Justice, State, Labor, Agriculture, Treasury, Defense, and other Federal agencies as they apply to quarantinable and certain other infectious diseases, and to aliens, foreign workers, and certain other segments of the traveling populations. It contracts with local foreign national physicians, medical groups and laboratory facilities for the medical evaluation of aliens seeking admission to the United States.

The Division of Foreign Quarantine serves as a manpower resource in the area of its specialty for numerous segments of other Federal agencies in times of emergency and to the World Health Organization, Pan American Health Organization, and Pan American Sanitary Bureau. In the forthcoming year it is undertaking to develop, on a continuing basis, a program of training for foreign and domestic assignments, commissioned personnel to fill the professional needs of the Division of Foreign Quarantine and related organizations; and it continues to train quarantine inspectors and related personnel on an annual basis to fill its requirements for border inspectional staff. It acts as the central coordinating agency for the collection and distribution of knowledge concerning epidemic diseases which occur throughout the world. It serves as a model for quarantine activities to the emerging nations and works in close cooperation with other established quarantine services in the more advanced nations.

3. History

In 1794 Congress initiated an act, limited to 2 years, enabling the appointment of a quarantine health officer for the Port of Baltimore. In 1796 it authorized the President " * * * to direct the revenue officers and the officers commanding forts and the revenue cutters

to aid in the execution of health laws of the States, respectively, in such manner as may to him appear necessary." In 1799 Congress repealed the act of 1796 and placed Maritime Quarantine under the Secretary of Treasury. In 1875 Surgeon General Woodworth centralized the quarantine services of the marine hospitals as the first coordinated Federal act for the control of disease from abroad. In 1878 he stimulated Congress to pass " * * * an act to prevent the introduction of contagious, infectious diseases into the United States." With a 4-year hiatus, during which the "National Board of Health" functioned in quarantine, the quarantine activities of the Marine Hospital Services continued with increasing responsibility, as State quarantine functions were assumed by it. The act of 1893 established the legal basis for the quarantine activities of the Service and provided for the assignment of officers to foreign duty. Since this act, additional responsibilities including rat-proofing, aircraft inspection, insect and other vector control, animal and bird import restrictions, immigration examinations and the assumption of numerous other activities have continued to the present.

4. Level of operations. (See table 1.)

Program: Foreign quarantine.

Department or agency, and office or bureau: Department of Health, Education, and Welfare; Public Health Service—Bureau of Medical Services, Division Foreign Quarantine.

TABLE 1.—Level of operations or performance, fiscal years 1964–67

Measure	Unit	Fiscal year			
		1964	1965	1966 estimate	1967 estimate
(a) Magnitude of the program in—					
Persons inspected.....	Persons.....	117, 776, 152	122, 956, 928	128, 800, 000	133, 626, 000
Visa applicant medical examinations.....	do.....	170, 073	180, 699	243, 300	259, 100
(b) Applicants or participants:					
State government agencies.....	.....	.....	.....	.....	.....
Local communities or governments.....	.....	.....	.....	.....	.....
Individuals or families.....	Individuals.....	117, 946, 225	123, 147, 627	129, 043, 300	133, 885, 100
Other.....	.....	.....	.....	.....	.....
(c) Federal finances:					
Unobligated appropriations available.....	.....	.....	.....	.....	.....
Obligations incurred.....	Dollars.....	6, 546, 826	7, 006, 508	7, 525, 000	8, 030, 000
Allotments or commitments made.....	Number of allottees.....	27	30	32	32
(d) Matching or additional expenditures for the program (reimbursable overtime). ¹	Dollars.....	464, 522	525, 071	570, 000	584, 000
(e) Number of Federal Government Employees administering, operating, or supervising the activity:					
Examination of aliens and quarantine inspections at U.S. ports.....	Man-years.....	511	517	517	511
Examination of visa applicants in foreign countries.....	do.....	102	119	127	123
Headquarters.....	do.....	26	26	26	26
Total.....	.....	639	662	670	660
(f) Non-Federal personnel employed in the program.....	Number of fee basis contracts.....	266	271	289	280
(g) Other measures of level or magnitude of performance:					
Vessels cleared.....	Carriers.....	34, 982	35, 420	35, 900	36, 300
Aircraft cleared.....	do.....	72, 437	78, 696	83, 000	87, 000

¹ Reimbursement from water and air transportation firms.

5. *Estimated magnitude of the program in 1970*

Not answered.

6. *Prospective changes in program orientation*

Not answered.

7. *Coordination and cooperation*7(a) *Within the Bureau.—*

Division of Hospitals:

1. Professional consultation and services; hospital medical officers in charge acting as quarantine medical officers in charge.
2. Isolation facilities for suspects picked up at ports of entry.
3. Medical laboratory services in diagnosis.
4. Accounting, budget, and supervisory services for local stations of the Division of Foreign Quarantine.

Division of Indian Health:

1. Supply services.

7(b) *With other units of your department or agency.—*

1. Office of International Health:

- (a) Matters pertaining to World Health Organization.
- (b) Advisory relationship with certain other countries.

2. Communicable Disease Center:

- (a) Medical laboratory services for diagnosis and quarantine suspects.

(b) *Aedes aegypti* eradication program collaboration.

(c) Rabies control program consultation.

(d) Exchange of epidemiology information.

(e) Surgeon General's Committee on Immunization Practice.

(f) Inservice training for entomologists and biological aids.

3. Division of Environmental Engineering and Food Protection:

(a) Water sanitation studies advice.

(b) Assisting foreign shipbuilders and owners regarding sanitation factors in vessel construction.

(c) Inspection of catering points at international ports.

(d) Inservice training for quarantine personnel.

(e) Advising regional health officers of insanitary conditions noted at international ports.

4. Division of Occupational Health:

(a) Air pollution studies at inspection stations on the Mexican border.

(b) Occupational hazards of imported raw material.

5. Division of Radiological Health: (a) Radiation exposure in chest X-ray work at quarantine stations.

6. Division of Biological Standards (NIH): (a) Vaccine and immunization standards.

7. Office of Assistant Secretary (Health and Scientific Affairs) Department of Health, Education, and Welfare: (a) Special medical issues.

8. Welfare Administration—DHEW: (a) Matters dealing with Cuban refugees.

7(c) *With other Federal Government departments or agencies.—*

1. Department of State: (a) Medical examinations of immigrants requiring visas to the United States.

2. Department of Justice: (a) Immigration laws and procedures for persons entering this country.

3. Department of Commerce: (a) Facilitation Committee on International Air and Sea Traffic.

4. Department of Labor: (a) Medical examination of Mexican laborers entering the United States.

5. Department of Treasury: (a) Practices and procedures of the Bureau of Customs as they relate to international travelers.

6. Department of Agriculture: (a) Practices and procedures as they relate to international traveler.

7(d) *With State governments or their instrumentalities.*—With State governments or their instrumentalities within the quarantine operation, this Division contacts State health officers as necessary.

1. Issuances of surveillance orders to persons who are suspected of having been exposed to quarantinable diseases.

7(e) *With local governments or communities.*—Within the quarantine operation, the Division contacts local health officers or physicians as necessary.

1. Issuance of surveillance orders to persons who are suspected of having been exposed to quarantinable diseases.

7(f) *With foreign governments or international organizations.*—World Health Organization and Pan American Health Organization: (a) Coordinate and exchange medical information.

7(g) *With nonprofit organizations and institutions.*—See above.

7(h) *With business enterprise.*—See above.

7(i) *With others.*—See above.

8. Laws and regulations

Quarantine function.—Law:

Excerpt from Public Health Service Act, as amended: Part G—quarantine inspection, sections 361–369 (42 U.S.C. 264–272). Basic provision—section 361(a):

The Surgeon General, with the approval of the Secretary is authorized to make and enforce * * * regulations * * * to prevent the introduction, transmission, or spread of communicable diseases from foreign countries into the States or possessions * * *.

U.S. regulations: Foreign quarantine regulations of PHS, DHEW (title 42 Code of Federal Regulations, pt. 71).

International regulations: International Sanitary Regulations issued by the World Health Organization.

U.S. Executive orders:

No. 9708 of March 26, 1946, as amended by No. 10532 of May 28, 1954, and by No. 11070 of December 12, 1962:

Specifies communicable diseases for purpose of regulations providing for apprehension, detention, or conditional release of individuals (such Executive order is required by sec. 361(b), PHS Act).

No. 10399 of September 27, 1962:

Designates Surgeon General as “Health Administration” to implement international sanitary regulations.

Immigration-medical function.—Law:

Excerpt from Public Health Service Act, as amended—section 325 (42 U.S.C. 252):

The Surgeon General shall provide for making, at places within the United States or in other countries, such physical and mental examinations of aliens as are required by the immigration laws, subject to administrative regulations prescribed by the Attorney General and medical regulations prescribed by the Surgeon General with the approval of the Secretary.

Provisions of the Immigration and Nationality Act, as amended through June 30, 1964 (8 U.S.C. 1182, 1201, 1224):

Especially sections 212(a)(1)-(7) (excludable medical conditions); 212(g) (admission of certain aliens with tuberculosis subject to controls prescribed by Attorney General in consultation with Surgeon General); 221(d) (medical examination of visa applicants); and 234 (medical examination of arriving aliens).

Regulations:

Public Health Service: Regulations for medical examination of aliens (title 42 Code of Federal Regulations, pt. 34).

Immigration and Naturalization Service: Title 8, Code of Federal Regulations, paragraph 212.7(b) (control provisions for admission of tuberculous immigrants under waiver; requires assurance of adequate care, with reports to New York quarantine station).

PART II. DATA BEARING ON ECONOMIC ASPECTS AND IMPACTS OF THE PROGRAM

9. *Economic effects*

9(c) *Effects on business and industrial organization.*—The program has significant direct and indirect effects on business activities. International travel of persons has increased markedly in recent years and is likely to continue to expand; the effective and rapid conduct of quarantine procedures facilitates these movements while maintaining the necessary level of protection against the importation of dangerous diseases. Similarly, the facilitation of clearance of commercial carriers (i.e., vessels and airplanes) contributes to the ease and efficiency with which these business activities are carried on; to this end, the program participates in the work of the National Facilitation Committee of the Department of Commerce.

9(c) *Other benefits.*—The primary benefit of the quarantine program to the public is in the prevention of the importation and spread of communicable disease from foreign countries. As in the case of other successful preventive programs, its economic benefits are difficult to measure. However, examples of costs resulting from failure of the program may be estimated from an analysis of a hypothetical case of smallpox imported into the United States with 15 secondary cases; this was estimated at \$720,000 in direct costs. (In 1962, according to the London Times, in a smallpox epidemic in England comprising 66 primary and secondary cases, of whom one-quarter died, the direct economic costs were estimated to be approximately \$3 million.) The additional indirect costs of disruption of business and personal activities, as well as the human discomfort and anxiety, are immeasurable.

Other economic effects relate to the importation of animals and other things. For example, the importation of psittacine birds for commercial purposes is controlled. Similarly, other items involving potential health risks are evaluated and, as indicated, restricted.

9(f) *Pertinent geographical differentials.*—The quarantine program is focused at "ports of entry" into the United States. While originally quarantine was centered on major coastal cities, the growth of air travel has dramatically altered conditions and needs. In 1965, quarantine procedures were provided at over 400 locations across the United States.

10. Economic classification of program expenditures. (See table 2.)

Program: Foreign quarantine.

Department or agency, and office or bureau: Department of Health, Education, and Welfare; Public Health Service—Bureau of Medical Services, Division of Foreign Quarantine.

TABLE 2.—*Economic classification of program expenditures for fiscal year 1965*

[In millions of dollars]

Federal Government: ¹	
Purchase of goods and services:	
Wages and salaries.....	5.9
Other.....	1.1
Total Federal expenditures.....	7.0
Non-Federal expenditures financed by business enterprises.....	.5
Total expenditures for program.....	7.5

¹ Expenditures here refer to obligations. Actual disbursements were \$6,900,000.

DIVISION OF INDIAN HEALTH

PART I. DESCRIPTION OF THE PROGRAM

1. Objectives

The goal of Federal programs for Indians is to provide them with the means to attain economic and social self-sufficiency within the mainstream of American life. In order to achieve this goal it is necessary to improve the health of the Indian communities and provide the Indians with a general understanding of the nature and purpose of scientific medicine.

2. Operation

Almost wholly a Federal operation conducted through area offices, hospitals, and health centers with headquarters supervision. Some services for Indians are purchased from community hospitals or from private physicians and dentists. Also, some services are purchased from State or county governments.

3. History

The Indian health program was transferred to the Public Health Service from the Bureau of Indian Affairs effective July 1, 1955, under the act of August 5, 1954 (68 Stat. 674). There are more physicians, dentists, nurses, and other health personnel on duty now than ever before and there have been many program improvements since 1955, but the essential mission of conservation of health of Indians is a continuation and improvement of work begun in the early 1800's under the War Department and continued from 1849 to 1955 in the Bureau of Indian Affairs of the Department of Interior.

4. Level of operations. (See table 1.)

Program: Indian health program.

Department or agency, and office or bureau: Department of Health, Education, and Welfare; Public Health Service; Bureau of Medical Services—Division of Indian Health.

TABLE 1.—*Level of operations or performance, fiscal years 1964-67*

Measure and unit	Fiscal year			
	1964	1965	1966 estimate	1967 estimate
(a) Magnitude of the program:				
Average daily inpatients.....	3,211	3,127	3,140	3,206
Outpatient visits.....	1,294,400	1,330,012	1,399,000	1,493,700
(b) Applicants or participants:				
State government agencies.....				
Local communities or governments.....				
Individuals or families (individuals).....	380,000	380,000	380,000	380,000
Other.....				
(c) Federal finances:				
Unobligated appropriations available (millions of dollars).....	74.0	76.6	86.4	88.6
Obligations incurred (millions of dollars).....	69.6	72.5	85.8	87.8
Allotments or commitments made.....				
(d) Matching or additional expenditures for the program.....				
(e) Number of Federal Government employees administering, operating, or supervising the activity.....	5,210	5,275	5,444	5,832
(f) Non-Federal personnel employed in the program.....				
(g) Other measures of level or magnitude of performance ³				

¹ For each year, this amount includes what is on the obligations incurred line. The difference is chiefly construction funds, available until expended. Thus, for 1964, approximately \$4,400,000 of what was available was not obligated.

² Includes 325 physicians, 104 dentists, 1,011 nurses, and 55 sanitary engineers.

³ Attached exhibit A portrays Indian health problems and exhibit B shows some of the trends in the program.

5. *Estimated magnitude of program in 1970*

Not answered.

6. *Prospective changes in program orientation*

Not answered.

7. *Coordination and cooperation*

(a) Within your bureau, division or office:

We have cooperative agreements with the Division of Hospitals and Division of Foreign Quarantine for the operation of clinics serving Indian beneficiaries and merchant seamen on a combined basis and for coordination of quarantine functions in Alaska.

(b) With other Federal Government Departments or offices:

We cooperate with the Bureau of Indian Affairs on matters related to work on Indian reservations. We cooperate with the office of Economic Opportunity on projects developed by Indian groups, surveys of job camp sites, and physical examinations. Our supply program is conducted in strong cooperation with Federal Supply Service of General Services Administration and with the Veterans' Administration.

8. *Laws and regulations*

68 Stat. 674, 73 Stat. 267, and 71 Stat. 370, 371 are the specific laws governing the Indian health program. Our operations are covered, of course, by parts of title 42, United States Code, the Public Health Service Act, and by general legislation such as the Civil Service Act.

PART II. DATA BEARING ON ECONOMIC ASPECTS AND IMPACTS OF THE PROGRAM

9. *Economic effects*

(a) Effects on personal incomes of persons:

An Indian or Alaska native whose health is good is better equipped for work to earn an income. Our responsibility is limited to health. We do cooperate with efforts such as those of the poverty program by giving physical examinations to our beneficiaries and referring those whose physical condition insures the best chance of success.

(b) Effects on the placement or productivity of workers:

The answer to (a) applies here. Healthy individuals with proper motivation are usually most productive and have the best chance of increased earnings. We have no measurement of the effect of our health work in this regard but we are certain that many Indians benefit in this way as a result of health improvement.

(c) Effects on business or industrial organization and management:

Effect of our program in this respect is general and results from location of facilities and overall Federal regulations.

(d) Effects on the stability, level, volume, or other aspects of employment, wages, costs, productions, sales, prices, or other phases of economic activity:

No measurable effect.

(e) Other benefits resulting from the particular governmental program:

The major operation of the program is in the Western States including Alaska where the Indians and Alaska natives live.

(f) Pertinent geographic differentials:

See (e).

(g) The measurable contribution of the program to either the magnitude or the rate of growth of the gross national product, if such a contribution can be identified.

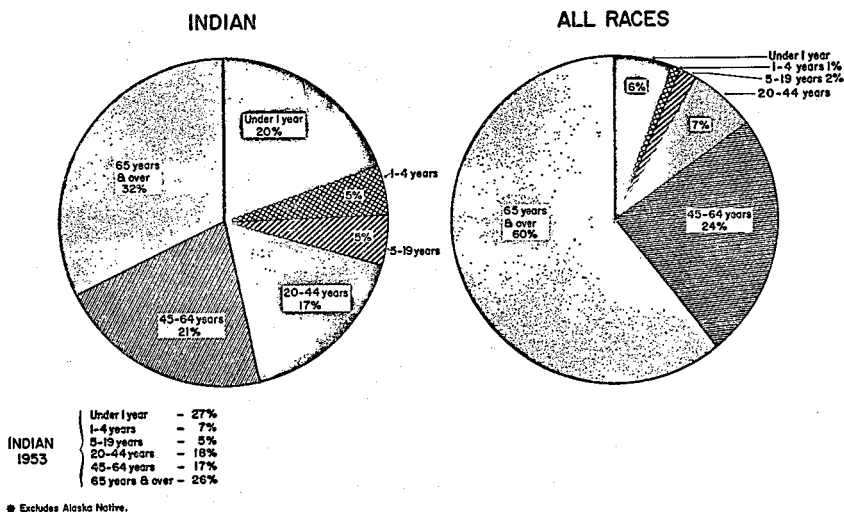
The only measurable impact is in the appropriations made to support the program. Healthy Indians who obtain gainful employment also have an impact, but we have no statistics concerning this.

Exhibits follow which illustrate the magnitude of the Indian health problem and recent trends.

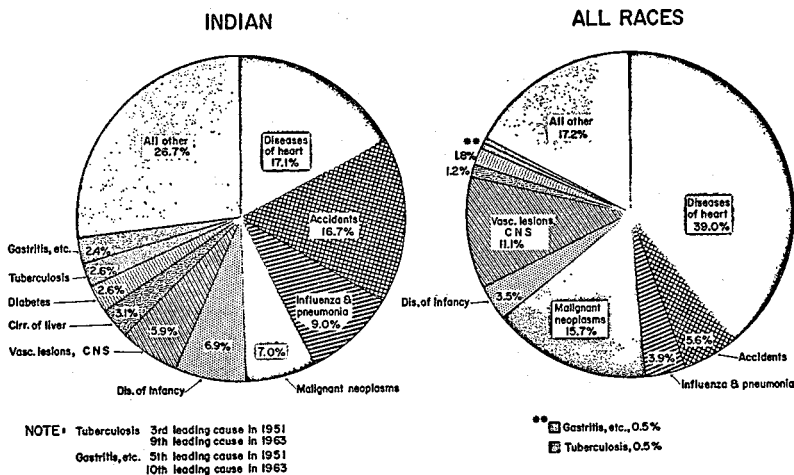
EXHIBIT A

DIVISION OF INDIAN HEALTH—CHARTS ON HEALTH TRENDS AND SERVICES
U.S. Department of Health, Education, and Welfare, Public Health Service,
Bureau of Medical Services: January 1965

PERCENTAGE OF DEATHS IN SPECIFIED AGE GROUPS, 1963
Indian* and All Races, U. S.

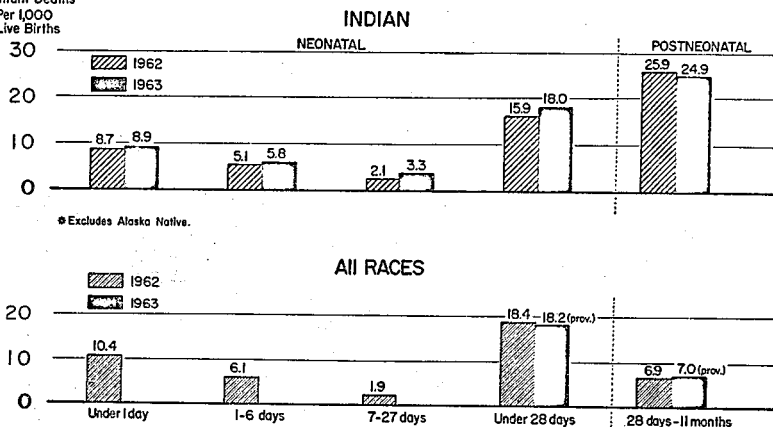


PERCENTAGE OF DEATHS BY SPECIFIED CAUSES, 1963
Indian* and All Races, U. S.



INDIAN^a and All Races, U. S. by Age at Death

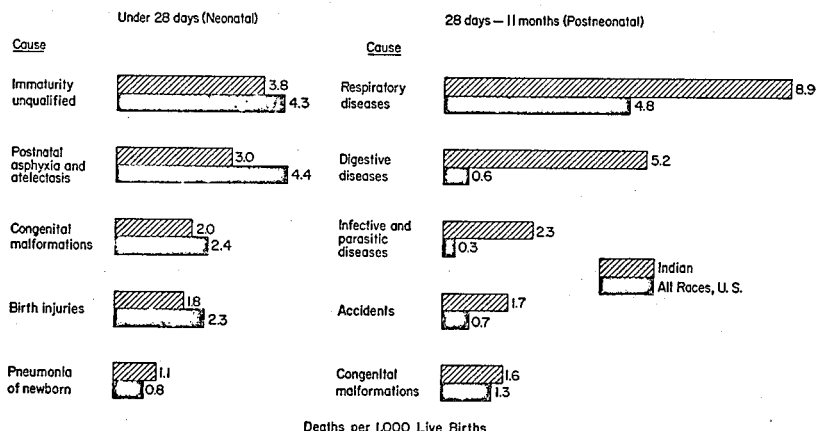
Infant Deaths
Per 1,000
Live Births



NOTE: 1963 detail, under 28 days for all races, not available.

Infant death rates, all ages		
	Indian	All Races
1962	41.8	25.3
1963	42.9	26.2

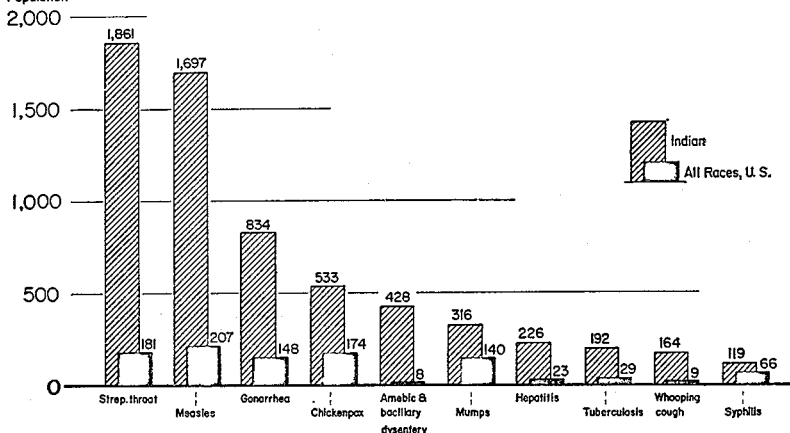
FIVE LEADING CAUSES OF INFANT DEATHS, BY AGE GROUP Indian,^a 1960-1962 Average, and All Races, U. S., 1961



INCIDENCE RATES FOR SPECIFIED REPORTABLE DISEASES

Indian* and All Races, U. S., 1963

Rate Per
100,000
Population

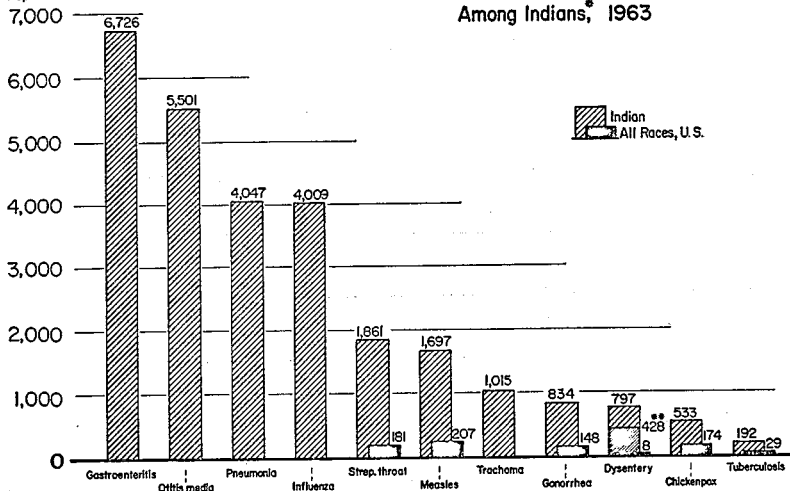


* Excludes Alaska Native.

LEADING REPORTABLE DISEASES

Among Indians,* 1963

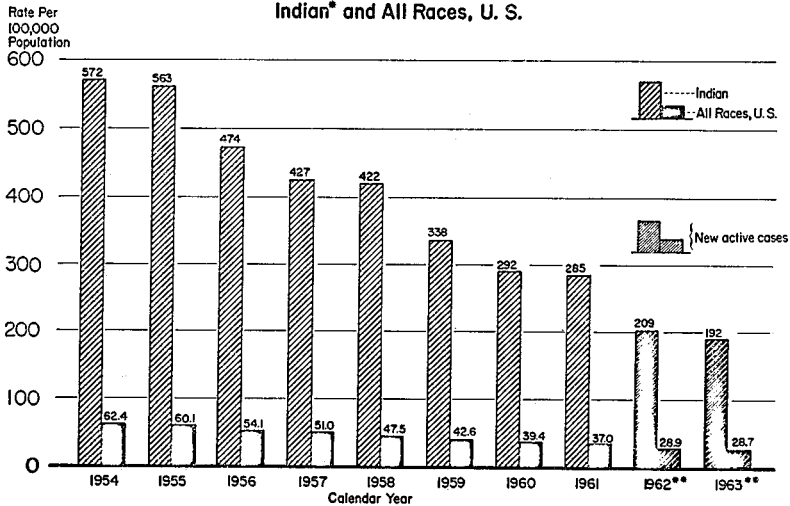
Rate Per
100,000
Population



* Excludes Alaska Native.

••• Comparative data for Indian and All Races available only for bacillary and amoebic dysentery. Total Indian rate of 797 includes "all other forms" of dysentery.

INCIDENCE RATES FOR TUBERCULOSIS Indian* and All Races, U. S.

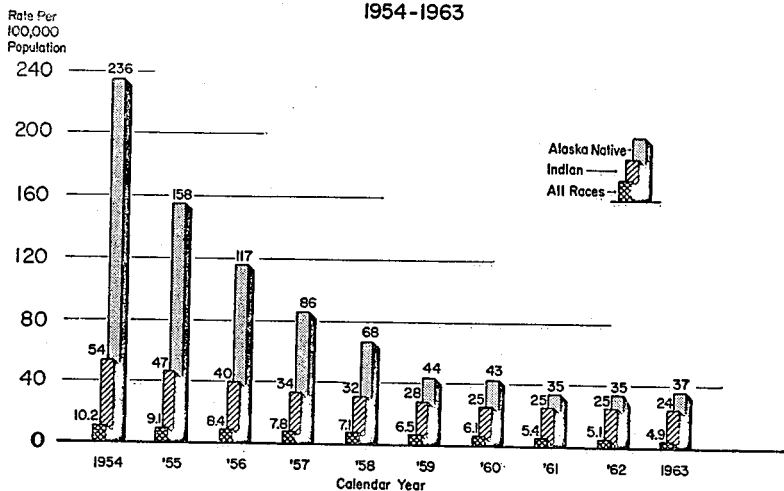


* Excludes Alaska Native.

** 1962 and 1963 not comparable to earlier years.

Note: 1963 Alaska Native rate 535.

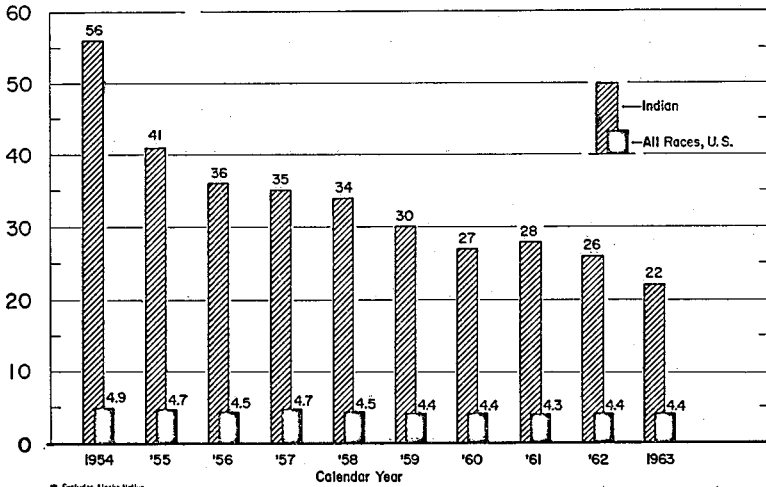
TUBERCULOSIS DEATH RATES Indian, Alaska Native, and All Races 1954-1963



NOTE: Indian and Alaska Native Rates: single year for CY 1954 and CY 1963; 3-year moving averages, 1955-1962; all races are single year rates.

DEATH RATES FOR GASTRITIS, ENTERITIS, ETC. Indian* and All Races, U. S.

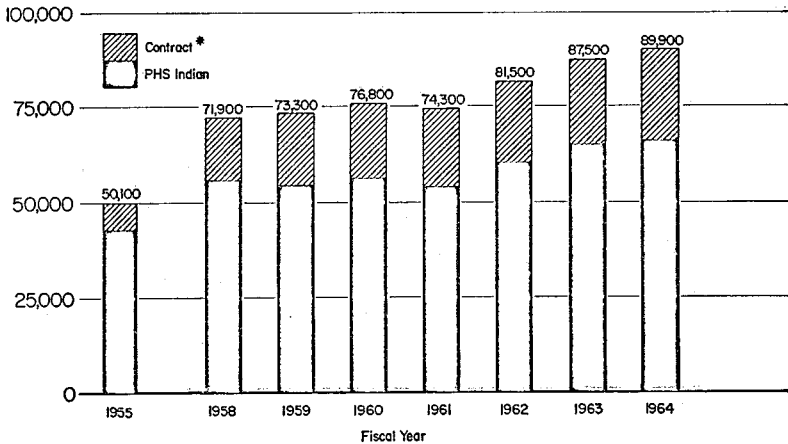
Rate Per
100,000
Population



NOTE: Indian and Alaska Native Rates: single year for CY 1954 and CY 1963;
3-year moving average, 1955-1962; all races are single year rates.

ADMISSIONS OF INDIAN PATIENTS PHS Indian and Contract Hospitals U. S. Including Alaska

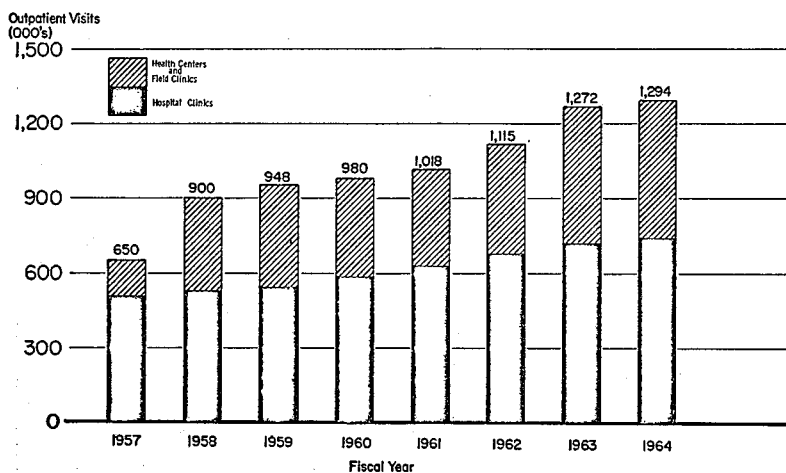
Admissions



* About 200 mental patient admissions each year.
Excludes treatment

OUTPATIENT MEDICAL VISITS *

DIH Hospitals, Health Centers, and Satellite Field Clinics



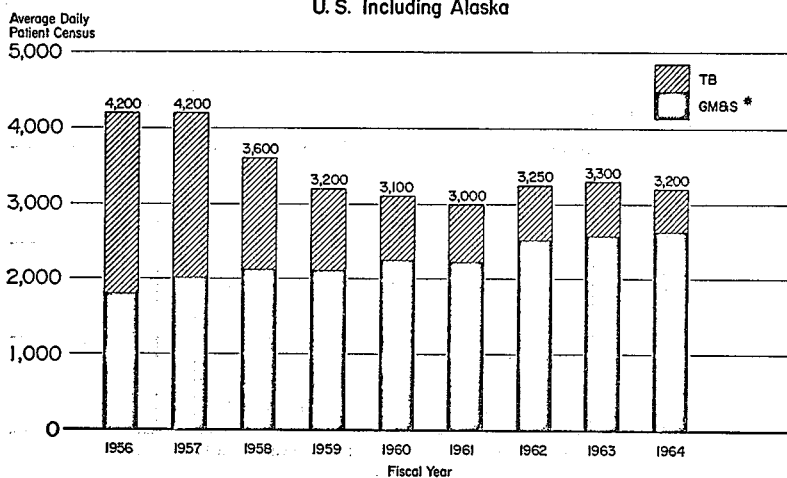
* Excludes visits for dental services.

Please consult

AVERAGE DAILY PATIENT CENSUS

PHS Indian and Contract Hospitals

U. S. Including Alaska



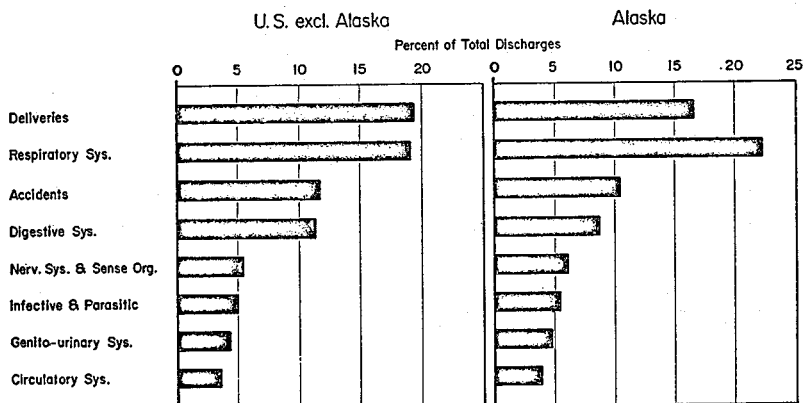
* Includes about 200 neuropsychiatric patients in contract facilities each year.

Please consult

LEADING CAUSES OF HOSPITALIZATION

GENERAL PATIENT DISCHARGES

PHS Indian & Contract Hospitals, Fiscal Year 1963



DIVISION OF INDIAN HEALTH

PREVENTIVE AND CORRECTIVE DENTAL SERVICES PROVIDED

Fiscal Years 1956 and 1961 - 1964

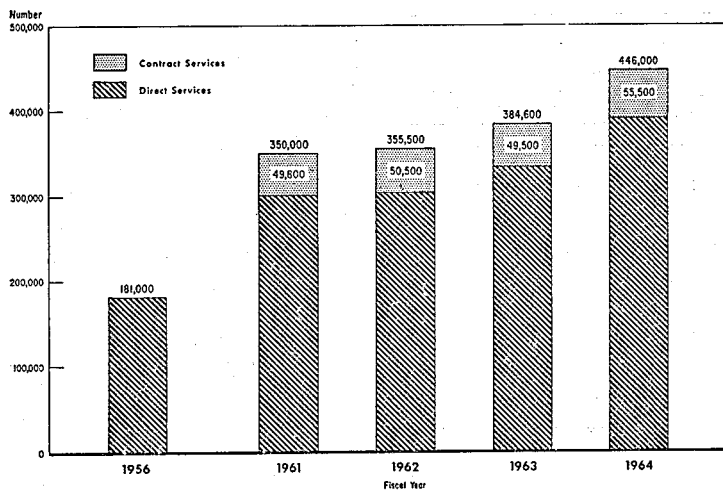


EXHIBIT B

TRENDS IN INDIAN HEALTH AND HEALTH SERVICES

Service population estimates, 1963 and 1964

Indians and Alaska natives----- 380,000

Indians, 23 Federal reservation States----- 337,000

Alaska—Indians, Eskimos, Aleuts----- 43,000

NOTE.—Indian—about 54 percent under 20 years of age; median age 17.3. All races—about 38 percent under 20 years of age; median age 29.5.

Birth rates—Registered live births per 1,000 population, 1963

Indian----- 42.2

All races----- 21.7

Alaska natives----- 49.0

NOTE.—Indian and Alaska native, twice all races.

Births attended by physicians (majority in hospital)

Indian----- Percent
1 98

Alaska native----- 2 81

¹ Compared to 88 percent in 1954.

² Compared to 65 percent in 1954.

Mortality—Rates per 100,000 population 1963, all causes

Indian----- 933.9

All races----- 961.9

Alaska native----- 997.7

Leading causes of death, 1963, and rates per 100,000 population

Cause of death	Indian	Alaska native	All races	Specified ratios, Indian to all races
Heart diseases-----	(1) 159.5	(4) 97.4	(1) 375.4	-----
Accidents-----	(2) 155.9	(1) 218.1	53.4	3×
Influenza and pneumonia-----	(3) 84.0	(3) 102.1	37.5	2.2×
Malignant neoplasms-----	(4) 65.0	(5) 76.6	(2) 151.4	-----
Diseases of early infancy-----	(5) 64.4	(2) 109.0	33.3	2×
Vascular lesions CNS-----	(6) 54.9	(6) 44.1	(3) 106.7	-----

Tuberculosis—ranks ninth among leading causes of death.

Gastroenteritis, etc.—ranks 10th among leading causes of death.

Accidents—non-motor-vehicle deaths increased over 1962; leading causes were: accidental drownings, fire and explosions, falls, suffocation, and poisonings.

Infant mortality—Deaths per 1,000 live births (1954-63)—Infant mortality rates, 1963

Age	Indian	Alaska native	All races	Ratio, Indian to all races
All ages-----	42.9	50.7	25.2	1.7×
Neonatal (under 28 days)-----	18.0	24.9	18.2	-----
Postneonatal (28 days to 11 months)-----	24.9	25.8	7.0	3.6×

Indian neonatal rate almost same as all races; leading causes: immaturity, postnatal asphyxia, congenital malformations, birth injuries. Indian and Alaskan postneonatal rate about 3½ times all races rate; leading causes respiratory, digestive, infective and parasitic, and accidents.

Indian—practically no change over 1962; increase in neonatal death rate to 18, more than offset the drop in postneonatal rate, resulting rate of 42.9 all ages. Alaska neonatal rate up above 1962; but 1963 Alaska postneonatal rate declined sharply, by 41 percent, over 1962.

Infant mortality—1963 rates compared with 1954

[Percent drop]

Group	All ages	Neonatal	Postneonatal
Indian.....	-34	-10	-44
Alaska native.....	-39	-21	-50

Tuberculosis mortality and incidence rates per 100,000 population:

1963 mortality: Indian, 24; 5 times all races rate; Alaska native, 37; 7 times all races rate. Compared with 1954: Indian dropped 56 percent; Alaska native dropped 84 percent.

1963 incidence rate (active cases): Indian, 192; 7 times all races rate of 28.7; Alaska native, 535; 18 times all races rate. Compared with 1954: Indian dropped 56 percent; Alaska native dropped 78 percent.

Tuberculosis hospitalization—average daily census in fiscal year 1964, under 600; dropped 76 percent since peak in 1956. Now represents about 18 percent of total census (all patients) compared with 57 percent in 1956.

Gastroenteritis, etc., mortality and incidence per 100,000: 1963 mortality, Indian rate 22.3; 5 times all races. Compared with 1954, dropped 60 percent. 1963 incidence, amoebic and bacillary dysentery, 428 per 100,000 (50 times all races). Gastroenteritis, diarrhea leading among reported diseases.

Trachoma incidence rate, 1,015 compared with 1,060 in 1962. (Resurvey indicated a rise in rate during 1964.)

Measles incidence rate, calendar year 1963, 1,697 per 100,000 population. Measles incidence is dropping in 1964, following the use of vaccine in the Southwest, Phoenix, and Window Rock areas. For first 9 months of 1964 (January–September) the provisional rate is below 700, for all DIH reporting units, outside of Alaska; drop to 328 in Southwest areas, offset by rise in other areas (Northwest and Plains States).

Otitis media, reported cases rising, compared with last year (through first 9 months) and noted particularly in areas where there was a rise in measles cases.

Broadening of services; increasing workloads since fiscal year 1955, last year before transfer, compared with fiscal year 1964:

Hospital admissions (DIH and contract) rose 80 percent from 50,000 to 90,000, 98 percent of admissions are general patients.

Births in DIH hospitals rose 37 percent from 6,900 to 9,458. Contract hospitals from a small (unknown) number to 2,680 (estimate). Total ADPC of 3,211; 75 percent general; 18 percent TB; 7 percent mental. TB patient census (584) dropped from 21 percent of total in 1963.

Hospital outpatient clinics, medical visits 742,400, more than doubled since 1955. Health centers, satellite clinics, and itinerant clinic visits reached nearly 545,000. Dental corrective and preventive services provided, about 446,000 (DIH and contract).

Construction of facilities since 1955—hospital, health centers, and field clinic construction; 7 new and/or replacement hospitals; 4 hospitals had major modernization, others underwent major alterations; 9 health centers newly constructed; 25 health stations (field clinics).

Public Law 85-151 (1957), 15 projects completed, participation in construction of a total of 110 beds at community hospitals, for Indian use.

Sanitation facilities construction: Public Law 86-121 (1959), provides a mechanism under which PHS and Indian groups can work jointly to correct gross deficiencies in essential sanitation facilities, and thus alleviate the substandard environmental conditions in the homes and communities. In the 5 years since this program has been authorized, 208 construction and 96 emergency and study projects have been authorized. These include construction of domestic water supplies and waste disposal facilities.

10. *Economic classification of program expenditures.* (See table 2.)

Program: Indian health program.

Department, or agency, and office or bureau: Department of Health, Education, and Welfare; Public Health Service—Bureau of Medical Services, Division of Indian Health.

TABLE 2.—*Economic classification of program expenditures for fiscal year 1965*

[In thousands of dollars]

Federal Government:¹

Purchases of goods and services:

Wages and salaries-----	\$37, 094
Other-----	35, 374

Total Federal expenditures-----	72, 468
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Non-Federal expenditures financed by: Contributions of money, materials, and labor by Indians and Alaska natives in support of sanitation facility projects-----	1, 000
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Total expenditures for program-----	73, 468
-------------------------------------	---------

¹ Expenditures here refer to obligations; actual Federal expenditures were \$71,373,000.

NATIONAL INSTITUTES OF HEALTH

THE RESEARCH PROGRAM

PART I. DESCRIPTION OF THE PROGRAM

1. Objectives

The research program of the National Institutes of Health is a multifaceted effort to advance the health and well-being of the American people through science. To this end, the program seeks—

(a) Greater understanding of man's biological and behavioral processes through a broad program of investigation of life processes;

(b) Advancement of the existing capability for the diagnosis, treatment, and prevention of disease through expanded and enhanced scientific, academic, and technologic efforts and resources; and

(c) Acceleration of the application of new knowledge and technological capability to the universe of health practice.

2. Operation

The objectives of the NIH research program are sought through direct in-house (or "intramural") research, and through support (by grants or contracts) for research of non-NIH scientists in academic, industrial, or other settings. (These latter activities are referred to as "extramural.") Roughly 80 percent of the NIH research program is extramural; 20 percent is intramural.

The research program of the NIH is organized and conducted through nine separate Institutes, three major program divisions, a 500-bed clinical center, an Office of International Research, several supporting divisions, and field research activities both in the United States and abroad.

The present organization for research—which has evolved almost entirely since World War II—is a reflection of the advancement in health knowledge, the growing significance of chronic and degenerative diseases, and broad concern with the health of man and the multifaceted processes of human development. The organization, once oriented along lines of scientific disciplines, has changed markedly. Six of the nine Institutes conduct and sponsor research in relation to the causes, prevention, diagnosis, and treatment of designated broad disease areas—cancer, heart, dental, metabolic, infectious, and

neurological. Three Institutes have as their focus the solution of health and medical problems not peculiar to a given disease category:

The National Institute of General Medical Sciences (NIGMS) supports fundamental or multidisciplinary research in biomedical, physical, and behavioral sciences where relevance to a specific disease category is not clear or several such disease categories are involved.

The National Institute of Child Health and Human Development (NICHD)—with special responsibilities for child health and problems of aging—seeks understanding of normal and abnormal developmental processes across the full life cycle of man.

The exceptionally wide-ranging programs of the National Institute of Mental Health (NIMH) are integrated by a common unifying objective—improvement in the mental health of the American people.

The NIH "program" divisions fit into the research picture in this way:

The Division of Research Facilities and Resources (DRFR) administers the grants programs providing funds for—

- (1) The general research support of institutions;

- (2) The establishment and operation of:

General clinical research centers

Primate centers

Special research resource centers

- (3) Grants on a matching basis for construction of health research facilities.

The recently established Division of Computer Research and Technology (DCRT)—which is strictly an intramural resource—provides modern computer facilities for NIH scientists, enabling them to do research on the application of advanced mathematics and computer theory to biomedical research problems; also on automation of certain routine laboratory and clinical procedures.

The Division of Biologics Standards (DBS)—which like the DCRT awards no grants—does research relevant to its control responsibilities; which include insuring the safety, purity, and potency of biologic products used throughout the Nation in prevention and treatment of disease.

The Office of International Research (OIR) has a dual research role: It coordinates policies of the nine NIH Institutes in their support of overseas research activities; and it is responsible for administering several programs of its own, including international centers for medical research and training, international postdoctoral fellowships, and the special foreign currency program.

Key supporting components include the Division of Research Services (DRS) which provides technical, engineering, and scientific support for the intramural research program; and the Division of Research Grants (DRG) which provides for scientific and technical review of grant applications, and coordinates financial and administrative procedures relating to research grants.

For both intramural and extramural components of the NIH research program, the Office of Administrative Management (OAM) provides administrative support.

Intramural activities.—The intramural portion of the NIH research program is the largest single biomedical research effort in the world.

Of the nine NIH Institutes, seven have substantial intramural activities, and an eighth (NICHD) has already made a modest start and plans expansion. At the core of NIH intramural effort are 1,500 doctor of philosophy or doctor of medicine scientists engaged in full-time research, with facilities and supporting staff on appropriate scale. Among the supporting facilities are a 500-bed clinical center and a farm for research animals. For each Institute, intramural scientists are organized (under a scientific or clinical director) in sections and laboratories or clinical branches. Within Institute objectives, each scientist is allowed considerable latitude in his choice of research projects. Each Institute receives disinterested scientific advice on its intramural activities from non-NIH science leaders appointed to boards of scientific councilors. Overall coordination of intramural activities is provided by Institute scientific directors, who meet regularly under the chairmanship of the NIH Director of Clinics and Laboratories. This group must approve promotions for all intramural research staff.

Extramural activities.—Through its research grants and contracts, NIH now supports 40 percent of all medical research conducted in the United States; this also constitutes one-third of all Federal funds for the support of research in colleges and universities, proper.

Contracts are used in dealing with institutions organized for profit, or for the purchase of specific research goods or services. Only 8 percent of NIH extramural research funds is spent on contracts. Because of the many intangibles incident to research and development work, the cost-reimbursement and cost-plus-fixed-fee methods of contracting are utilized to a large extent.

When it appears to an NIH institute that its interests will be best served by a research contract, formal proposals are solicited from prospective contractors. The prospective contractor furnishes information in the proposal about the nature, structure, capacity, and qualifications of his organization, the terms under which he can undertake the Government work, and an estimate of the costs (or price) and time which he feels necessary to accomplish the task. Each prospective contractor's proposal is reviewed by program staff and by the contracting officer.

Research grants.—Several types of research grants are used by NIH in awarding funds to nonprofit institutions when the proposed research ties into NIH program needs. The research project grant is awarded to an institution for a discrete project representing the investigators' interests and competencies. The research program-project grant is awarded to an institution solely for the support of basic physical resources or an integrated system of resources and services essential to the conduct of a broad program of research.

The method of distributing research grant funds has been designed to assure that funds are awarded only to research projects and programs that are competently judged to have high scientific merit and in only such amounts as are necessary for their support.

Applications are uniformly investigator initiated, with the exception of the few instances in which the Institute, on the advice and with the concurrence of a study section or other initial review group and the appropriate national advisory council or committee, has taken the initiative to make known to competent investigators areas in which research is much needed.

The usual steps by which a grant-supported research project comes into being are:

(a) The responsible officer of an eligible institution submits to the Public Health Service, on behalf of the principal investigator, an application for a research grant. The application outlines the nature of the research contemplated, as well as the resources and facilities available or needed, and indicates the budget proposed and the years of support requested.

(b) A grant application is received and identified with a particular NIH research area. The application is then referred to the appropriate NIH Institute or division and to a study section or an initial review group consisting primarily of non-Federal scientists expert in that research area. The group reports its evaluation of the proposal, including its scientific merit and the requested financial support, with a recommendation for action, to one of the national advisory councils or committees.

(c) The Surgeon General, at his discretion, may award support to any application recommended for approval by a national advisory council, in the amount recommended or in a lesser amount. The criteria applied by the committees and councils in considering applications are (1) that the proposed research shall have high scientific merit; (2) that the principal investigator shall be competent to undertake and pursue the research; and (3) that the facilities available to him shall be adequate.

General research support (GRS) grants are designed to provide institutions a measure of increased control over the quality, content, emphasis, and direction of their own research and training programs. They allow increased institutional initiative in developing the institution's best research and research training capabilities, for consolidating scattered elements of research support, and for bettering the general research environment. The program is thus complementary to other forms of NIH grants-in-aid. The appropriation level for this program is set annually by Congress, within a statutory ceiling for this purpose of 15 percent of total NIH research grants. The program is administered by DRFR from funds made available by assessments against each NIH appropriation for research grants.

Four types of health professional schools (medicine, dentistry, osteopathy, and public health) are considered automatically eligible for GRS grants. Other types of institutions active in health research (such as hospitals or research foundations) are eligible if they have been awarded \$100,000 or more in PHS research grants within the past year. Following acceptance of NIH guidelines for an extension of this program, graduate academic departments (apart from health professional schools) will also be eligible for awards, beginning in the current fiscal year; this proposed university program, entitled the "Biomedical Sciences Support Program," is conceptually identical with the current general research support program. The amount of an individual award is based on a formula which is computed according to the health-related research expenditures of the institution from all funding sources.

A part of GRS funds will be used from now on to make health sciences advancement awards—a new program to encourage institutions with high health-research potential to deliberately plan an upgrading of their research capabilities.

3. History

NIH intramural research activities extend in an unbroken tradition from the one-room bacteriological laboratory established by the PHS at the Staten Island Marine Hospital in 1887. This Laboratory, subsequently designated as the Hygienic Laboratory, was moved to Washington in 1904. There, it expanded into a small but renowned in-house research organization with separate divisions for chemistry, bacteriology, pathology, zoology, and pharmacology. It was concerned mainly with control of communicable and infectious diseases, but emphasized fundamental investigations also. After 1930, when the Hygienic Laboratory became the National Institutes of Health, its research activities retained their former scope and character for some years.

Passage of the National Cancer Act in 1937 (Public Law 75-244)—and through it the creation of the National Cancer Institute (NCI)—marked two important beginnings for NIH: Though, for the moment, NCI remained independent of NIH, its creation marked a new research emphasis on the chronic and degenerative diseases, which increasingly were revealed as the main killers against which NIH had to organize its research efforts; it also marked the beginning of the extramural component which now represents 80 percent of total NIH program. By this Act, NCI was directed not only to conduct research, but to assist and to steer similar research activities by other agencies, public and private; and to this end, the Surgeon General was authorized to make grants-in-aid for research projects in the field of cancer. In the other major event immediately prior to World War II, NIH and NCI moved, in 1938 and 1939, into newly constructed facilities at a donated site in Bethesda which NIH now occupies.

Organizational structure.—With the war's end, the development of NIH toward its present organizational pattern was rapid. Broadened research authorities in the Public Health Service Act of 1944 (Public Law 78-410) provided the basis for this expansion. (Under this act, the Surgeon General was given broad power to support research into the "diseases and impairments of man," and specifically to make grants-in-aid for research projects recommended by the Advisory Councils.) Subsequent to that enactment, in the period 1946-55, five categorical Institutes plus NIMH were added as (in effect) divisions of a National Institute of Health. The additions:

1948: The National Heart Institute (NHI). Authority: National Heart Act (Public Law 80-655). This same act pluralized the NIH title to "National Institutes of Health."

1948: The National Institute of Dental Research (NIDR). Authority: National Dental Research Act (Public Law 80-755).

1948: The National Institute of Mental Health (NIMH). Authority: National Mental Health Act of 1946 (Public Law 79-487).

1950: The National Institute of Neurological Diseases and Blindness (NINDB); the National Institute of Arthritis and Metabolic Diseases (NIAMD). Both established under authority of Omnibus Medical Research Act of 1950 (Public Law 81-692).

1955: The National Institute of Allergy and Infectious Diseases (NIAID) was established from its predecessor, the National Microbiological Institute. Authority: Public Law 81-692.

With the opening of the 500-bed Clinical Center in 1953, the Bethesda facility achieved capability for a well-balanced biomedical research program. Other major program components added to NIH:

1955: Division of Biologics Standards (DBS).

1958: Division of General Medical Sciences (DGMS).

1962: Division of Research Facilities and Resources (DRFR).

1963: National Institute of General Medical Sciences (NIGMS) taking place of DGMS; National Institute of Child Health and Human Development (NICHD). Authority for both Institutes: Public Law 87-838, October 1962.

1965: Division of Computer Research and Technology (DCRT).

Intramural research.—As the various Institutes became a part of the NIH structure, each—with the exception of NIGMS—developed an intramural component to its program. Among the program divisions, DRFR conducts no in-house research; but DBS is completely intramural in its orientation, as is expected to be the new Computer Research Division. Several off-site operations are also important to NIH intramural research. These include the gerontology research activities in the Baltimore City Hospital (under NHI); the Rocky Mountain Laboratory at Hamilton, Mont. (under NIAID); and the Middle American Research Unit (jointly supported by NIAID and the Army).

Extramural.—The first PHS grants-in-aid to support research in academic and other non-Federal settings were made by the National Cancer Institute in 1937 to support studies in diagnosis and treatment of cancer. This was an authority specific to NCI, deriving from the National Cancer Act. Not until 1944—with the enactment of the Public Health Service Act—did NIH gain similar basic authority to make such grants, “to support research into the diseases and impairments of man.” These authorities were used sparingly, so that, by 1946, the annual level was only \$780,000. However, with the war’s end, and the dissolution of the wartime Office of Scientific Research and Development (OSRD), NIH took over responsibility for residual OSRD university contracts in the area of the medical sciences. This constituted the beginning base of the present-day NIH extramural research program. By 1950, with seven Institutes making awards, over \$20 million in a total budget of \$50 million was being expended in the form of extramural grants and awards for research and training.

By 1955, total appropriations reached \$82 million, an increase of only \$30 million over 1950; however, the increase in extramural funds was twice that of intramural. During this period the major effort was centered in forging the mechanisms, policies, and procedures of extramural support; the processes of review, selection, and award of grants; and the relationships with outside advisory groups which still comprise the essential framework for the administration of NIH extramural activities. The key element in this period of development was the decision, implicit in the study section review and priority rating process, to concentrate resources upon meritorious research projects emerging for the most part from the fundamental science programs of academic institutions. By the end of fiscal year 1955, 80 percent of NIH research grant funds was going to colleges and universities.

The next 5 years (1956-60) were years of maximum growth rate. The guiding principle of this period was the concept that the expansion of medical research in the national interest should not be restricted by lack of funds and that the necessary resources for this expansion should either be made available or created for this purpose. This principle was initiated by Secretary Folsom in fiscal year 1956, ratified by the Bayne-Jones Report in 1958, and acted upon with vigor and swiftness by the Congress throughout this period. Between 1955 and 1960, NIH programs expanded over fivefold, reaching a level of \$430 million in the latter year, including construction grants. The NIH investment in the development of resources was substantially enlarged. New fields of scientific endeavor were cultivated, including biophysics, mathematics, and behavioral sciences. Engagement with science on an international basis became an essential component of NIH programs. The problem of stable support for the institutional base of research and training was diminished by the enactment of general research support authority and the initiation of the general research support grant program in 1961.

In most recent years—with growth rate slowed to a more mature stage of development—the long-term principles, terms, and conditions guiding the conduct of the extramural program were subjected to searching examination and reassessment, stimulated largely by congressional inquiry. From this inquiry has emerged a more structured, articulated, and formal framework for grant administration.

4. *Level of operations.* (See tables 1 and 2 at the end of NIH section.)

5. *Estimated magnitude of program in 1970*

Not answered.

6. *Prospective changes in program orientation*

Not answered.

7. *Coordination and cooperation*

(a) *Within NIH:*

i. The need for coordination and cooperation: The health research objectives of NIH are sought through the interrelated efforts of nine Institutes and three program divisions—each with separate areas of responsibility as defined by distinctive missions. Two factors explain the need for this somewhat complex structuring of NIH program: (1) The number and variety of health research goals pertinent to NIH mission; and (2) recognition that progress toward these goals depends to a considerable degree on the sensitivity with which program interest can be focused on research needs and opportunities in each goal area. Clearly, with such structuring, there is potential for program overlap or gaps, and for cross-purpose or competing activities. Consequently, increased effectiveness is sought through a variety of coordinating mechanisms.

ii. Existing arrangements: The Director, NIH, is responsible for coordinating the total NIH program. In this, his principal concerns are for best distribution of total resources available for health research; also for integration of current and longer range plans, particularly in their impact on resources. The identification and elimination of gap areas and unnecessary overlap on cross-purpose activities are other concerns.

This coordination is achieved mainly through the annual budget and apportionment process. Also important, though, are weekly meetings at which the Director, NIH, and his key staff discuss common-interest matters with Institute Directors and division chiefs; and the requirement of administrative approval at the Office of Director, NIH level for Institute-division program needs for space, personnel, organizational changes, various services, etc. Individual staff members and staff components in the Office of the Director support the Director, NIH, in his coordinating role. These are the key arrangements:

1. There is a principal staff assistant to the Director, NIH, to coordinate each of the two major facets of the total program, intramural and extramural. For the intramural area, a director of laboratories and clinics is responsible for approval of budgets as well as current space and personnel allocations. Coordination is also effected through highly structured biweekly meetings with the scientific directors, who are in charge of the respective intramural research program for each Institute/division. Similarly, for the grants area, coordinating responsibilities are assigned to a staff official (the NIH Associate Director for extramural program) who provides a focus at the Office of the Director level for intelligence on grants problems and policy matters and for substantive review of overall NIH grants programs. He is supported in his tasks by data and analyses across grant activities provided by the Division of Research Grants. Also, he chairs monthly meetings of an executive committee for extramural affairs (ECEA), to which each Institute and division sends its extramural grants head, for information exchange and review of common-interest policies and problems.

2. Other staff or service components contribute to program coordination at the level of the Office of the Director, NIH:

The Office of International Research is responsible for policy formation, program analysis and other aspects of coordination for foreign or international components of NIH programs.

The Office of Program Planning is responsible for coordinating legislative planning for NIH activities; also for providing definitive data on present and future availability of research resources.

The Office of Administrative Management coordinates administrative servicing of NIH programs in terms of financial, personnel, and supply management; also office services.

The Division of Research Services provides centralized library, graphic art, and photographic services; also instrument engineering and development; animal breeding, supply and care; computation and data processing services, etc.

3. An important new mechanism to assist in coordinating the total NIH program is the recently approved outside advisory group to the Director of NIH. This group—to be drawn from science and public affairs leaders throughout the Nation—will advise on longer range planning, best distribution of available resources across total activities, new programs needed, and similar matters.

4. For the extramural area, coordination in terms of the quality of research supported is provided by the study section system. This assures peer group scientific review for all grants applications, irrespective of the program component from which support would come.

5. The Division of Research Grants is responsible for assigning each incoming grant application to a specific Institute or division, follow-

ing assignment criteria (based on respective program missions) approved by the Director, NIH. Special coordinating arrangements are made as needed when two or more Institutes share interest in a research area too widely ramified to fit neatly within a single organization's mission. Examples of this are NINDB and NHI cooperation in the area of stroke research; the NIH Staff Group on Mental Retardation (which coordinates respective interests of NICHD, NIMH, NINDB, and DRFR in problems of the mentally retarded); and ad hoc coordinating arrangements worked out among NIMH, NIGMS, and NICHD for the behavioral sciences.

(b) With other units of the department or agency:

i. The need for coordination and cooperation: In its impact on health and education goals, the NIH research program shares common ground with many other program components within the Department of Health, Education, and Welfare. In terms of health, there are points of interface (and therefore a need for one degree or another of coordination or cooperation) with each of the other Bureaus of the Public Health Service; also with the Food and Drug Administration, the Children's Bureau, the Office of Vocational Rehabilitation, and the Aging Administration recently established at the departmental level. In relation to NIH's important impact on graduate education, the prime concern is for more effective coordination with the rapidly growing programs of the Office of Education.

Within the Public Health Service, the search for more effective program groupings has led in recent years to deliberate shifting of traditional dividing lines among PHS components. Such shifts increase the need for sensitively informed coordination. For example, while NIH retains its traditional role as the research arm of the Public Health Service, that role is no longer exclusive. Other PHS bureaus now award research grants—notably the Bureau of State Services, which supports and conducts research on a range of community health and environmental health problems. Similarly, responsibility for State formula grants for prevention and control of cancer, cardiovascular disease, diabetes, and other NIH disease research areas has passed for the most part from NIH to the Bureau of State Services. Only in the mental health area does NIH still retain programs of this type.

Construction programs also generate coordination needs across PHS components. For example, the hospital construction programs of the Division of Hospital and Medical Facilities (BSS) affect long-range capabilities in many PHS program areas. There is repeated interface between activities of that Division and NIH's Health Research Facilities construction; also shared responsibilities between that Division and NIMH for the Community Mental Health Center program.

Finally, the new regional medical program presents an unprecedented challenge for coordination of diverse program efforts, both within and beyond the Public Health Service.

ii. Existing arrangements: At the departmental level, the key staff role in coordinating NIH and other health-oriented activities of HEW is assigned to the Office of the Assistant Secretary for Health and Scientific Affairs. Also at the Department level, a variety of staff offices and line or staff assistants to the Secretary are assigned responsibilities with coordinating impact on NIH program. The major roles

are those of: (1) the Comptroller, who is the Department budget officer; (2) the Assistant Secretary for Legislation; and (3) the Assistant Secretary for Program Coordination.

In common interest areas, a variety of informal information exchange and similar coordinating arrangements have been worked out among program managers in NIH and other departmental components. Infrequently—but on occasion—these arrangements are committed to writing. For example, there is a formal memorandum of understanding defining respective research roles in child health for the Children's Bureau and the National Institute of Child Health and Human Development.

Apart from informal coordinating arrangements made between individual Office of Education and NIH program managers, these two agencies have been working closely for some months to develop a coordinating mechanism that would be effective across a broad range of agency programs with similar or compatible objectives. Results here are promising, though further work will be needed. Special coordinating arrangements may be set up when a number of departmental components share interest in one or another aspect of a "high-visibility" program such as mental retardation.

(The Secretary's Committee on Mental Retardation has representation from the Office of the Secretary, the Office of Education, Food and Drug Administration, Social Security Administration, and Welfare Administration, as well as the PHS—with members from the latter agency representing the Surgeon General's echelon, Bureau of State Services, and three NIH Institutes.)

Within the Public Health Service, the Surgeon General—supported by his immediate staff offices and by the National Advisory Health Council—is responsible for program coordination. This responsibility with respect to NIH programs extends to all of the usual aspects of coordination by a higher echelon, including budget and legislative review, organization and other administrative approvals, etc.

Apart from these usual means for coordination, several special coordinating mechanisms exist at the PHS level. These include:

1. An Office of International Health, for overview and coordination of PHS international activities.

2. An Interbureau Advisory Committee on Extramural Affairs (IACEP), which reviews all proposed grant policies and recommends action to be taken by the Surgeon General. No grant policies affecting more than one PHS Institute or Division may be issued without the approval of this Committee. Its membership includes the grants policy officer in the Office of the Surgeon General as chairman, one representative from each of the granting Bureaus in the PHS, and the Chief, Division of Research Grants, NIH, as executive secretary.

3. In the Office of the Surgeon General, a grants policy officer and a small staff provide a full-time PHS focus for resolving grants policy questions of an interbureau nature.

4. A grants manual—which provides definitive guidance on grants policies and procedures across PHS programs—is maintained for the Surgeon General by the NIH Division of Research Grants. As changes in grants policies or procedures are approved by the IACEP, the DRG Policy and Procedures Office issues these changes and incorporates them in the grants manual.

(c) *With other Federal Government departments or agencies:*

i. The need for coordination and cooperation: For several years now, Congress, the higher executive branch, and the scientific community at large have watched with increasing concern the growth of Federal Research and Development (R. & D.) investment, now at the \$15 billion annual level. On many fronts, improved means of coordination across this investment area are being sought, with one or more of these objectives in mind:

To better understand what now is being done through science programs, and why; what is being achieved by this, and how many parts interrelate.

To provide a better rationale for future investment in science—both in terms of overall growth and of differential growth in different science areas, and for differing science or social purposes.

To minimize competition for existing science resources.

To better assure that program impact on the capabilities and purposes of higher education institutions is constructive rather than otherwise.

To provide stimulus for more equitable distribution of academic and economic capabilities in the various regions of the country.

Relevant to these considerations, the NIH share in Federal R. & D. investment has remained about 5 percent through most of these rapid-growth years. But even in the area of health research, NIH has no prescriptive claim to support responsibilities. Significant health research support (\$25 million or more annually) is given by each of these agencies: the Veterans' Administration, Department of Defense, Atomic Energy Commission, National Aeronautics and Space Administration, National Science Foundation, and Department of Agriculture. Smaller amounts are contributed by the Federal Aviation Agency, State Department, and Department of the Interior.

The programs of most of these same agencies also have an impact on graduate education and on higher education institutions. Apart from NIH, the key agencies here are: Office of Education, NSF, NASA, DOD, and AEC.

ii. Existing arrangements: At higher executive branch levels, the formal coordinating entities for NIH and other Federal R. & D. programs are these: The President's Science Advisory Committee, the Office of Science and Technology and the Bureau of the Budget (all in the Office of the President); also the Federal Council for Science and Technology (FCST) with representatives from each of the main Federal agencies supporting science.

NIH, as a third echelon component within DHEW, does not participate directly in the activities of the Federal Council for Science and Technology; but is represented by the Department's member, the Assistant Secretary for Health and Scientific Affairs. However, NIH staff, when called upon, participate fully in the subcommittees and panels of the FCST and other ad hoc groups advisory to the Office of Science and Technology (OST). The Director, NIH, serves in a technical capacity as consultant-at-large to the President's Science Advisory Committee and its chairman, the Director of OST. Also, the NIH Director of Laboratories and Clinics serves as a member of the Standing Committee of the FCST.

For coordination of NIH and other Federal programs with impact on national education goals, the President last year, by Executive

Order 11185, set up a Federal Interagency Committee on Education (FICE). This group is chaired by the Commissioner of Education (from DHEW), and includes a representative from each of the following agencies: The Department of State, the Department of Defense, the Department of Agriculture, the Department of Labor, the National Science Foundation, the Atomic Energy Commission, and the National Aeronautics and Space Administration.

Again (as with the FCST), NIH as a third-echelon component in DHEW, is not a member of the Committee. However, because of its substantial educational involvement, NIH expects to be called upon for staff assistance to FICE and to participate in at least some of the Committee's activities. Also relevant to this Committee, NIH has been intimately involved with NSF, AEC, NASA and OE representatives in developing a tentative proposal for a formal interagency working group. This group, if established in proposed form, would advise FICE on what progress could be achieved toward common education goals through voluntary interagency cooperation and information exchange.

Another formal mechanism for coordination across Federal science programs is provided by the Science Information Exchange, a component of the Smithsonian Institution. The SIE acts as a central repository for information on current and past research projects, whether supported by NIH, other elements of the PHS, other Federal agencies, or by private foundations. While SIE sources of data are not as comprehensive as might be wished for, NIH has found it a continuing and ready source of needed information on the support of specific research areas and of specific scientific investigators.

A variety of other means—some formal but most of them informal—assist in the coordination of NIH activities with those of other Federal agencies:

- (1) Annual reports and other periodicals and special publications of each agency become useful resources. Specific mention here should be made of the "Federal Funds for Science" series issued by the National Science Foundation.

- (2) The National Register of Scientists and Engineers (maintained by the NSF through the use of biennial questionnaires) is used by NIH in assessing research manpower resources.

- (3) At meetings of NIH National Advisory Councils, voting members are present from the Department of Defense and Veterans' Administration. Also, an NSF representative is a member of the NIH Health Research Facilities Council.

- (4) More than 80 representatives from other Federal agencies sit as liaison members on NIH study sections. These liaison members are selected by their own agencies because of their competence in the study section area, and generally take vigorous part in all study section activities.

- (5) Observers from other agencies (as well as from other parts of DHEW) may attend NIH Council and study section meetings. When common-interest areas are known to be involved, executive secretaries of study sections will make a point of inviting specific observers.

- (6) An informal interagency group meets semiannually to work out agreements on stipends and fellowship support levels. These meetings so far have been chaired by the NSF representative, but

it is anticipated that this task will be rotated to NIH and OE representatives in the future. Other informal and formal coordinating arrangements are even more fully developed in the facilities program area. NASA, AEC, NSF, and NIH have been actively engaged in information exchange on requests from various institutions for research renovation or construction of research facilities of one kind or another.

Informal coordination generally takes the form of information exchange—either on common-interest problems or institutions. Some of this is accomplished through liaison arrangements described above; probably more is done through direct or written contact between the program officials involved. Obviously the effectiveness of these coordinating activities will vary through time, and with particular programs and the various agencies. But from these activities, a number of joint funding arrangements result, as well as many referrals of project requests from one agency to another.

(d) With State governments or their instrumentalities and (e) with local governments or communities:

In most NIH program areas, there is no occasion and no need for coordination with State or local governments. While NIH program funds go to many State-supported universities, medical schools, hospitals, and public health departments, etc., the NIH relationship in these instances is what it would be with any other grantee institution. However, in certain program areas under the National Institute of Mental Health, the situation is quite different:

(1) By the very nature of the community health centers program, NIMH has continuing contact with every State government—usually through both the mental health agency and the hospital construction agency.

(2) The mental health staffs in the DHEW regional offices are continually called upon by State governments for consultation in regard to such things as the State plan for community mental health centers, plans for improving the State mental hospital system, etc.

(3) Most NIMH resources in the services area (consultation, mental health project grants, technical assistance projects, demonstrations, program studies) are devoted to continuous work with State or local agencies or organizations.

Also, the regional medical program—recently authorized and assigned to NIH—will require extensive coordination with all groups concerned with delivery locally of improved health services. This coordination will certainly involve representatives of State and local governments.

(f) With foreign governments or international organizations:

i. The need for coordination or cooperation: Each of the nine NIH institutes is responsible for assessing the importance to its own program goals of distinctive research capabilities or resources found in foreign countries. (This assessment is from intramural as well as grants program perspective.) Other PHS elements similarly look outward toward the world. Yet, as national boundaries are crossed, a reasonably integrated and consistent program image becomes more rather than less important.

While NIH research support overseas represents a relatively small percent of total NIH extramural program (roughly 3 percent), these

funds—in particular countries—may represent a significant or even a main part of the research support given to scientists. These funds may also be the best or the only chance for gifted scientists in developing countries to gain access to resources and advanced training in the United States.

Several special factors sensitize NIH program relationships with foreign governments:

(1) The loss of intellectual resources suffered by various countries through emigration to United States of scientists drawn by more attractive research careers here.

(2) The potential for individual and governmental misunderstandings arising from recent NIH need to reduce levels of overseas research support to counter U.S. "gold drain" problems.

(3) The opportunity to negotiate specific research uses of foreign-blocked currencies, generated by the Public Law 480 (agricultural surpluses) program.

ii. Existing coordinating arrangements: Assuring a reasonably consistent NIH program image before the non-U.S. world is a responsibility of the Director, NIH, exercised through the Office of International Research. At the Public Health Service level, a similar office broadens and supports this unifying role.

In terms of coordinating activities with foreign governments, foreign research communities or international organizations, neither NIH nor the PHS has formal or continuing responsibilities. (These are State Department responsibilities, necessitating certain policy clearances with that Department on specific NIH support proposals.) Yet a number of useful coordinating arrangements have in fact been worked out informally by NIH; and NIH negotiates use of Public Law 480 funds on an ad hoc basis, as opportunities arise. NIH maintains overseas offices and scientific representatives in Paris for Western Europe, Rio de Janeiro for Latin America, and Tokyo for the Pacific area. Special coverage is also provided in London and New Delhi. Through these liaison points, NIH is kept informed of medical research underway in other countries; also of research opportunities and scientific manpower resources not available in the United States.

A number of informal agreements exist for advance "clearance" of NIH support proposals with one or more members of national Medical Research Councils (or similar entities).

Also, in award of international postdoctoral fellowships to foreign scientists, special arrangements are of some interest. For this program, scientists are nominated to NIH by ad hoc research committees set up in each nation, with NIH designating the first member.

(g) *With nonprofit organizations or institutions:*

i. The need for coordination or cooperation: In its efforts to achieve health research goals, NIH has developed very special relationships—in fact a state of interdependence—with several categories of nonprofit institutions which constitute the core of our national health research community. (NIH depends on these institutions for research progress; and they in turn on NIH funds to sustain and extend their research capabilities.) The closest of these relationships is with the Nation's medical schools and their associated teaching hospitals. But NIH support through its extramural programs is similarly critical to research levels in dental and other health professional schools; also

in various disease-oriented research foundations, independent hospitals, State, and local departments of public health, etc. Overall, it is fair to say that in U.S. graduate academic institutions, the level and future promise of health science capabilities depend to a considerable degree on what resources are made available through NIH programs.

ii. Existing arrangements: Strictly speaking, there are no "formal" mechanisms for coordinating interdependent interests of NIH and associated nonprofit health or academic institutions. Yet at an informal level, innumerable and ubiquitous coordinating arrangements exist. A full summary of these, therefore, would be pointless to attempt.

In terms of overall funding levels, nature of program parts, use of support mechanisms, and distribution of effort, the total NIH program has come to approximate a kind of consensus within the health research community on what is most needed and feasible. The main advisers on NIH program—members of the various national advisory councils and boards of scientific councilors—are drawn mostly from these closely associated institutions. Eminent individuals from these same institutions have a major role, also, in clarifying NIH program needs for appropriation and other congressional committees.

The elaborate structure of NIH study sections and training committees—made up of hundreds of the leading scientists from these same institutions—serve to set NIH and total community standards for research quality, and to unify thinking on research needs and opportunities.

(h) *With business enterprises:*

At the present time, coordination with business enterprises is not a significant element in the NIH research program. NIH does not make grants to such enterprises; and so far, contracting for specific research needs has not been of the type or on the scale warranting coordinating mechanisms beyond minimal setting up of contract purchase offices. Main areas of involvement have been with pharmaceutical concerns (for example, in vaccine development); or (in chemotherapy) with a range of pharmaceutical, animal production, and industrial-chemical concerns. NIH contract involvement with business enterprises almost certainly will increase rapidly in the years ahead; but the nature of coordinating arrangement needed then is not clear at this time.

(i) *With others (specify):* None.

8. *Laws and regulations.* (See general answer to this question for all NIH programs.)

PART II. DATA BEARING ON ECONOMIC ASPECTS AND IMPACTS OF THE PROGRAM

9. *Economic effects.* (See general answer to this question for all NIH programs.)

10. *Economic classification of program expenditures.* (See table 8 at end of NIH section.)

THE TRAINING PROGRAM

PART I. DESCRIPTION OF THE PROGRAM

1. Objectives

The training program of the National Institutes of Health seeks:

A. The career development of young scientists of promise;

B. The expansion of the pool of the physicians and paramedical personnel qualified to provide—at a high level of excellence—the particular and specialized services (diagnostic, therapeutic, etc.) related to specific categories of disease; and

C. The creation of the institutional forms and mechanisms to insure an adequate supply of manpower to meet the needs of a growing national commitment to health and health research.

2. Operation

This is largely an extramural effort, though there is a small intramural component also. Each of the nine NIH Institutes seeks on a continuing basis to relate estimated available manpower to present and projected needs of its programs. As manpower shortages are indicated, the Institute may plan to meet them through whichever of the available training grant or fellowship options appears most appropriate.

Extramural.—These are the main training options:

Fellowships: There are fellowships of several different types with slightly different objectives:

(a) Predoctoral fellowship: Designed to assist promising young students to obtain training in a department oriented to medical research.

(b) Postdoctoral fellowship: Designed to give additional training to Ph. D.'s and those holding other academic or doctoral degrees.

(c) Special fellowships: Designed for those who can demonstrate the need for additional training in order to increase their value as individual investigators and whose needs are not met by other fellowship programs.

(d) Research career awards: Designed to provide stable career opportunities for scientists of superior potential and capabilities early in their careers related to health.

(e) International postdoctoral fellowship: Designed to provide for scientists of other countries a scientific experience in the United States in order to strengthen medical research as a universal science by mutual exchange of research methods, scientific fellowship, and cultural values.

An applicant for fellowship programs must arrange for training with an institution where he will study and must have a sponsor under whom he will train. (This training may be in basic, clinical or other applied sciences in the health field.) Predoctoral training is possible in any recognized institution providing research and academic training leading to graduate degrees (but must be in the United States except in unusual circumstances). Postdoctoral and special fellows are expected to have arranged for training in any recognized institution in the United States, including Government research labs where resources are appropriate to the training to be undertaken.

Review: The applications and recommendations from references are given dual review. (Applications are structured to show applicant's academic and employment record, any honors, record of research to date, publications, and proposed educational program including the research project.) The Division of Research Grants provides the technical review, using fellowship review panels analogous to study sections. For the program review, practices vary; but generally this is made by Institute staff or the Institute training committee. However, research career awards go to the appropriate National Advisory Council. Final selection is based on relevance of the field of study to Public Health Service program interests, applicant's qualifications, qualifications of the training institution (and sponsor, where pertinent) and availability of funds.

Somewhat special procedures exist for the international postdoctoral fellows. Applications are accepted from persons in countries in which a national committee has been established by the Public Health Service for the purpose of nominating candidates. It is the responsibility of the candidate to ascertain the deadline date set by a particular committee for acceptance of applications. National committee nominations are pooled and then reviewed on a competitive basis by an advisory body at the National Institutes of Health. Fellowships are thereafter awarded according to priority score within the limitation of available funds. Requests for extension or renewal are also competitively reviewed with the award subject to concurrence of the national nominating committee. Training institutions, other than Federal Government laboratories, receive a research fellowship award on behalf of each international fellow. This award includes funds for the payment of the fellow's stipend, dependency and travel allowances, and training expenses. Stipend and allowance payments are paid to the fellow by the sponsoring institution in accordance with its institutional practices.

Training grants and direct traineeships:

(a) Undergraduate training grants: These are awarded (within annual maximum amounts) to certain categories of health professional schools to enable them to establish, expand, or improve instruction relating to prevention, diagnosis, and treatment of various diseases. (Only NCI, NIMH, and NHI make these grants.)

(b) Direct traineeships: These are provided as individual stipend awards to qualified physicians and other scientists for advanced training in one of the fields of the health sciences. (Made only by NINDB.)

(c) Graduate training grants: These are awarded mainly to assist public and other nonprofit institutions to establish, expand, or improve their research and academic training programs and to increase the number and caliber of trained research investigators in fields constituting the primary interest of the various NIH Institutes. The bulk of NIH training expenditures are made through this mechanism. These grants provide a wide range of support for the institution's training program; also stipends and allowances for students selected. The grantee institution selects the student trainees and has some latitude in setting stipend levels.

In addition to administrative review by NIH staff, graduate training grant applications receive dual review by advisory bodies

composed primarily of non-Federal scientists: first, by a training committee; second, by the appropriate National Advisory Council. Primary factors in evaluating training grant applications are: significance and relevance of proposed training program; adequacy of the leadership, faculty, and facilities; and training record of the institution and department concerned.

Intramural training.—Three distinct training programs are conducted in connection with intramural research. Two of these, the clinical and the research associate programs, are designed for the advanced training of young physicians. The former is oriented to the training of clinical investigators, the latter toward the nonclinical sciences; both of these programs are under the commissioned officer personnel system. Selection of incumbents is made by the scientific directors; appointments are of 2 to 3 years' duration. The staff fellowship program is primarily for the advanced training of young Ph. D's. It is under the civil service personnel system; appointments are for 2 to 3 years.

Intramurally, there is also the visiting program. Highly competent foreign scientists at all levels of seniority participate in this program. These appointments provide to the visiting scientist special facilities, resources, and consultation that may not have been available in his own country. At the same time they provide to the United States an additional source of new techniques and special talents and procedures. The general intent of the visiting program is to provide conditions under which the participants and the NIH staff will derive mutual profit. The categories for appointment are fellow, associate, scientist, and distinguished scientist. They are appointed only on individual invitation by a supervisor or senior staff member at NIH. Criteria are a doctoral degree or equivalent experience, plus specialized training or experience differing by category. Fellows must be considered unusually promising, while those in other categories must offer special talents which NIH cannot obtain through usual domestic employment channels.

3. History

The legislative history of NIH includes the authorization of three basic instrumentalities for the support of training. Public Law 71-251, which created the National Institutes of Health in 1930, authorized the Surgeon General to prescribe regulations for the appointment of fellows for duty at the National Institutes of Health and elsewhere. The National Cancer Act of 1937 extended this in authorizing the Surgeon General to support training in the diagnosis and treatment of cancer. Authorization to make grants to nonprofit institutions for training became available in the National Mental Health Act of 1946 (Public Law 79-487). Subsequent enactments, with minor variations, embodied authority in the institutes for training through the use of these instrumentalities.

It is important to recognize that these basic authorities do not limit the training programs of the institutes to the support of research training; the Congress specifically and repeatedly sanctioned training for health service. As a result of this, the training programs of the institutes have evolved with more variety in philosophy, in objectives, in administrative procedures, and in mechanisms of support than other functional activities of the NIH. Even within a single institute,

the characteristics of the training activities have shown important variations over the years.

To set manageable limits to detail on training program additions and changes through time, a selection of just the high points is set down below, chronologically:

In the period 1937-46, NCI focused its training efforts on two aspects: (a) postdoctoral research fellows, and (b) clinical traineeships in diagnosis and therapy. For both of these programs, NCI made awards to individuals based on selection by NCI staff. In 1946 NCI added predoctoral research fellowships to its training efforts.

The first departure from the pattern of individual award and central review was in 1948. In that year, undergraduate training grants were initiated, these going to institutions to strengthen their undergraduate teaching capabilities in special fields.

During the late 1940's and early 1950's—as each of the NIH categorical institutes was established—the institutes set up training programs to develop the manpower pool where critical shortages existed; also for professional fields broadly related to the institute's statutory responsibilities.

In 1948, NIMH set up its graduate training grant program to support specific departments (psychiatry, psychology, nursing, and social work), providing direct departmental subsidy, as well as support of individual trainees. This was the first training program to use a committee of external advisers to review proposals. The role of Institute staff, therefore, was to invite proposals and to establish program goals for guidance of institutions.

In 1950 the National Heart Institute modified the graduate training grant mechanism to give the grantee institutions greater latitude in several respects: Institutions were allowed to set the level of individual stipends; also to select trainees for the program without central NIH review. This established the general pattern for NIH programs of this type. Also in 1950, on the intramural training side, the NIH visiting program was established. Its purposes were to strengthen the mutually productive relationships of scientific centers throughout the world with that part of the American scientific community represented by NIH, and to increase the utility of the facilities and environment of NIH as a national research resource. (From 1950 to 1955 only about 60 appointments were made under this program. Currently, however, the average number of participants in the visiting program on duty each month runs close to 130.)

In 1954, NIMH initiated career investigator grants. These were intended to support promising scientists in the interval between the completion of their formal training and attainment of tenure appointments. They also were intended to encourage research as a component in an academic career in psychiatry.

In 1955 part-time fellowship programs were initiated for predoctoral students in medicine. (This usually was for summer work.) Purposes of the new program:

- (a) To stimulate student interest in research;
- (b) To permit early identification of research talent;
- (c) To expose selected individuals to research experience as part of their formal education.

In 1958 the creation of the Division of General Medical Sciences (now NIGMS) provided an institutional focus for programs to support

training in a broad range of fundamental scientific disciplines relevant to health, but with limited immediate pertinence to categorical programs.

In 1960 the establishment of general research support grants (as authorized under Public Law 86-98) made possible discontinuance of several training programs; for example, postsophomore and part-time student fellowship programs.

In 1961 the research career program was initiated to provide stable support over extended periods for academic research careers. This program incorporated senior research fellowship programs started earlier by several of the institutes. It had two levels: (1) research career development awards, for promising and mature scientists just getting well launched in their research careers; and (2) research career awards, to permit fully established research scientists to devote maximum time to their research activities.

In fiscal year 1963, NIMH initiated inservice training activities in mental health facilities across the country, designed to increase numbers of fully trained aids, attendants, house parents, and other service personnel needed for staffing of community mental health centers and mental hospitals.

4. *Level of operations.* (See table 3 at the end of NIH section.)

5. *Estimated magnitude of program in 1970*

Not answered.

6. *Prospective changes in program orientation*

Not answered.

7. *Coordination and cooperation*

NOTE.—With relatively unimportant differences in detail, the discussion of coordination presented for the NIH research program applies equally to the NIH training program. These differences are not felt to warrant a separate presentation on training.

8. *Laws and regulations.* (See general answer to this question for all NIH programs.)

PART II. DATA BEARING ON ECONOMIC ASPECTS AND IMPACTS OF THE PROGRAM

9. *Economic effects.* (See general answer to this question for all NIH programs.)

10. *Economic classification of program expenditures.* (See table 8 at the end of NIH section.)

MENTAL HEALTH SERVICES

PART I. DESCRIPTION OF THE PROGRAM

1. *Objectives*

The following three papers deal in specific detail with major aspects of the National Institute of Mental Health program directed at the improvement of health services: (1) Diverse programs involving community research and services—e.g., the mental health projects grant program and technical assistance projects; (2) the mental health grant-in-aid program for support of State control programs; and

(3) the community mental health centers program. (The third of these programs is also included in the summary of NIH grants for construction of health research facilities and community mental health centers.)

Although the foregoing represent the major elements of the NIMH effort with a specific service orientation, in the final analysis the improvement of mental health services is the ultimate goal of the entire Institute's activity. For this reason the following information is offered as a summary of the NIMH services activities.

The NIMH effort traverses the varied endeavors of research scientists, clinicians, community agencies, and training institutions. In its substance, the program includes work in the most basic sciences—for example, in biochemistry, genetics, and experimental psychology—along with clinical studies—e.g., of the alcoholic, of the retarded, the delinquent, and the autistic child, together with work designed to translate and apply acquired knowledge to the many areas of service. Reflected here is a recognition by the Institute that if we are to build a continuum of services to enhance the mental health of Americans, we must buttress the effort with a continuum of scientific endeavor—from basic, normative studies of human development to community-based evaluations of new approaches to the care of the severely disturbed. It would hardly profit citizens, for example, if we were to design, plan, and build new facilities to house services without having available the basic knowledge and techniques which are the core of any helping process.

Underlying all of the Institute's varied efforts—from basic research to community consultations—is the endeavor to improve the mental health services required to meet the needs of our citizens. These needs define our goals: to provide knowledge, techniques, and services that will reverse the tide of mental illness and, ultimately, enhance the well-being and productivity of all of our people.

2. Operation

The program of the National Institute of Mental Health is action oriented. Its activities include making inventories of existing resources, planning for provision of adequate mental health services, constructing and staffing community-based centers, supporting training of mental health personnel to provide services, utilizing current knowledge in prevention and treatment, and accelerating basic and clinical research to obtain new knowledge. This work is accomplished through a variety of efforts, administered under the extramural and intramural programs of the Institute, as well as through a number of special offices.

3. History

Although the National Institute of Mental Health officially came into being in 1946, the Federal Government's interest in mental health reaches at least as far back as 1928. At that time a bill was introduced into the Congress to authorize the construction of two hospitals for the confinement and treatment of persons addicted to the use of habit-forming drugs. The act, which was signed into law the following year, created within the Office of the Surgeon General of the Public Health Service a division charged with the administration of the two hospitals and with other responsibilities concerning narcotics, including research, information dissemination, and development

of care and treatment facilities in cooperation with State and local jurisdictions.

Only a year later, the name of the Division was changed to the Division of Mental Hygiene, and its scope of functions was enlarged to include studies and investigations of the causes, prevalence, and means for the prevention and treatment, of mental and nervous diseases.

A decade passed, and World War II brought into sharp focus the mental health needs of the Nation. More than a million men were rejected by Selective Service for neuropsychiatric disorders, and those rejected for mental and educational deficiencies brought the total to 1,767,000—some 17 percent of American men in their prime of life. Concomitant manpower shortages also emphasized the alarming shortage of personnel in the mental health professions, a lack which precluded adequate treatment and prevention services.

Out of these needs, the National Mental Health Act was passed in 1946. This act, Public Law 487 of the 79th Congress, authorized the establishment of the National Institute of Mental Health. Since then, three acts have extended the basic authorizations for the NIMH program.

The Mental Health Study Act (1955, Public Law 82, 84th Cong.), called for "an objective, thorough, nationwide analysis and reevaluation of the human and economic problems of mental illness." This resulted in the historic study which yielded the report, "Action for Mental Health."

The second act, the Health Amendments Act (1956, Public Law 911, 84th Cong.), authorized a competitive grant program for applied research and evaluative studies, to provide a basis for translation of research findings to the treatment and rehabilitation of the mentally ill.

The third act, the Community Mental Health Centers Act (1963, title II, Public Law 88-164, 88th Cong.), was the response to President John F. Kennedy's special message to Congress, in which he transmitted the recommendations of a Cabinet-level panel and the Joint Commission on Mental Illness and Health and called for a "bold new approach" to end neglect of the mental illnesses.

This profoundly significant legislative step, marking a new era in Federal Government support for mental health services, authorized \$150 million over 3 years for grants to States to construct public and other nonprofit community mental health centers. The National Institute of Mental Health carries the responsibility for assisting the States in this venture to make the "bold new approach" to the prevention and treatment of mental illness a reality for those among us in need of help.

4. *Level of operations.* (See table 4 at the end of the NIH section.)

5. *Estimated magnitude of program in 1970*

Not answered.

6. *Prospective changes in program orientation*

Not answered.

7. *Coordination and cooperation*

Because the ramifications of mental health and illness are so extremely broad, coordination and cooperation with other programs

and agencies—varying in their orientations and missions—are frequent. An individual's behavior is inextricably intertwined with that of the setting and activity in which he finds himself—at home, school, work, or leisure time activities—and his behavior has widespread and significant social repercussions. This is most apparent in the manifestation of mental disorders, which overwhelmingly involve disturbances of the individual's overall behavior and his interpersonal relations. The phenomena of mental illness make themselves known—as do no other pathological states—primarily through behavior.

The Institute, as the Federal Government's major agency and instrument in enhancing the mental health and alleviating the mental ills of the population, develops and maintains a variety of relationships—both formal and informal, ad hoc and continuing—with other Federal agencies having programs bearing upon the field of mental health. Numerous Federal agencies have a stake in the field of mental health and mental illness, particularly in view of some of the more recent developments in areas such as comprehensive community mental health centers, mental retardation, and aging. Each of these fields, as examples, has expanded or will expand the Institute's contacts with other Federal operations.

In addition, the Institute works with States, professional societies, academic institutions, hospitals, voluntary associations, and international organizations. Legislation such as that for the comprehensive community mental health centers also, of course, widens the working relationship of the NIMH with State and local agencies.

The relevance of social considerations to the study of illness and health has become increasingly apparent to all. The Institute has taken cognizance of, and necessarily must become more intensively involved with, the psychosocial implications and ramifications of such major national problems as desegregation and more effective civil rights, broader educational opportunities, the effects of automation, the population explosion, and the elimination of pockets of poverty. As congressional and executive action becomes increasingly aggressive in coming to grips with these wide-ranging problems which touch so crucially on mental health, the Institute's area of coordination with other agencies may be expected to expand.

8. *Laws and regulations.* (See general answer to this question for all NIH programs.)

PART II. DATA BEARING ON ECONOMIC ASPECTS AND IMPACTS OF THE PROGRAM

9. *Economic effects*

President Lyndon B. Johnson, in his 1965 health message to Congress, indicated that mental health programs are a continuing concern. In illustrating the extent of the problem, he said:

Mental illness afflicts one out of 10 Americans, fills nearly one-half of all the hospital beds in the Nation, and costs \$3 billion annually.

To cite a few statistics:

The number of outpatient psychiatric clinics increased from about 1,200 in 1954 to about 1,800 in 1963; the number of patients under care in those clinics increased in that same period from 379,000 to 862,000.

Twenty years ago only 48 general hospitals were known to admit mental patients; in 1964 there were 1,005 general hospitals admitting an estimated 413,000 psychiatric patients.

In 1964 the average daily resident population in State and county mental hospitals dropped to below 500,000 for the first time in 15 years. However, in the same year there were 300,000 admissions to these hospitals, the largest number in history.

Mental illness and mental retardation are among our most critical health problems. They occur more frequently, affect more people, require more prolonged treatment, cause more suffering by the families of the afflicted, waste more of our human resources, and constitute more financial drain upon both the public treasury and the personal finances of the individual families than any other single condition.

The total cost to the taxpayers is over \$2.4 billion a year in direct public outlays for services—about \$1.8 billion for mental illness and \$600 million for mental retardation. Indirect public outlays, in welfare costs and in the waste of human resources, are even higher. But the anguish suffered both by those afflicted and by their families transcends financial statistics—particularly in view of the fact that both mental illness and mental retardation strike so often in childhood, leading in most cases to a lifetime of disablement for the patient and a lifetime of hardship for his family.

Also see general answer to this question at the end of the NIH section.

10. *Economic classification of program expenditures.* (See table 8 at the end of the NIH section.)

COMMUNITY RESEARCH AND SERVICES BRANCH PROGRAM

(Including Mental Health Project Grants)

PART I. DESCRIPTION OF THE PROGRAM

1. *Objectives*

The primary functions of the Community Research and Services Branch, National Institute of Mental Health, are to encourage and foster—

1. the development of comprehensive community mental health programs in the Nation;
2. experimentation with new methods in pilot projects, demonstrations, and operational research and evaluation in mental health services;
3. communication of new knowledge to mental health practitioners and absorption of validated methods into everyday practice.

Staff assist National, State, and local agencies and organizations in improving and extending their programs for the promotion of mental health, prevention of mental disorders, and care, treatment and rehabilitation of the mentally ill and mentally retarded. A major emphasis is helping in the development of a coordinated continuum of mental health services at the local level which will work closely with other community agencies in health, welfare, education, etc. Assisting in the establishment of community mental health centers has high priority.

The ultimate purpose is the "improvement of the mental health of the people of the United States" (National Mental Health Act of 1946).

2. Operation

A wide range of methods is used including: Consultation with State and local programs, operation of demonstrations and pilot projects, conferences to communicate new knowledge (technical assistance projects and research utilization conferences), scientific reviews of current knowledge, program research and evaluative studies, surveys of State programs, and the administration of the mental health project grants programs, including hospital improvement projects.

A staff of national experts in mental health services and mental health program administration is located in the headquarters office. The staff includes consultants specializing in the following areas: Clinical facilities, social psychiatry, child mental health, aging, alcoholism and drug abuse, crime and delinquency, and mental retardation.

The mental health project grants program (title V of the Health Amendment Act of 1956, Public Law 911) makes grants for "investigations, experiments, demonstrations, studies, and research projects with respect to the development of improved methods of diagnosing mental illness and for care, treatment, and rehabilitation of the mentally ill, including grants to State agencies responsible for administration of State institutions * * * for developing and establishing improved methods of operation and administration of such institutions." The two parts of this program are (1) the "comprehensive" mental health project grants and (2) the hospital improvement project grants program. Both grants programs are viewed as vehicles for program development in mental health services.

The "comprehensive" mental health project grants (\$18 million in fiscal 1966) provide support for a wide range of program studies, experiments, demonstrations, and operational research projects designed to develop and evaluate improved methods of care, treatment, and rehabilitation of the mentally ill. The program supports community services, including projects concerned with prevention and with new psychosocial and psychoeducational approaches to mental health services. Emphasis is on experimentation with and demonstration of new program ideas, systems, and techniques and on the application of new knowledge from the behavioral sciences.

Among the major program areas supported are: (1) Alternatives to institutional care; (2) new techniques of prevention and rapid treatment, such as early case finding, crisis intervention, short-term therapy and family therapy; (3) innovations in services for the aged, alcoholic, and drug addict, delinquent and mentally retarded; (4) multipronged approaches to mental health problems of low-income groups; (5) epidemiologic and evaluative studies; (6) new therapeutic services for children and adolescents; (7) experimentation with new ways of utilizing mental health manpower, particularly nonprofessionals; (8) new methods of organization, administration, and coordination of existing resources which move toward a continuum of care through prevention, treatment, and rehabilitation.

The second part of the mental health project grants program is the hospital improvement project grants which also has an allocation of

\$18 million in fiscal 1966. This program began in fiscal 1964 as the result of appropriation language. The hospital improvement project grants program initiates and supports demonstrations to improve the treatment, training, and rehabilitation programs of State mental hospitals and institutions for the retarded. Beginning with the \$6 million appropriation in fiscal year 1964, the program was planned to grow in regular steps of \$6 million increments each year until a maximum of \$36 million is reached in fiscal year 1969. Each of the Nation's approximately 430 State mental hospitals and institutions for the mentally retarded is eligible to apply for a grant, up to a maximum of \$100,000 a year for a 10-year period.

The purpose of these grants is to make it possible for an institution to initiate a series of changes which will produce improvement in patient care throughout the entire program of the institution. They are also designed to help the State hospitals and institutions for the retarded achieve a strengthened role as an integral part of comprehensive community-based services.

In the overall mental health project grants program, professional and technical assistance staff have been involved in stimulating, developing, and improving applications and consulting with investigators while the project is underway.

In addition to grants, contracts are used for staff-initiated demonstrations, pilot projects, and program studies; for technical assistance projects or conferences held by States; and for consultation provided by outside experts.

3. History

Following the passage of the National Mental Health Act in 1946, the Community Services Branch was organized in 1947 in the Mental Hygiene Division of the Bureau of Medical Services, Public Health Service. (In 1949 the Mental Hygiene Division became the National Institute of Mental Health.) The prime objective at that time was to extend and strengthen State programs of mental health services. This objective was carried out through (1) grants-in-aid to States for community mental health services; (2) demonstrations and program studies; and (3) professional and technical assistance to State and local programs. Professional and technical assistance was provided on State program administration, outpatient psychiatric clinics and mental hospitals. From that time to the present the public health approach was employed; consultation with nonpsychiatric agencies and groups and mental health education were considered essential for an effective mental health program.

In 1955, the first technical assistance project was initiated, a unique administrative invention financed through contracts. In these projects, outstanding national experts, researchers, and practitioners, meet with staff in an institute or workshop focused on a specific mental health problem. Technical assistance projects have become an essential part of the National Institute of Mental Health program; 20 projects were conducted in fiscal 1965.

In 1956 the Health Amendments Act of 1956 (Public Law 911) established the mental health project grants program (title V). This program provides competitive grants for pilot projects, demonstrations, applied research, and evaluative studies. During the first year of operation (1958), 64 grants were made totaling \$1.9 million. It was the first such program in the Public Health Service.

Through appropriation language, in fiscal 1964 the mental health project grants program was expanded to include the hospital improvement project grants program. In fiscal 1965, 295 "comprehensive" mental health project grants were paid, totaling \$16.8 million; 159 hospital improvement project grants projects were paid totaling \$12 million.

The mental health project grants program started with one review committee of nongovernmental consultants. By 1964, four committees were operating—committees on (1) community programs, (2) mental hospitals, (3) special areas (aging, alcoholism, mental retardation, etc.), and (4) juvenile delinquency.

With the passage of the Community Mental Health Centers legislation, National Institute of Mental Health staff concerned with services have increasingly focused efforts on assisting staff responsible for the administration of the community mental health centers programs. The contribution of Community Research and Services Branch staff has been in providing specialized expert knowledge on the program components of centers (e.g., children's services, alcoholism services, etc.) and also on general mental health program administration.

Current activities are based on the following guidelines:

(a) Much of our knowledge about mental health is fragmentary. Final answers to problems are generally not yet available so that there is continuing need for experimentation, research, pilot projects, and evaluation. The trying out of new approaches, methods and techniques should be encouraged.

(b) The gap between present knowledge and present practice should be reduced.

(c) As a long-range goal, comprehensive mental health services in communities should be available for all in the population who need these services, regardless of where they live, their age, race, religion, or condition. Large areas of the country, large segments of our population still have little or no mental health services, so that strenuous efforts are necessary to expand services. Communities should have a coordinated continuum of services for patients, beginning with preventive services and including care for the mentally ill as they move from the prehospital period, through inpatient care and back to the home. With new methods of treatment such as emergency home care, day care, etc., many seriously ill mental patients can avoid hospitalization. For most patients, maintaining community ties with family, job, friends, etc., is therapeutically desirable.

(d) Community mental health programs should have a public health approach to prevention and control; they should be concerned with the total population and with the community, its organizations, and groups. Mental health concepts and knowledge should be incorporated into the practices of the many different community agencies and institutions dealing with people. Mental health education, mental health consultation to health and welfare agencies, courts, schools, general practitioners, volunteer agencies, etc., should be an essential part of the activities of State and local mental health personnel. The tools and techniques of public health (i.e., epidemiology, early case findings, prevention, etc.) seem to offer a fruitful approach to the development of community mental health services.

(e) The development of mental health services is a joint responsibility of Federal, State, and local, public and voluntary organizations.

Local support tends to assure the continuation and growth of mental health programs.

4. *Level of operations.* (See tables 5 and 6 at the end of the NIH section, relating to grants for construction and staffing of community mental health centers.)

5. *Estimated magnitude of program in 1970*

Not answered.

6. *Prospective changes in program orientation*

Not answered.

7. *Coordination and cooperation*

Besides the traditional administrative reasons for coordination (avoidance of duplication and overlap, increased efficiency, etc.), National Institute of Mental Health staff in mental health services have a special reason for working with other organizations. The acute shortage of mental health manpower will not be relieved in the foreseeable future so that mental health programs must rely on other types of organizations such as welfare agencies, courts, schools, etc., to carry part of the load. More than that, these other agencies and institutions probably have an important impact on the mental health of the large numbers of people that they reach.

(a) Within the National Institute of Mental Health, Community Research and Services Branch staff review and advise on State and local plans for community mental health centers. Regional staff help in the administration of the mental health project grants program, by visiting applicants and giving oral reports at meetings of review committees which make decisions on projects.

(b) In relation to medicare, National Institute of Mental Health staff have been working intensively on the development of standards for mental health services with the Social Security Administration, Bureau of Family Services, and Bureau of State Services, Public Health Service.

(c) In a formal arrangement with the Office of Economic Opportunity, National Institute of Mental Health staff regularly review proposals for antipoverty projects which have mental health components. National Institute of Mental Health staff participate on the President's Committee on Juvenile Delinquency and Crime, review legislative proposals of the Department of Justice and cooperate with the National Crime Commission.

(d, e, and g) The major effort of the total National Institute of Mental Health program of mental health services is in the development of State and local services by public or nonprofit organizations. By far most of the National Institute of Mental Health resources in the services area (consultation, mental health project grants, technical assistance projects, demonstrations, program studies) are devoted to continuous work with these organizations.

Considerable support also is provided to universities and professional schools because of the leadership they can provide in innovating, trying out and testing new methods of prevention and treatment and because of their competence in research design.

(f) A few mental health project grants have been made to investigators in foreign countries. A staff member is currently repre-

senting the National Institute of Mental Health in a World Health Organization Committee on mental retardation.

(h and i) One staff member is a specialist in occupational mental health and consults with business enterprises on their mental health services for employees. A few grants have been made to labor unions in relation to their health programs.

8. *Laws and regulations*

(42 U.S.C. 241 et seq.)

Mental health project grants: Section 303, Public Health Service Act; Health Amendments Act of 1956, Public Law 911; DHEW Appropriations Acts, fiscal years 1964, 1965, 1966.

Professional and technical assistance: Section 301, Public Health Service Act.

Also see general answer to this question at the end of the NIH section.

PART II. DATA BEARING ON ECONOMIC ASPECTS AND IMPACTS OF THE PROGRAM

9. *Economic effects*

Mental illness is one of the most costly health problems faced by the Nation. It constitutes an enormous drain on the Nation's resources and energies, both economic and noneconomic.

Mental illness cost the Nation about \$3.5 billion in 1962. Direct costs for the care and treatment of the mentally ill were over \$1.8 billion, indirect costs (losses in salaries and wages, etc.) \$1 billion, and other costs (research and training, pensions and compensation) \$½ billion. All of these costs increased sharply in recent years. For example, direct costs increased 63 percent between 1956 and 1962. These estimates by the Blue Cross Association are described as a substantial understatement of the total economic cost.

10. *Economic classification of program expenditures.* (See table 8 at the end of the NIH section.)

Included in report on research grants prepared by the National Institutes of Health and discussed later.

MENTAL HEALTH GRANT-IN-AID PROGRAM

(State Control Programs)

PART I. DESCRIPTION OF THE PROGRAM

1. *Objectives*

The purpose of this grant is to assist the States in establishing, maintaining, and expanding community mental health services in an effort to improve the mental health of the people of the United States and to prevent and curtail the need for hospital care of the mentally ill.

2. *Operation*

The funds appropriated annually for the program are allotted among the States by a formula which, as provided by law, takes into consideration the population, financial need, and extent of the mental health problem in the various States. By administrative

determination, 30 percent of the funds is allotted on the basis of population weighted by the reciprocal of per capita income and 70 percent on the basis of the extent of the mental health problem, which is considered to be directly proportional to population. Allotments are administratively adjusted to insure that each State receives a minimum grant based on the amount of the total appropriation. In weighing the population by the reciprocal of per capita income, funds are channeled into those areas least financially able to promote community mental health services.

Since 1960, the expenditure of mental health grants must be matched by expenditures of an equal amount of State and local funds. Mental health authorities, designated by the States, are eligible to receive formula grants upon submission and approval of a State plan for their use. Funds are allocated to the 50 States, the District of Columbia, Guam, Puerto Rico, and the Virgin Islands.

3. *History*

Beginning with fiscal year 1948, annual appropriation acts have included in the appropriation for mental health activities an amount for State grants (State control programs). For fiscal year 1948 an amount of \$3 million was appropriated. Lesser amounts were made available during the period 1951-55. The appropriation was restored to its 1948 level in fiscal 1956. The amount made available by Congress for this program was increased in later years to \$6.75 million in fiscal 1962. For each of the fiscal years 1963 and 1964 an additional \$4.2 million was appropriated to support interagency State planning of comprehensive long-range mental health services.

During the early years of the program many States could not match the requirement of \$2 of Federal funds with \$1 of State and local funds without recourse to a temporary provision allowing them to credit up to 1 percent of their funds being spent on mental hospitals. The ratio of the total expenditures of State and local funds to the expenditures of Federal funds for community mental health services rose from 1.45 in 1948 to approximately 15.7 in fiscal 1964. The ratios of such expenditures for the individual States and territories vary widely. In New York the expenditures of State and local moneys in fiscal 1964 were over 65 times the amount of Federal grant-in-aid funds expended.

In 1948 less than half of the States had organized community mental health programs; by 1951 all States had such programs. Most of the funds were used to establish or expand outpatient psychiatric clinics in communities. The public health approach was emphasized; consultation with nonpsychiatric agencies and groups and mental health education were considered as important preventive services which should be part of clinic programs. National Institute of Mental Health staff urged that larger proportions of the Federal grants be used for demonstrations which would eventually be taken over by State and local funds.

4. *Level of operations.* (See table 4 at the end of the NIH section.)

5. *Estimated magnitude of program in 1970*

Not answered.

6. *Prospective changes in program orientation*

Not answered.

7. *Coordination and cooperation*

(a) *Within NIMH.*—In reviewing State plans for use of formula grant funds NIMH regional office staff will be concerned with the extent to which the plan is consistent with the State's plan for comprehensive mental health services. Regulations also require that the State plan for the construction of comprehensive mental health centers be consistent with the comprehensive State planning. The use of funds for initial support for staff of mental health centers must be described in the State's plan for community mental health services.

(b) *With other units in the department or agency.*—The centralized administrative responsibility of the Office of Grants Management in the Bureau of State Services (CH), PHS, integrates the administrative aspect of the program. The responsibility of the regional health directors for approval of all State plans for use of Public Health Service grant-in-aid programs provides a substantial coordinating effect. The accessibility of staff of other component agencies of the Department in the regional office facilitates collaboration and cooperation in the administration of this grant program and other programs of the Department of Health, Education, and Welfare.

(c) *With other Federal departments or agencies.*—Coordination with other Federal departments is accomplished through representation of the Veterans' Administration and the Department of Defense on the National Advisory Mental Health Council.

(d) *With State agencies.*—Staff of NIMH works directly with State mental health authorities to give professional and technical assistance in the development of comprehensive State community mental health programs.

(e) *With local governments or communities.*—Institute staff also works with local governments and local communities, usually with the collaboration or knowledge of State agency staff, in the development of community mental health programs.

(f) *With foreign governments.*—This program has no contact with foreign governments.

(g) *With nonprofit organizations.*—NIMH personnel offer professional and technical assistance to both public and voluntary agencies with respect to program development.

(h) *With business enterprises.*—In the administration of this program there is no contact with business enterprises.

(i) Not applicable.

8. *Laws and regulations*

Public Health Service Act, section 314, as amended. Department of Health, Education, and Welfare Appropriations Act of 1966. The National Mental Health Act, Public Law 487, 79th Congress, approved July 3, 1946, amended section 314(c) of the Public Health Service Act to provide for grants to States. Section 314(d) of the Public Health Service Act as amended (42 U.S.C. 246(d)) cites the basic allotment factors of population, financial need, and extent of the mental health problems. Section 18, Public Law 896, 84th Congress, approved August 1, 1956, extended the mental health grant to Guam. Sections 51.1(c), 51.1(i), and 51.2(d) of the Public Health Service Regulations (42 CFR) define these factors and section 51.3(d) prescribes the range

of percentage distribution for each factor. Section 51.9(a) prescribes the matching ratio.

Also see general answer to this question for all NIH programs.

PART II. DATA BEARING ON ECONOMIC ASPECTS AND IMPACTS OF THE PROGRAM

9. *Economic effects*

There is no doubt but that the use of mental health formula grant funds in the community programs of the 54 State and territorial mental health authorities improves the personal incomes of persons served and their placement and productivity. The use of these funds assists in the prevention and treatment of mental illness and in the rehabilitation of the mentally ill. It is impossible, however, to identify the economic effects of the use of these funds in mental health programs supported jointly by State and local, public and private funds. It is also impossible to separate the economic effects of inpatient and outpatient (community) mental health services.

Also see general answer to this question at the end of the NIH section.

10. *Economic classification of program expenditures.* (See table 8 at the end of the NIH section.)

COMMUNITY MENTAL HEALTH CENTERS PROGRAM

PART I. DESCRIPTION OF THE PROGRAM

1. *Objectives*

The community mental health centers program is designed to foster the nationwide development of local community programs of comprehensive mental health services. In carrying out this program grants are made to assist States and communities in both the construction and the initial staffing of community mental health centers.

2. *Operation*

The construction grant funds are allocated by formula among the States (based on population and per capita income). Each State has designated a State agency responsible for drawing up a State plan for the construction of community mental health centers and for assigning priority ratings to the applications submitted to it by all potential grantees. The Federal administrative responsibility is carried out by the National Institute of Mental Health in cooperation with the Division of Hospital and Medical Facilities.

The initial staffing grants will be made on a project basis against a State allotment. As this legislation was enacted in August, 1965, the Secretary has not yet promulgated the regulations which will specify the conditions of award.

3. *History*

Following a study of the findings and final report of the Joint Commission on Mental Illness and Health, in early 1963, President Kennedy sent to the Congress, his special message on mental illness and mental retardation. In that message the President asked for a "bold new approach" to replace the State mental hospital system with a system for providing comprehensive mental health services

at the community level. This system would emphasize service which was short term and intensive rather than long term and custodial. It would also emphasize the prevention of mental illness through consultation and education, as well as the full rehabilitation of those who have been mentally ill.

Hence it was a comprehensive approach, one which could be successful only if undertaken at the community level, i.e., close to the homes, families, and jobs of those who need help.

In the fall of 1963, Congress passed Public Law 88-164, title II of which is the "Community Mental Health Centers Act". This act authorized a total of \$150 million for the fiscal years 1965-67 for grants to assist in the construction of community mental health centers. The appropriation authorized for each year (\$35 million for fiscal year 1965, \$50 million for fiscal year 1966, and \$65 million for fiscal year 1967) is to be allotted among the several States and is to remain available for 2 years.

Regulations implementing the act were issued in the spring, 1964. Thereafter, the States began to bring together material from their comprehensive mental health planning programs (supported by the NIMH in fiscal year 1963 and fiscal year 1964) in order to develop a plan for the construction of community mental health centers. These plans, which must be approved before any projects can be awarded, are now being submitted to the National Institute of Mental Health. To date, 10 plans have been approved, 14 others are now under review, and the remaining 30 (including the District of Columbia and territories) are in various stages of preparation. The first two construction grant applications have been approved, and others are being submitted.

In enacting the Community Mental Health Centers Act, the 88th Congress accepted only a part of President Kennedy's proposal. In addition to the construction grant program, the President had recommended a program of providing initial staffing grants to enable mental health centers to begin operation. Following congressional action which resulted in the passage of the Community Mental Health Centers Act of 1963 it became apparent that a great many centers would need such assistance and thus the 89th Congress in 1965 amended the Community Mental Health Centers Act to include such a staffing grant program. The regulations implementing the staffing grant program will be issued within 6 months following the enactment of the legislation.

The average Federal share in all construction grants is 50 percent. This percentage figure varies by State between 33½ percent and 66½ percent.

Staffing grants will be at a level of 75 percent Federal assistance for the first 15 months, 60 percent for the next year, 45 percent for the third year, and 30 percent for the fourth year.

4. *Level of operations.* (See tables 5 and 6 at the end of the NIH section.)

5. *Estimated magnitude of program in 1970*

Not answered.

6. *Prospective changes in program orientation*

Not answered.

7. *Coordination and cooperation*

(a) While the Community Mental Health Facilities Branch of the NIMH is primarily responsible for the administration of the centers program, nearly every area of the Institute becomes involved in the planning for the program and in the review of State plans and project applications.

(b) Within the Public Health Service the NIMH carries out its responsibilities for the centers program in cooperation with the Division of Hospital and Medical Facilities.

Within the Department of Health, Education, and Welfare the NIMH has consulted with the Office of Education and the Vocational Rehabilitation Administration in regard to elements of the centers program which might fall within the interests of those two agencies. Arrangements are also being made to consult at length with the Social Security Administration with a view toward implementing the mental health aspects of the Social Security Amendments of 1965 (Public Law 89-97).

(c) The NIMH has also had conferences with staff in the Office of Economic Opportunity in regard to possible utilization of funds from the war on poverty for use in community mental health centers. Further, the NIMH has had exploratory contact with the staff of the Appalachian Regional Commission in regard to the Appalachian Regional Development Act which authorizes funds for the construction and staffing of community mental health centers.

(d) By the very nature of the centers program, the NIMH has continuing contact with every State government (usually through both the mental health agency and the hospital construction agency). The mental health staff in the DHEW regional offices are continually called upon by State governments for consultation in regard to such things as the State plan for community mental health centers, plans for improving the State mental hospital system, etc.

(e) By the nature of the program, the NIMH has had continuing contacts with many local communities on a consultation basis.

(f) Foreign governments and international organizations are generally outside the boundary of the community mental health centers program.

(g) A great many applicants for centers construction and staffing funds have been and will be nonprofit organizations and institutions such as general hospitals, mental health clinics, universities, and various voluntary mental health associations.

(h) and (i) not applicable.

8. *Laws and regulations*

The basic authorizing legislation for the centers program is Public Law 88-164, "The Community Mental Health Centers Act" (cf. 42 U.S.C. 2681-2687), as amended.

PART II. DATA BEARING ON ECONOMIC ASPECTS AND IMPACTS OF THE PROGRAM

9. *Economic effects*

It is estimated that at the present time the direct and indirect costs of mental illness are upward of \$4 billion annually.

10. *Economic classification of program expenditures.* (See table 8 at the end of the NIH section, which combines grants for mental health center construction with those for health research facilities construction.)

GRANTS FOR THE CONSTRUCTION OF HEALTH RESEARCH FACILITIES

PART I. DESCRIPTION OF THE PROGRAM

1. *Objectives*

The objective of this program is to raise the quality and capacity of the facilities for health and health-related research by supporting the construction, renovation, and equipping of modern facilities for research and related activities in the sciences related to health. This support is provided to both public and nonprofit private institutions. The activity was initiated in recognition of the need (1) for a program of modernization to overcome the problems of obsolete, overcrowded, and poorly equipped research laboratories, and (2) to expand research facilities resources as the Nation's support of medical research performance grows, new institutions with research capability are created, and the supply of qualified personnel for research training increases.

2. *Operation*

Grants for the construction of health research facilities are awarded by the Surgeon General of the Public Health Service upon recommendation for approval by the National Advisory Council on Health Research Facilities.

The applicant for a construction grant must be a public or a nonprofit institution determined to be competent to engage in the type of research for which the facility is to be constructed.

The amount of the grant may not exceed 50 percent of the cost of the construction of the facility; in the case of multipurpose facilities the award is based on the proportionate cost of the part of the facility to be used for research or related activities.

Furthermore, the facility, for 10 years after completion, must be used for the purpose for which it was constructed. In the event that the facility, within 10 years, is not being used for the research purposes for which it was constructed, the regulations provide for the recovery by the Federal Government of an amount proportionate to the value of the facility (at the time of recovery) in the same ratio as the Federal grant for construction bore to the total cost of the construction of the research facility.

In approving awards, particular consideration is given to facilities that (a) will be used for research in disciplines or diseases which have the most urgent needs; (b) are adaptable to the various methods by which research is organized or advanced; (c) will be in institutions or localities with broad research programs and potentials; (d) will promote a better geographic distribution of research through assistance of established or promising new research activities in various areas of the Nation having at present relatively few such research facilities.

The award process.—The National Advisory Council on Health Research Facilities is composed of the Surgeon General of the Public Health Service, an official of the National Science Foundation, and 12 members appointed by the Secretary, Department of Health, Educa-

tion, and Welfare—4 of them selected from the general public and 8 from among leading medical, dental, or scientific authorities.

To assist the Council in the review process, a scientific review committee composed of expert scientists from varied disciplines, performs the initial outside-NIH review of applications, participates in site visits, and, on the basis of its evaluation, makes recommendations to the Council.

To assist the applicant, architects and engineers of the Division of Research Facilities and Resources (NIH), review all construction plans and work with the applicant institution through the planning and construction phases.

3. *History*

Title VII, part A, of the Public Health Service Act, under which this program operates, at first authorized \$30 million annually for 3 years beginning July 30, 1956. In August 1958 the authorization was extended for 3 more years at \$30 million, and in October 1961 it was extended for a 1-year period with authorization for an increased appropriation of \$50 million. At the same time the law was changed to broaden the term "research facilities" to include research and related purposes, including research training. In October 1962 the authorization was extended for 3 additional years, through June 30, 1966, at \$50 million a year. In August 1965, the authorization was again extended for 3 additional years, with aggregate appropriations not to exceed \$280 million over the 3-year period. The program is administered by the Division of Research Facilities and Resources which was established by the Public Health Service in 1962 at the National Institutes of Health for the purpose of administering large-scale, broad, institutionwide applications for grants.

Modern medical research possesses the capability of mounting a full-scale attack on the major killing and crippling diseases of mankind with all of the armamentarium of science. New techniques of instrumentation require new standards in operating rooms, in patient monitoring, and in research data analysis. Sophisticated techniques for better research and diagnosis demand better and more precise laboratory design. Chromatographic and radioisotope procedures for the study of heart disease and cancer require closer study of the conditions of air conditioning and environmental control. Tissue and organ transplantation studies require specialized operating rooms and recovery room suites, designed to protect patients from every possible type of infection; specialized laboratory animal colonies in which similar protective measures have been incorporated; and experimental facilities for research with germ-free animals.

The approximately \$900 million in health research facility construction, of which the Public Health Service provided more than \$350 million, or about 40 percent, has stimulated many major developments in medical science. Without adequate facilities, the newer advances in biophysics, biomedical engineering, enzyme technology, and clinical research could not have been accomplished. The development of new techniques in the diagnosis of brain and heart disorders, in the study of lipid metabolism and atherosclerosis, and in rehabilitation has been stimulated by facilities designed and constructed to provide the maximum enhancement of the research program. Most of the medical schools of the Nation have relied upon this program

to supply additional funds needed to provide the research space and laboratory equipment required to implement the development of their basic science and clinical research programs.

Positive contributions to the grantee institutions under the health research facilities program are many. Construction grant awards have significantly—

(a) Improved the quality of research by providing modern equipment and laboratories.

(b) Broadened the base of research across interdisciplinary lines by the provision of institutional or multidepartmental space.

(c) Increased the quantity of research.

(d) Effected greater savings in spending research dollars invested by providing multicategorical space in which central laboratory equipment of interest to several programs could be more economically housed.

(e) Facilitated recruitment of qualified scientific personnel by providing modern laboratory space.

4. *Level of operations.* (See table 5 at the end of the NIH section. The table includes grants for construction of community mental health centers.)

5. *Estimated magnitude of program in 1970.*

Not answered.

6. *Prospective changes in program orientation*

Not answered.

7. *Coordination and cooperation*

Of major consequence to the health research facilities program were two measures passed by the Congress and signed into law in 1963. One, Public Law 88-129, the Health Professions Educational Assistance Act of 1963, authorizes grants to schools of the health professions for the construction of teaching facilities. Because many institutions plan to construct both their educational and their research facilities simultaneously, close liaison has been established between the Division of Research Facilities and Resources and the Division of Hospital and Medical Facilities to enhance implementation of the law. Awards have been made under title VII-A of the Health Research Facilities Act for the health-related research portion of joint educational and research facilities; and awards are now beginning to be made under the recently prescribed joint application form.

A second law of special concern to the health research facilities program is Public Law 88-164, the Mental Retardation Facilities and Community Mental Health Centers Construction Act of 1963, which authorizes, under part A of title I, a construction program for "centers for research on mental retardation and related aspects of human development." The law authorizes \$26 million over a 4-year period, beginning in fiscal year 1964, specifically earmarked for construction of centers for "research, or research and related purposes, relating to human development whether biological, medical, social or behavioral, which may assist in finding the causes, and means of prevention, of mental retardation, or in finding means of ameliorating the effects of mental retardation." Administration of the program to provide grants for construction is the responsibility of the Division of Research

Facilities and Resources in close collaboration with the National Institute of Child Health and Human Development. Before grants can be awarded, the applications for construction grants for the centers must be reviewed and recommended by the advisory groups of both the Division and the Institute. NIH is also actively engaged in exchanging information with NASA, AEC, and NSF, on requests from various institutions for funds for renovation or construction of research facilities.

8. *Laws and regulations.* (See general answer to this question for all NIH programs.)

PART II. DATA BEARING ON ECONOMIC ASPECTS AND IMPACTS OF THE PROGRAM

9. *Economic effects.* (See general answer to this question for all NIH programs.)

10. *Economic classification of program expenditures.* (See table 8 at end of NIH section.)

REGIONAL MEDICAL PROGRAMS

PART I. DESCRIPTION OF THE PROGRAM

1. *Objectives*

The objective of the regional medical programs is to provide the medical profession and medical institutions a greater opportunity to make the latest advances in the diagnosis and treatment of heart disease, cancer, and stroke more widely available to their patients throughout all regions of the Nation. To accomplish this goal, Public Law 89-239 authorizes grants for the planning and operation of "regional medical programs," which are defined as cooperative arrangements among a group of institutions engaged in research, training, diagnosis, and treatment to combat heart disease, cancer, and stroke—diseases that together account for more than 70 percent of all deaths in this country.

The region to be served must be a geographic area composed of part or parts of one or more States which the Surgeon General determines to be appropriate for the purposes of this program. The plan for the development of a regional medical program must include the participation of one or more medical centers (i.e., medical school or other medical institution engaged in postgraduate medical training and its affiliated hospitals), one or more clinical research centers, and one or more hospitals, involved in cooperative arrangements which the Surgeon General finds to be adequate to carry out the purposes of the program. The particular activities to be undertaken through the regional medical programs will be varied and will be determined in the region by mobilizing existing resources to meet local needs and goals.

2. *Operation*

The regional medical programs will be supported through a program of grants to be administered by the National Institutes of Health. Grants may be made to public or nonprofit private university, medical school, research institution, or other public or nonprofit private institution or agency interested in planning, conducting feasibility studies, and in operating a regional medical program of research, training, and demonstration activities for their region of the Nation.

3. History

In March 1964, President Johnson appointed a Commission on Heart Disease, Cancer, and Stroke chaired by Michael E. DeBakey, M.D. The Commission was to recommend practical steps to reduce the heavy toll exacted by these diseases through the development of new scientific knowledge and through the delivery, to all of our citizens, of the medical knowledge we now possess. During the following months, the Commission heard testimony from scores of leaders in medicine and public affairs, and it was the overwhelming conviction of the Commission that something could and must be done to alleviate the suffering and death occasioned by heart disease, cancer, and stroke. The major innovative thrust of the Commission's first three recommendations is embodied in the regional medical programs concept in Public Law 89-239.

4. Level of operations

The legislation which authorizes the regional medical program, Public Law 89-239, was signed into law on October 6, 1965, and funds have just been appropriated for this purpose. The National Advisory Council on Regional Medical Programs has not yet been appointed, and regulations have not yet been established, nor applications prepared. Therefore, very little information is available concerning the level of operations of this new program.

(Also see table 7 at the end of the NIH section.)

5. Estimated magnitude of program in 1970

Not answered.

6. Prospective changes in program orientation

Not answered.

7. Coordination and cooperation

The concept of the regional medical programs provides a unique opportunity for coordination and cooperation within the National Institutes of Health, within the Public Health Service, within the Department of Health, Education, and Welfare, with other Federal agencies, and with nonprofit institutions and agencies throughout the Nation. The authorizing legislation (Public Law 89-239) specifically requires "coordination of programs assisted under this title with programs for training, research, and demonstrations relating to the same diseases assisted or authorized under other titles of this act or other acts of Congress." Regulations covering this coordination are now being prepared.

(a) Within the National Institutes of Health, there are clear opportunities for coordination of the development of regional medical programs with the existing programs of the National Heart Institute, the National Cancer Institute, the National Institute of Neurological Diseases and Blindness, and the National Institute of General Medical Sciences which relate directly to the three disease groups, heart disease, cancer, and stroke. An important new program such as this one is of obvious relevance to all of the programs at the National Institutes of Health. Therefore, in the early phases of this program, meetings have been held with the Institutes to convey generally the progress being made in the development of program guidelines and regulations and in the administration and staffing of a new kind of endeavor for

the NIH. Further coordinating mechanisms will be developed when the regional medical programs become functional.

(b) The National Institutes of Health has been carrying on a great deal of coordination with the Office of the Surgeon General, Public Health Service. This coordination has now been made formal in a series of weekly reports to the Surgeon General on the status of the regional medical programs. In addition, the Bureau of State Services, whose programs bear the greatest relevance to the regional medical programs, has appointed a top level member of its staff to serve as permanent liaison between these bureaus of the Public Health Service. This liaison staff member will help to insure maximum cooperation and to eliminate duplication of the two related programs.

To insure coordination of this program with other programs in the Department, the Under Secretary has requested monthly reports on the activities and progress of the regional medical programs. The regional medical programs bear a particular relationship to the Vocational Rehabilitation Administration, and close coordination will be carried on with the VRA. Appropriate coordination will also be established with the Children's Bureau.

(c) The regional medical programs will be coordinated with relevant programs of the Veterans' Administration.

(d) and (e) The regional medical programs are to be regional cooperative arrangements which may include relevant health agencies of States and local communities, such as health departments, hospital planning bodies, or other interested agencies. Such groups can be represented on the advisory body designated by the grant applicant to advise in formulating and carrying out the plan for a regional medical program in that region.

(f) Not applicable.

(g) Public Law 89-239 authorizes grants to public or nonprofit private universities, medical schools, research institutions, and other public or nonprofit private institutions and agencies to assist them in planning, in conducting feasibility studies, and in operating pilot projects for the establishment and operation of regional medical programs. These programs are defined in the law as involving regional cooperation among such institutions.

(h) and (i) Not applicable.

8. *Laws and regulations*

Public Law 89-239 is the authorizing legislation for regional medical programs. The first appropriation is in Public Law 89-309, chapter VI. No regulations have, as yet, been promulgated.

PART II. DATA BEARING ON ECONOMIC ASPECTS AND IMPACTS OF THE PROGRAM

9. *Economic effects*

The President's Commission on Heart Disease, Cancer, and Stroke, which provided the initial impetus for the regional medical programs, asserted that—

Americans need no longer tolerate several hundred thousand unnecessary deaths each year from heart disease, cancer, and stroke.

By bringing to all the people the full benefit of what is now known of prevention, detection, treatment, and cure, we could save, each year a number of lives equal to the population of a major city.

With the realization of this goal, it would be possible to reduce the death toll from these disease groups nearly 20 percent. The economic costs of these diseases, which reach nearly \$31.5 billion each year, could be significantly reduced. To support its recommendations, the Commission presented a source paper on the economics of these problems. (See vol. II of the Report of the President's Commission on Heart Disease, Cancer, and Stroke, published in February 1965.)

The regional medical programs also provide a unique opportunity for increasingly efficient and effective utilization of the medical resources of the Nation. Through planning, programs of specialized training, continuing education, complex diagnostic and treatment services can be carried on through regional cooperative arrangement among medical schools, research institutions, and hospitals.

10. Economic classification of program expenditures

Not in operation in fiscal 1965.

GENERAL ANSWERS FOR NIH

4. Level of operations. (See tables 1 through 7.)

Department or agency, and office or bureau: Department of Health, Education, and Welfare; Public Health Service; National Institutes of Health.

Program: Research grants and contracts.

TABLE 1.—Level of operations or performance, fiscal years 1964-67

Measure	Fiscal year 1964	Fiscal year 1965	Fiscal year 1966 estimate	Fiscal year 1967 estimate
(a) Magnitude of program (grants or contracts).....	15,850	15,650	15,650	15,300
(b) Applicants or participants:				
Numbers of grants or contracts, by participant, total.....	15,850	15,650	15,650	15,300
Educational institutions, total.....	12,700	12,500	12,500	12,250
Public.....	(7,200)	(7,100)	(7,100)	(6,900)
Private.....	(5,500)	(5,400)	(5,400)	(5,350)
Hospitals.....	2,100	2,100	2,100	2,000
State and local ¹	200	200	200	200
Nonprofit research institutions.....	800	800	800	800
All other.....	50	50	50	50
(c) Federal finances:				
Unobligated appropriations available.....				
Obligations incurred (in thousands).....	\$542,320	\$589,748	\$660,596	\$695,826
Allotments or commitments made.....				
(d) Matching or additional expenditures for the program.....				
(e) Number of Federal employees administering, operating, or supervising the activity ²	2,100	2,300	2,500	2,600
(f) Non-Federal personnel employed in the program.....	(3)	(3)	(3)	(4)
(g) Other measures of level or magnitude of performance:				
Numbers of institutions receiving grants or contracts, total.....	(4)	1,350	(4)	(4)
Educational institutions.....		400		
Hospitals.....		300		
State and local.....		150		
Nonprofit research institutions.....		100		
All other.....		400		

¹ Government agencies, other than educational institutions or hospitals.

² The numbers of personnel include members of study sections and advisory councils who serve as consultants to the PHS, and those NIH employees directly and exclusively concerned with administering extramural programs. It is not feasible to report the man-years of staff time allocable to extramural activities for those NIH employees who are concerned with overall program direction and administration; this group is reported in entirety in the response, item (e), for intramural research and other activities (table 2 below). Dollar amounts reported under Federal finances (c) do not include wages and salaries paid to the employees in (e); compensation for all NIH employees is included in the response, item (c), for intramural research and other activities (table 2, below).

³ Approximately 100,000 non-Federal employees are engaged in performing research under grant or contract; many are employed part time. This group includes professional and supporting personnel.

⁴ Data reported for 1965 only; distributions for the other years follow the same pattern.

Program: Intramural research and other activities.¹

TABLE 2.—*Level of operations or performance, fiscal years 1964-67*

Measure	Fiscal year 1964	Fiscal year 1965	Fiscal year 1966 estimate	Fiscal year 1967 estimate
(c) Federal finances:				
Unobligated appropriations available				
Obligations incurred (in thousands):				
Total ²	\$120,820	\$138,519	\$166,030	\$180,563
(Research and development)	(108,690)	(125,324)	(147,642)	(159,951)
Allotments or commitments made				
(d) Matching or additional expenditures for the program				
(e) Number of Federal Government employees administering, operating, or supervising the activity	9,200	9,400	9,500	9,800

¹ Includes intramural research and collaborative studies, review and approval of grants and contracts, program direction and administration.

² Includes compensation for all NIH employees.

³ Includes those NIH employees whose responsibilities embrace both intramural and extramural activities. See footnote 2 for table 1, above, "Research grants and contracts."

NOTE.—Does not include obligations for construction of facilities for conduct of research and administration of NIH programs at Bethesda and other locations. In thousands of dollars, these amounted to: Fiscal year 1964, \$2,892; fiscal year 1965, \$7,626; fiscal year 1966, \$38,745; fiscal year 1967, \$12,710.

Program: Fellowships, traineeships, and training grants.

TABLE 3.—*Level of operations or performance, fiscal years 1964-67*

Measure	Fiscal year 1964	Fiscal year 1965	Fiscal year 1966 estimate	Fiscal year 1967 estimate
(a) Magnitude (grants or contracts)	8,727	9,376	10,061	10,286
(b) Applicants or participants, total	8,727	9,376	10,061	10,286
Educational institutions	7,855	8,438	9,055	9,257
Other	872	938	1,006	1,029
(c) Federal finances:				
Unobligated appropriations available				
Obligations incurred (thousands)	\$207,121	\$226,265	\$266,029	\$275,718
Allotments or commitments made				
(d) Matching or additional expenditures for the program				
(e) Number of Federal Government employees administering, operating, or supervising the activity	(1)	(1)	(1)	(1)
(f) Non-Federal personnel employed in the program				
(g) Other measures of level or magnitude of performance:				
Number of institutions awarded, total	(2)	350	(2)	(2)
Educational institutions		160		
Hospitals		115		
Government (Federal, State, and local)		25		
Nonprofit research institutions		50		

¹ Numbers of Federal employees are included in item (e), "Intramural research and other activities," table 2, above. See also footnote 2, "Research grants and contracts."

² Data reported for 1965 only; distributions for other years follow the same pattern.

Program: Mental health State control programs.

TABLE 4.—*Level of operations or performance, fiscal years 1964-67*

Measure	Fiscal year 1964	Fiscal year 1965	Fiscal year 1966 estimate	Fiscal year 1967 estimate
(b) Applicants or participants:				
State government agencies ¹	54	54	54	54
Local communities or governments.....				
Individuals or families.....				
Other.....				
(c) Federal finances:				
Unobligated appropriations available.....				
Obligations incurred (thousands).....	\$6,750	\$6,750	\$6,750	\$6,750
Allotments or commitments made.....				
(d) Matching or additional expenditures for the program (thousands).....	\$106,599	\$134,845	\$148,300	(²)
(e) Number of Federal Government employees administering, operating, or supervising the activity.....	(³)	(³)	(³)	(³)

¹ All 50 States; the District of Columbia; and Guam, Puerto Rico, and the Virgin Islands.

² Cannot be estimated at this time.

³ Included in intramural activities, table 2, above.

Program: Grants for construction of health research facilities and community mental health centers.

TABLE 5.—*Level of operations or performance, fiscal years 1964-67*

Measure	Fiscal year 1964	Fiscal year 1965	Fiscal year 1966 estimate	Fiscal year 1967 estimate
(a) Magnitude of program (awards).....	122	120	195	(¹)
(b) Applicants or participants (awards).....	122	120	195	(¹)
State government agencies.....	60	53	71	
Local communities or governments.....	2	6	19	
Individuals or families.....				
Other, private nonprofit organizations.....	60	61	105	
(c) Federal finances:				
Unobligated appropriations available.....				
Obligations incurred (in thousands).....	\$49,990	\$63,719	\$141,293	\$71,000
Allotments or commitments made.....				
(d) Matching or additional expenditures for the program (in thousands):				
Total.....	73,500	69,200	157,100	(¹)
State.....	33,000	25,900	46,400	
Local.....	1,500	600	18,200	
Other.....	39,000	42,700	92,500	
(e) Number of Federal Government employees administering, operating, or supervising the activity.....	(²)	(²)	(²)	(²)
(f) Non-Federal personnel employed in the program.....				
(g) Other measures of level or magnitude of performance ³				

¹ Cannot be estimated at this time.

² Included in intramural activities, table 2, above.

³ Approximately 2,150,000 net square feet of new construction estimated each year for the health research facilities construction program; estimate of square feet of space is not available for community mental health centers. For the community mental health centers program it is estimated that when the construction funds for both 1965 and 1966 have been utilized, the services of these centers should be made available to between 25,000,000 and 30,000,000 people.

Program: Staffing of community mental health centers.

TABLE 6.—*Level of operations or performance, fiscal years 1964-67*

Measure	Fiscal year 1964	Fiscal year 1965	Fiscal year 1966 estimate	Fiscal year 1967 estimate
(a) Magnitude of program (awards).....	-----	-----	63	1 122
(b) Applicants or participants.....	-----	-----	15	29
State government agencies.....	-----	-----	15	29
Local communities or governments.....	-----	-----	33	64
Individuals or families.....	-----	-----	-----	-----
Other.....	-----	-----	-----	-----
(c) Federal finances:	-----	-----	-----	-----
Unobligated appropriations available.....	-----	-----	-----	-----
Obligations incurred (thousands).....	-----	-----	\$18,899	\$33,907
Allotments or commitments made.....	-----	-----	-----	-----
(d) Matching or additional expenditures for the program (thousands).....	-----	-----	² \$6,300	^{2 3} \$15,000
(e) Number of Federal Government employees administering, operating, or supervising the activity.....	-----	-----	(⁴)	(⁴)
(f) Non-Federal personnel employed in the program.....	-----	-----	2,500	4,900
(g) Other measures of level or magnitude of performance.....	-----	-----	-----	-----

¹ Includes 63 continuation awards from 1966 and 59 new awards in 1967.

² Minimum estimate.

³ Includes matching expenditures for 63 continuation awards from 1966 and 59 new awards in 1967.

⁴ Included in intramural activities, table 2, above. [The authorizing legislation was enacted during the fiscal year 1966.]

Program: Regional medical programs.

TABLE 7.—*Level of operations or performance, fiscal years 1964-67*

Measure	Fiscal year 1964	Fiscal year 1965	Fiscal year 1966 estimate	Fiscal year 1967 estimate
(a) Magnitude of program.....	(¹)	(¹)	(¹)	(¹)
(c) Federal finances:	-----	-----	-----	-----
Unobligated appropriations available.....	-----	-----	-----	-----
Obligations incurred (thousands).....	-----	-----	\$25,000	\$45,000
Allotments or commitments made.....	-----	-----	-----	-----
(d) Matching or additional expenditures for the program ²	-----	-----	-----	-----
(e) Number of Federal Government employees administering, operating or supervising the activity.....	-----	-----	(³)	(³)

¹ Not available. [The authorizing legislation was enacted during the fiscal year 1966.]

² Grantees will have to provide at least 10 percent of the costs of renovation of facilities or provision of built-in equipment.

³ Included in intramural activities in table 2, above.

8. Laws and regulations. (General answer.)

Intramural Research

National Cancer Act (P.L. 75-244, August 1937)

PHS Act, Title IV, Sec. 402, and Title III, Sec. 301

Public Health Service Act (P.L. 78-410, July 1944)

PHS Act, Title III, Sec. 301

National Mental Health Act (P.L. 79-487, July 1946)

PHS Act, Title III, Sec. 303 and 301

National Heart Act (P.L. 80-655, June 1948)

PHS Act, Title IV, Sec. 412, and Title III, Sec. 301

National Dental Research Act (P.L. 80-755, June 1948)

PHS Act, Title IV, Sec. 422, and Title III, Sec. 301

- Omnibus Medical Research Act (P.L. 81-692, August 1950)
 PHS Act, Title IV, Sec. 431, 433, and Title III, Sec. 301
 National Institute of Child Health and Human Development and
 National Institute of General Medical Sciences (P.L. 87-838,
 October 1962)
 PHS Act, Title IV, Sec. 441, 442, 444; Title III, Sec. 301
 Appropriations contained in P.L. 89-156, August 1965, "Depart-
 ments of Labor and HEW Appropriation Act, 1966."

Extramural Research

- National Cancer Act (P.L. 75-244, August 1937)
 PHS Act, Title IV, Sec. 402, and Title III, Sec. 301
 Public Health Service Act (P.L. 78-410, July 1944)
 PHS Act, Title III, Sec. 301
 National Mental Health Act (P.L. 79-487, July 1946)
 PHS Act, Title III, Sec. 303 and 301
 Amended by Health Amendment Act of 1956 (P.L. 84-911,
 August 1956)
 National Heart Act (P.L. 80-655, June 1948)
 PHS Act, Title IV, Sec. 412, 413, and Title III, Sec. 301
 National Dental Research Act (P.L. 80-755, June 1948)
 PHS Act, Title IV, Sec. 422, 423, and Title III, Sec. 301
 Omnibus Medical Research Act (P.L. 81-692, August 1950)
 PHS Act, Title IV, Sec. 431, 433, and Title III, Sec. 301
 International Health Research Act (P.L. 86-610, July 1960)
 PHS Act, Title III, Sec. 308
 General Research Support Grants (P.L. 86-798, September 1960)
 PHS Act, Title III, Sec. 301(d)
 National Institute of Child Health and Human Development and
 National Institute of General Medical Sciences (P.L. 87-838,
 October 1962)
 PHS Act, Title IV, Sec. 441, 442, 444; Title III, Sec. 301
 Also amended Title III, Sec. 301(d)
 Appropriations contained in P.L. 89-156, August 1965, "Depart-
 ments of Labor and HEW Appropriation Act, 1966."

Training Grants

- National Cancer Act (P.L. 75-244, August 1937)
 PHS Act, Title IV, Sec. 402(c); Title III, Sec. 301(d)
 Public Health Service Act (P.L. 78-410, July 1944)
 PHS Act, Title III, Sec. 301(d)
 National Mental Health Act (P.L. 79-487, July 1946)
 PHS Act, Title III, Sec. 303(a); Sec. 301(d); Title IV, Sec. 433(a)
 Amended by Health Amendments Act of 1956 (P.L. 84-911,
 August 1956)
 National Heart Act (P.L. 80-655, June 1948)
 PHS Act, Title IV, Sec. 412(g)
 National Dental Research Act (P.L. 80-755, June 1948)
 PHS Act, Title IV, Sec. 422(f)
 Omnibus Medical Research Act (P.L. 81-692, August 1950)
 PHS Act, Title IV, Sec. 433(a)
 International Health Research Act (P.L. 86-610, July 1960)
 PHS Act, Title III, Sec. 308(a)(b)

National Institute of Child Health and Human Development (P.L. 87-838, October 1962)

PHS Act, Title IV, Sec. 444

Appropriations contained in P.L. 89-156, August 1965, "Department of Labor and HEW Appropriation Act, 1966."

Fellowships

National Cancer Act (P.L. 75-244, August 1937)

Title IV, Sec. 402(d)

Public Health Service Act (P.L. 78-410, July 1944)

Title III, Sec. 301(c)

National Mental Health Act (P.L. 79-487, July 1946)

Title III, Sec. 303; Sec. 301(c)

National Heart Act (P.L. 80-655, June 1948)

Title IV, Sec. 412(g)

National Dental Research Act (P.L. 80-755, June 1948)

Title IV, Sec. 422; Title III, Sec. 301(c)

Omnibus Medical Research Act (P.L. 81-692, August 1950)

Title IV, Sec. 433(a)

International Health Research Act (P.L. 86-610, July 1960)

Title III, Sec. 308(a)(b)

National Institute of Child Health and Human Development (P.L. 87-838, October 1962)

Title IV, Sec. 444

Appropriations contained in P.L. 89-156, August 1965, "Department of Labor and HEW Appropriation Act, 1966."

Other Programs

Heart Disease, Cancer, and Stroke Amendments of 1965

(P.L. 89-239, October 6, 1965)

PHS Act, Title IX

Health Research Facilities Act of 1956

(P.L. 84-835, July 1956)

PHS Act, Title VII

Health Research Facilities Amendments of 1965

(P.L. 89-115, August 1965)

PHS Act, Title VII and Title III

Mental Retardation Facilities and Community Mental Health Centers Construction Act of 1965

(P.L. 88-164, October 1963)

Provisions of this Act which amended the PHS Act were incorporated in Part D of Title VII

Mental Retardation Facilities and Community Mental Health Centers Construction Act Amendments of 1965

(P.L. 89-105, August 1965)

9. Economic effects. (General answer.)

The impact on the economy of NIH programs—in support of biomedical research, the training and education of biomedical scientists and the construction of research facilities—has not as yet been the subject of specific investigations; what follows, therefore, are some general observations pertaining to the items enumerated in question 9.

Background.—All the activities of this agency are directed toward one overriding purpose: The conquest of disease, and the advancement of human well-being through medical research and the application of research findings to the treatment and care of the sick. Thus, NIH programs have as their primary and ultimate objective the saving of human life and the reduction of human suffering; the furtherance of economic growth per se is not the target mission of this agency. These programs, however, have an effect on the economy through (1) the magnitude of the sums required for the furtherance of agency objectives, that is the direct effect of Federal funds expended for personal services, equipment, construction; and (2) the indirect economic efforts stemming from reductions in mortality and morbidity, which may be of greater economic significance because of wider potential implications for economic growth.

A. Direct economic effects.—The data provided in answer to question 10 indicate that 1965 NIH programs in total require an obligation of about \$1 billion; of this sum, about \$400 million provides funds for the payment of wages and salaries to about 100,000 research workers, many of whom are employed part time on research projects performed in the research laboratories of the Nation's universities, hospitals, nonprofit research institutions, and industry; and \$200 million provides the equipment, supplies, and other services required for the performance of this research. An addition \$225 million supports the training of approximately 35,000 fellows and trainees in fields of science relevant to medical and health-related research, and \$150 million is obligated for the performance of research (at NIH installations in this country and abroad) and for the administration and management of the NIH program.

In addition to the immediate and direct employment required for the research and construction programs, the secondary employment of about 85,000 additional workers (at the rate of \$8,000 of GNP per worker) is indicated to produce the goods and services required to maintain the research personnel and their families, and the goods and services required for the individual research projects. An additional 6,500 man-years of employment is generated by the construction projects (3,000 man-years for on-site construction, and 3,500 man-years to provide the required construction materials). These statistics are general orders of magnitude; they do not take into account the additional employment required to provide the goods and services called for by the increased secondary employment.

These direct effects are, of course, no different from the effects of the spending of Federal funds for other programs, where expenditures are made for a similar mix of personal services, equipment, and construction. It must be emphasized that NIH research programs support investigations that advance knowledge for the conquest of disease and disability. By their very nature, these research programs are different from the much larger expenditures for research and development by the Department of Defense, the National Aeronautics and Space Administration, or the Atomic Energy Commission. NIH research programs do not have as their primary objective the development of new or improved products or hardware; research programs

with the latter objectives may have a far greater direct effect on the employment of the Nation's human and physical resources.

B. Indirect economic effects.—NIH programs, as already indicated, have as their primary objective the improvement of the Nation's human resources by control and reduction of disease and disability through research.

The economic consequences of medical research (that is, effect on productivity, personal income, gross national product) have not as yet been subjected to intensive investigation. The reasons for this may be summarized as follows:

Inherent conceptual and statistical difficulties, lack of general interest on the part of economists, and (perhaps of greater significance) deep-seated convictions on the part of many competent observers and dedicated administrators of programs in the health sciences that the achievement of better health is in itself a complete rationale for the Nation's health effort.

This conviction is further strengthened by the belief that the direction of this effort and increased expenditures for health objectives derive not from cold cost/benefit calculations but from the growing economic capability to afford such expenditures aimed at improving the health and well-being of the American people.

Thus, the pursuit of knowledge for the conquest of disease has as its fundamental basis the furthering of human values and improving the quality of life, and the factors which bear upon the direction and magnitude of medical research programs are not necessarily economic ones. They are, instead, first and primarily, the human desire for the relief of suffering and for the attainment of healthier more productive lives; secondly, the scientific capability for enlarging the frontiers of knowledge for the conquest of disease and disability; thirdly, the wealth of our Nation and its economic capability to support this effort; and finally, the culmination of these factors in the expressed will of the people through their political representatives.

Notwithstanding these deep reservations concerning the full applicability of economic reasoning to health programs, it is recognized that the techniques and disciplines of economics may provide some insight for developing cost-benefit and cost-effectiveness analyses. As a necessary prelude to a possible research effort in this area, NIH has supported a recent conference managed by the Brookings Institution. The purpose of this conference, attended by economists and public administrators, was to consider the feasibility of initiating a research program to measure the economic consequences of medical research. Recommendations of the conference will be submitted to NIH by the end of the year, and will include a system of research priorities and recommendations for mechanisms of support. On the basis of these recommendations and other considerations, further steps may be undertaken.

In addition, some recently published material may be of interest:

(1) President's Commission on Heart Disease, Cancer, and Stroke, "A National Program to Conquer Heart Disease, Cancer, and Stroke" (vol. II, special section on economics, pp. 440-644).

(2) "Biomedical Science and Its Administration," A study of the National Institutes of Health (app. 3, pp. 77-84).

10. *Economic classification of program expenditures.* (See table 8.)

Department: Health, Education, and Welfare; Public Health Service; National Institutes of Health.

TABLE 8.—*Economic classification of program expenditures for fiscal 1965*¹

[In millions of dollars]

Program: Research grants and contracts:	
Federal Government:	
Purchases of goods and services: ²	
Wages and salaries.....	247. 6
Other.....	165. 0
Grants to State and local governments.....	177. 1
Total Federal obligations.....	³ 589. 7
Program: Intramural research and other activities: ⁴	
Federal Government:	
Purchases of goods and services:	
Wages and salaries.....	83. 1
Other ⁵	55. 4
Total Federal obligations.....	³ 138. 5
Program: Fellowships, traineeships and training grants:	
Federal Government:	
Transfer payments to individuals and nonprofit organizations..	124. 4
Grants to State and local governments.....	101. 9
Total Federal obligations.....	226. 3
	(144. 1)
Program: Mental health State control programs:	
Federal Government:	
Grants to State and local governments.....	6. 8
Total Federal obligations.....	6. 8
	(6. 8)
Non-Federal expenditures financed by State and local governments..	134. 8
Total expenditures for program.....	141. 6
Program: Grants for construction of health research facilities: ⁶	
Federal Government:	
Transfer payments to individuals and nonprofit organizations..	39. 0
Grants to State and local governments.....	24. 7
Total Federal obligations.....	63. 7
	(34. 7)
Non-Federal expenditures financed by:	
State and local governments.....	26. 5
Individuals and nonprofit organizations.....	42. 7
Total expenditures for program.....	132. 9
Summary for programs shown:	
Federal Government:	
Purchases of goods and services:	
Wages and salaries.....	330. 7
Other.....	220. 4
Grants to State and local governments.....	310. 5
Transfer payments to individuals and nonprofit organizations..	163. 4
Total Federal obligations.....	1, 025. 0
(Total Federal expenditures).....	(741. 8)

See footnotes at end of table, p. 841.

TABLE 8.—*Economic classification of program expenditures for fiscal 1965*¹—Con.

[In millions of dollars]

Summary for programs shown—Continued

Non-Federal expenditures financed by:

State and local governments.....	161.3
Individuals and nonprofit organizations.....	42.7

Total non-Federal expenditures.....	204.0
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Total expenditures for the programs ¹	1,229.0
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¹ Federal expenditures shown here refer to obligations. Where the data are available, actual expenditure figures are shown below in parentheses. A breakdown of the expenditure data by economic category is not available.

² In accordance with the revised national income and product structure, research grants to private nonprofit organizations are categorized as purchases of goods and services, although the former classification as transfer payments may indeed be more appropriate for this group.

³ The sum of Federal expenditures for the two programs identified as (a) research grants and contracts and (b) intramural research and other activities was \$556,200,000. The sum of obligations for these two programs was \$728,200,000.

⁴ Includes intramural research and collaborative studies, review and approval of grants, program direction and administration.

⁵ Does not include \$7.6 million for construction. (See "NOTE" to table 2, above.)

⁶ Expenditures for the entire program are for the construction of facilities. Grants for construction of community health centers are included. Federal grants to State and local governments are used for State and local construction. Federal transfer payments are used for private construction.

NATIONAL CENTER FOR HEALTH STATISTICS

PART I. DESCRIPTION OF THE PROGRAM

1. Objectives

The National Center for Health Statistics brings together the major components of Public Health Service competence in the measurement of health status of the Nation and the identification of significant associations between characteristics of the population and health-related problems.

The National Center for Health Statistics is the Federal Government's general-purpose statistical organization for the collection, compilation, and dissemination of vital and health statistics to serve the needs of all segments of the health and related professions. The Center stimulates optimal use of technical and methodological innovations in collecting, processing, and analyzing demographic and health statistics and provides a source for technical assistance in these areas. It carries out a program of extramural activities, both national and international, which includes technical assistance to the States and programs of research in foreign countries under the special international research program. Through the Office of Health Statistics Analysis, the Center utilizes vital and health statistics to assess the health status of the public, develops measures and indexes of health, studies problem and disease classification, and acts as secretariat for the U.S. National Committee on Vital and Health Statistics.

The Center is organized as follows: Office of the Director; Office of Health Statistics Analysis; Division of Data Processing; Division of Vital Statistics; Division of Health Interview Statistics; Division of Health Examination Statistics; and Division of Health Records Statistics. The Division of Data Processing provides data preparation and computer processing services to the entire Center and provides consultation and technical assistance to other public health programs and to the States.

2. Operation

The National Center for Health Statistics operates as a Federal program conducted primarily in Washington, D.C. Statistical data are collected for the Center in three ways: (1) Direct purchases of microfilm copies of vital records, that is, birth, death, marriage, and divorce records from States; (2) contractual arrangements under which the Bureau of the Census acts as a collection agent for some types of statistical data, and (3) direct contact between Center representatives and respondents selected as part of a national sample. Data are then compiled, analyzed, and published by personnel of the National Center for Health Statistics.

A small number of contracts are let each year with nonprofit organizations for developmental work, such as design and testing of survey questionnaires for the collection of information on selected health topics.

3. History

The National Center for Health Statistics was established as an organizational unit in the Office of the Surgeon General in August 1960. The Center was created in response to recommendations submitted by the Study Group on Mission and Organization of the Public Health Service.

The program of the Center is based on the following objectives:

(a) To bring together the major components of Public Health Service competence in the measurement of health status of the Nation and the identification of significant associations between characteristics of the population and health-related problems.

(b) Stimulate optimal use of technical and methodologic innovations in the collection, processing and analysis of health statistics.

(c) Create a resource for technical assistance in statistical data processing.

(d) Associate closely the functions of collection, analysis, interpretation, and dissemination.

(e) Permit expansion of health intelligence programs to correlate and interpret data from various sources.

(f) Give better visibility to the national and international leadership of the Public Health Service in vital and health statistics.

With regard to subject matter the responsibilities of the Center cover those types of health statistics traditionally included in vital statistics—birth, death, fetal death, marriage, and divorce—and newer types of health statistics obtained from survey sources—morbidity data, incidence of accidents, disability, health insurance coverage, medical care costs, and many others.

The vital statistics function originated in 1904 when the Federal Government began a cooperative effort with the States aimed at the improvement of vital registration. After 61 years of Federal-States cooperation the U.S. vital statistics system has achieved a high state of technical development providing comprehensive and detailed national statistics which serve as the basic statistical reference resource for planning and evaluation of health programs and for use by research workers, including demographers, sociologists, and a myriad of other

professional persons concerned with the study of mortality, natality, marriage, and divorce in the United States.

The national health survey program was begun in 1956 under authority of the National Health Survey Act passed by Congress in that year.

The Center's health survey program collects, analyzes, and publishes current information on many of the health aspects of the U.S. population including heart disease, dental care, costs of medical care, accidental injuries, and many other subjects.

4. *Level of operations.* (See table 1.)

Program: National Center for Health Statistics.

Department: Department of Health, Education, and Welfare; Public Health Service—Office of the Surgeon General.

TABLE 1.—*Level of operations or performance, fiscal years 1964–67*

Measure	Fiscal year			
	1964	1965	1966 estimates	1967 estimates
(a) Magnitude (not applicable).....				
(b) Applicants or participants (not applicable).....				
(c) Federal finances (dollars) (obligations incurred).....	5, 788, 000	6, 278, 000	7, 230, 000	9, 312, 000
(d) Matching expenditures (not applicable).....				
(e) Number of Federal employees.....	349	384	404	444
(f) Non-Federal employees (not applicable).....				
(g) Other measures of level, none.				
The National Center for Health Statistics is a general purpose statistical organization and makes its statistical products available to a wide range of consumers. In addition to over 8,000 regular consumers of the Center's statistical publications, over 1,600 persons per year telephone or write for special statistical data of one type or another.				

5. *Estimated magnitude of program in 1970*

Not answered.

6. *Prospective changes in program orientation*

Not answered.

7. *Coordination and cooperation*

The NCHS, serving as a national resource for general purpose health statistics, coordinates its programs with a variety of Federal and non-Federal organizations. The Bureau of the Census works closely with the Center in developing health survey designs and in collecting statistical data. The Center also cooperates with State and local officials by participating in such activities as the Public Health Conference on Records and Statistics and by providing technical advice and guidance to the States on registration problems. Whenever possible within the limits imposed by manpower and budget, the Center responds to requests from a wide variety of consumers for special types of health statistics data.

8. *Laws and regulations*

Public Health Service Act, as amended, particularly sections 301, 305, 312(a), 313, 314(c) and 315 (42 U.S.C. 241, 242c, 244a, 245, 246c, 247).

PART II. DATA BEARING ON ECONOMIC ASPECTS AND IMPACTS OF THE PROGRAM

9. *Economic effects*

The economic effects of the Center's programs are of an indirect nature and cannot be ascertained. The statistical data produced help agencies to operate more efficiently by pointing out areas requiring concentration of effort and by providing research leads that indirectly lead to improvements in the health and welfare of the population.

10. *Economic classification of program expenditures.* (See table 2.)

Program: National Center for Health Statistics.

Department or agency, and office or bureau: Department of Health, Education, and Welfare; Public Health Service—Office of the Surgeon General.

TABLE 2.—*Economic classification of program expenditures for fiscal 1965*

(In millions of dollars)	
Federal Government: ¹	
Purchases of goods and services:	
Wages and salaries.....	4.64
Other.....	1.21
Aid to State and local governments ²	.43
Total Federal expenditures.....	6.28
Non-Federal expenditures.....	(3)

¹ Expenditures here refer to obligations. Actual expenditures were \$5,896,000.

² Includes \$184,000 paid to States for microfilm records of vital certificates, plus \$242,000 paid to State-supported institutions for research and development.

³ The actual amount of funds spent in fiscal year 1965 by the States for health statistics is not available. An estimate of \$9,414,000 has been provided by the Office of Grants Management, Bureau of State Services, PHS, based on information reported in State plans submitted to that office.

NATIONAL LIBRARY OF MEDICINE

PART I. DESCRIPTION OF THE PROGRAM

1. *Objectives*

The National Library of Medicine constitutes a national resource for the collection, analysis, and dissemination of worldwide scientific information related to medicine, public health, and biomedical research. Through programs of traditional library services (such as reference assistance and interlibrary loans), a highly sophisticated computer-based medical literature analysis and retrieval system (Medlars), and through extramural grant and contract programs for correcting deficiencies in the Nation's medical libraries and library services, the NLM performs a broad supportive role in the national health efforts.

2. *Operation*

From a single location in Bethesda, Md., the NLM carries out a variety of local, national, and international programs:

(a) Reading room facilities and reference assistance are provided for medical researchers, physicians, students, technicians and others using the collections directly at the library.

(b) Interlibrary loans (usually in the form of photoduplicates) are made to other libraries in this country and abroad to meet requirements of their users which they cannot supply.

(c) Reference assistance and computerized bibliographic searches are performed upon request from individuals and institutions in this country and abroad.

(d) The library publishes Index Medicus, a monthly bibliographic record of current published literature in medicine and related sciences, analyzed and arranged by subject matter to facilitate use by health science workers throughout the world. Index Medicus goes to over 5,700 users at the present time.

(e) Beginning in January 1966, the library will also publish the National Library of Medicine Current Catalog, a computer-produced biweekly publication notifying the biomedical libraries of the Nation of the literature which has arrived and been cataloged at NLM during the previous 2-week period, thus enabling them to use the NLM as a central source for information on recently published literature and also as a central cataloging service.

(f) The Medical Library Assistance Act of 1965 (Public Law 89-291) authorized a greatly expanded program of assistance to the Nation's biomedical libraries and health information work force. Under this new legislation the NLM will award grants or contracts for (1) construction and renovation of medical libraries, (2) research and development in the field of library and information science, (3) training of medical librarians and related science information specialists, (4) compilation and dissemination of important biomedical information by scholars, (5) improving the basic resources of biomedical libraries, particularly their literature collections, (6) developing regional libraries, adequately equipped to supplement library resources and services throughout the country, and (7) supporting the preparation and publication of biomedical publications.

3. *History*

The National Library of Medicine had its origin in 1836 as the Library of the Surgeon General's Office (U.S. Army) and developed as a national resource under the leadership of John Shaw Billings, Librarian from 1865 to 1895. Named Army Medical Library in 1922 and Armed Forces Medical Library in 1952, it became the National Library of Medicine and was transferred to the Public Health Service, DHEW, in 1956.

4. *Level of operations.* (See table 1.)

Program: National Library of Medicine.

Department or agency, and office or bureau: Department of Health, Education, and Welfare; Public Health Service.

TABLE 1.—*Level of operations or performance, fiscal years 1964-67*

	Fiscal year			
	1964	1965	1966 estimate	1967 estimate
(a) Magnitude of the program:				
Direct library operations:				
Medical publications acquired.....	91,105	90,811	110,000	120,000
Titles cataloged.....	16,462	17,065	20,000	22,500
Inquiries answered.....	20,154	20,931	31,000	35,000
Loan requests filled.....	214,195	229,794	242,000	250,000
Pages photographed for orders.....	1,967,113	2,133,946	2,144,000	2,250,000
Pages photographed for preservation.....	1,290,754	692,509	2,000,000	3,000,000
Journal articles analyzed and indexed.....	144,057	151,635	175,000	185,000
Extramural support operations:				
Grants and contracts for research.....		6	20	30
Grants for construction.....				10
Grants for training.....		2	15	20
Grants for library resources.....			150	225
Grants for regional libraries.....				
Grants and contracts for publications.....	10	10	15	15
Fellowships and special scientific projects.....		1	10	10
(b) Applicants and participants.....				
(c) Federal finances:				
Unobligated appropriations available.....				
Obligations incurred.....	\$4,055,871	\$3,939,464	\$9,684,000	\$19,231,000
Allotment or commitments made.....				
(d) Private matching funds to support medical library construction.....				\$2,500,000
(e) Number of Federal employees (man years):				
Providing library service.....	238	261	284	311
Administering extramural programs.....	8	10	26	26
(f) Non-Federal personnel employed.....				
(g) Significant work performance data (see item (a) Magnitude of the program).....				

5. *Estimated magnitude of the program in 1970*

Not answered.

6. *Prospective changes in program orientation*

Not answered.

7. *Coordination and cooperation*(a) *Within the Bureau.*—Not applicable.

(b) *With other units of the Department.*—Opportunities for cooperation and coordination will be numerous in the years to come, particularly with respect to meeting the specialized information needs of organizations for which our standard services (such as Index Medicus and one-time demand searches) are insufficient with respect to depth of analysis, or coverage of materials.

It is likely that the NLM can meet the specialized health information requirements of many programs of DHEW (and other Government agencies as well) through cooperative efforts more efficiently than they can meet them through independent action.

The Library now has a formal agreement with:

Food and Drug Administration involving cooperative efforts to improve the analysis and communication of published information on the effects of drugs.

National Institute of Neurological Diseases and Blindness leading to the production of a cerebrovascular bibliography.

(c) *With Federal Government agencies.*—The Library has formal agreements with:

Veterans' Administration to train VA staff in computer search techniques and to meet specialized information requirements of VA.

National Bureau of Standards to evaluate and improve NLM capability in the field of graphic image storage and retrieval of information.

National Science Foundation to carry out translation and publication projects abroad utilizing excess foreign currencies.

Agency for International Development to improve the communication of medical information to developing countries where AID missions are established.

(d) *With State governments or their instrumentalities.*—With the advent of support to libraries under the Medical Library Assistance Act (see par. 1(f)) it is possible that agreements will be reached with instrumentalities of State governments (such as health departments) relating to the provision of medical library services in their respective States through regional libraries. No agreements exist at the present time.

(e) *With local governments or communities.*—None at the present time.

(f) *With foreign governments or international organizations.*—It is probable that the NLM will enter into agreements with foreign governments in connection with Public Law 480 excess foreign currency programs. At the present time these programs are carried out in cooperation with NSF.

(g) *With nonprofit organizations and institutions.*—

(1) American Dental Association, to produce cooperatively the Index to Dental Literature.

(2) American Rheumatism Association, to produce the Index of Rheumatology.

(3) Association of American Medical Colleges to produce the Bibliography of Medical Education.

(4) American Journal of Nursing Co., to produce the International Nursing Index.

(h) *With business enterprises.*—None.

(i) *With others.*—None.

8. Laws and regulations

(a) National Library of Medicine Act (Public Law 84-941).

(b) Medical Library Assistance Act (Public Law 89-291).

(c) Labor-DHEW Appropriation Act (Public Law 89-156).

PART II. DATA BEARING ON ECONOMIC ASPECTS AND IMPACTS OF THE PROGRAM

9. Economic effects

Not answered.

10. Economic classification of program expenditures. (See table 2.)

Program: National Library of Medicine.

Department or agency, and office or bureau: Department of Health, Education, and Welfare; Public Health Service.

TABLE 2.—*Economic classification of program expenditures for fiscal year 1965*

[In millions of dollars]

Federal Government:

Purchases of goods and services:

Wages and salaries.....	2
Other.....	2

Total Federal expenditures.....	4
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DISASTER HEALTH PROGRAM

PART I. DESCRIPTION OF THE PROGRAM

1. Objectives

Preparation of the individual, the community, and the various States to increase their capability to survive and recover from health hazards introduced by major disaster.

2. Operation

In preparation for a major disaster, the Public Health Service stockpiles emergency medical supplies and equipment for use by the ongoing community medical facilities. These materials are stored both at the community level as fully equipped 200-bed packaged disaster hospitals ready for immediate use and in a national depot system that provides backup stocks to the packaged disaster hospitals and to the ongoing community hospitals. In addition, educational programs are conducted in disaster medical care for professional, technical, and lay personnel. These training programs are supported by assignment of full-time program consultants at the State and regional level, by the provision of training materials for all levels of disaster health training, and by the publication of training, technical, planning, and preparedness guides. Consultation and technical assistance are provided to State and local communities in writing plans for the provision of emergency health services in a major disaster. In addition, the Service administers a national training program of medical self-help which is funded by the Department of Defense through the Office of Civil Defense.

3. History

The Service has provided disaster relief services and assistance to the States and communities since 1874. Growing out of agency involvement in Federal mobilization activities during World War II, and in response to increased national preparedness needs, more frequent natural disasters, and increased threat of attack, a Health Emergency Planning Office was established in 1953. In anticipation of a delegation of greatly increased PHS authority and funds appropriation, an expanded Health Mobilization Organization was established in 1959. Responsibility for the civil defense medical stockpile was transferred to the Service in 1961. The nationwide medical self-help training program was developed in 1962.

4. Level of operations. (See table 1.)

Program: Disaster health program.

Department or agency, and office or bureau: Department of Health, Education, and Welfare; Public Health Service—Office of the Surgeon General.

TABLE 1.—*Level of operations or performance, fiscal years 1964-67*

Measure and unit	Fiscal year			
	1964	1965	1966 estimate	1967 estimate
(a) Program magnitude:				
1. Medical self-help training:				
Courses (thousands).....	11.7	17.3	20	23
Students (thousands).....	403	666	750	825
2. Packaged disaster hospital training:				
Exercises.....	256	363	400	450
Participants (thousands).....	103	149	175	200
3. Disaster health training:				
Courses.....	30	142	160	178
Students (thousands).....	3.4	10.5	11.5	12.5
4. Publications:				
Titles.....	8	21	22	23
Quantity (thousands).....	153	525	2,729	3,000
5. Promotional materials (exhibits, posters, announcements, films, etc.):				
Items.....	1	8	8	9
Quantity (thousands).....		33	157	160
6. Packaged disaster hospitals:				
Prepositioned.....	1,879	2,186	2,486	2,573
Inspected.....	1,782	1,799	600	600
Sites reviewed.....	30	600	400	350
7. Medical stockpile supplies and equipment used (disasters).....	10	144	156	50
8. Federal disaster health program representatives assigned (States and territories).....	48	50	50	50
9. State plans for emergency management of health and water resources (States).....		7	37	46
10. Research and data collection projects completed.....	2	2	9	10
(b) Participating organizations:				
1. State health and related agencies (States).....	50	50	50	50
2. National associations, societies, organizations, estimated (organizations).....	40	50	60	70
3. Medical schools (schools).....	89	89	89	90
(c) Federal finances:				
1. Unobligated appropriations available (millions of dollars).....	29.9	21.5	13.4	14
2. Obligations incurred ² (millions of dollars).....	17.2	8.0	9.8	14
(d) Other finances:				
1. State disaster health budgets (millions of dollars).....	1.2	1.2	1.3	1.3
2. Public Law 85-606 disaster health budgets ³ (millions of dollars).....	1.5	1.5	1.4	0
(e) Federal employment (employees).....	164	164	168	168
(f) Non-Federal employment:				
1. PHS consultants.....	8	4	6	20
2. State employment (employees).....	1282	1387	1410	410

¹ Data for previous calendar year; e.g., in fiscal year 1964 column, the figure is for calendar year 1963.

² Included in the funds shown on preceding line.

³ Funds from other Federal agencies.

5. *Estimated magnitude of program in 1970*

Not answered.

6. *Prospective changes in program orientation*

Not answered.

7. *Cooperation and coordination*

(a) Departmental policy requires the incorporation of disaster assistance and emergency preparedness functions into the ongoing programs of the Service. Working together as a team with the other Federal and State agencies involved and with a single point of disaster assistance control at headquarters and in each regional office, the Service is able to provide requested assistance promptly to the State and communities, subject only to limitations of personnel, funds, and delegated authority.

(b) By Executive order from the President and delegation from the Secretary of Health, Education, and Welfare, the Service is responsible for the direction and coordination of civilian emergency health services activities of the Federal Government and for initiating joint planning efforts with other agencies involved. Participating agencies within the Department of Health, Education, and Welfare are the Food and Drug Administration, Vocational Rehabilitation Administration, and the Children's Bureau.

(c) Cooperative working relationships have been established between the Service and all other Federal agencies having health and related responsibilities. Formal memorandums of understanding have been developed with Housing and Home Finance Agency, Veterans' Administration, Tennessee Valley Authority, Labor, and General Services Administration as well as with the quasi-Federal American National Red Cross. Other agencies with which the Service routinely works are Office of Emergency Planning, Department of Defense, Commerce, Treasury, and Agriculture.

(d) In accordance with traditional arrangements, the Service works closely with State health officers. A Federal disaster health program representative is assigned to almost every State health agency and—by means of its network of headquarters, regional, and State offices—the health mobilization organization is able to respond quickly and effectively to State and local disaster health needs. State agencies such as departments of education, water pollution control, and water resources also are involved in accomplishing specific disaster health programs.

(e) Federal disaster health program representatives at State health agencies work directly with local health officials and hospitals in developing preparedness measures and providing disaster assistance.

(f) The Service cooperates with foreign governments which request information or send representatives to study the U.S. disaster health program. A formal memorandum of understanding between the United States and Canada is being developed to establish mutual assistance policies and procedures regarding use of health manpower.

(g) Close liaison is maintained with health professional societies, several of which have disaster committees. Selected associations have participated under research contract or as consultants in the development of specific professional guidance materials. In cooperation with the military services and medical schools, Public Health Service sponsors disaster training for medical students. National professional, labor, civic, fraternal, and other organizations assist by endorsing and promoting the medical self-help training program.

8. *Laws and regulations*

Federal Civil Defense Act (50 U.S.C. App. 2251-2297).

Public Health Service Act (Public Law 85-410, sec. 214(b), 314, 322(d)).

Federal Disaster Act (Public Law 81-875, sec. 3).

Executive Order 11001 (27 F.R. 1534) (Feb. 16, 1962).

Executive Order 10958 (F.R. 7571) (Aug. 14, 1961).

Executive Order 10346 (17 F.R. 3477) (Apr. 17, 1952).

PART II. DATA BEARING ON ECONOMIC ASPECTS AND IMPACTS OF THE
PROGRAM9. *Economic effects*

By increasing individual and organizational capability to survive and recover from the effects of disaster, the program helps to maintain the labor force and the personal income of workers in disaster affected areas. In the period 1961 to date, medical stockpile procurement (\$14,830,676) stimulated the medical supply and equipment and related industries.

10. *Economic classification of program expenditures.* (See table 2.)

Program: Disaster health program.

Department or agency, and office or bureau: Department of Health, Education, and Welfare; Public Health Service—Office of the Surgeon General.

TABLE 2.—*Economic classification of program expenditures for fiscal year 1965*

[In thousands of dollars]

Federal Government:

Purchases of goods and services:

Wages and salaries.....	2, 049
Other.....	10, 582

Total Federal expenditures ¹	12, 631
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¹ This is on the basis of actual disbursements, and hence the \$12,631,000 (shown here) differs from the \$8,000,000 (of obligations incurred) shown for fiscal year 1965 in item 4 (table 1, above). The \$12,631,000 shown here is entirely Federal funds, and is directly appropriated to this agency. The breakdown required in item 10 (this page) is unavailable for the State funds and other Federal agency funds shown in item 4, subitems d-1 and d-2.

Saint Elizabeths Hospital

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MENTAL HEALTH PROGRAM—PATIENT TREATMENT AND CARE

PART I. DESCRIPTION OF THE PROGRAM

1. Objectives

The primary purpose or activity of the mental health program at St. Elizabeths Hospital is the treatment and care of mentally ill patients and the rehabilitation and return to community life of as many such patients as possible. Closely related to the treatment program are extensive research and training activities.

2. Operation

The provision of patient treatment and care includes medical, nursing, and related services, along with the necessary administrative, maintenance, and dietary support. This program operates under an annual congressional appropriation for the operation and maintenance of the hospital, which is supplemented by reimbursements, primarily from the District of Columbia and certain Federal agencies, for patient services furnished their beneficiaries. Reimbursements also include, to a small extent, receipts from miscellaneous other sources such as cafeteria sales, sale of scrap, etc. The hospital operates under an indefinite appropriation, under which it receives, in appropriated funds, an amount equal to the difference between reimbursements actually received and the total program costs approved by the Congress. Charges to the District of Columbia for patient care are based upon a day rate comparable to per diem costs of mental hospitals in the upper 10 percent of the States. The difference between the rate charged and the actual daily cost of care is paid from the hospital's direct appropriation, and represents the cost differential between the provision of care by a quality State institution, as opposed to a national demonstration center. The direct Federal appropriation also finances the cost of care rendered certain Federal patients who are not beneficiaries of other agencies, 40 percent of the hospital's training program, and all of its research activities. Training and research will be discussed as separate programs.

3. History

St. Elizabeths Hospital was established by the act of March 3, 1855, Rev. Stat. paragraph 4838 (1875), 24 U.S.C. 161. At that time it was known as the Government Hospital for the Insane. It acquired its present title by the act of July 1, 1916, paragraph 1, 39 Stat. 309. In 1940, the functions of the hospital were transferred

from the Department of the Interior to the Federal Security Agency under Reorganization Plan No. IV, paragraph 11(a), 54 Stat. 1236. The functions of the Federal Security Administration, under which the hospital operated, were transferred to the Department of Health, Education, and Welfare under Reorganization Plan No. I of 1953, paragraph 5, 67 Stat. 631.

4. *Level of operations.* (See table 1.)

The level of operations for patient treatment and care at St. Elizabeths Hospital for the period 1964 through 1967 is measured in terms of average daily patient load, appropriations, obligations, and patient movement statistics. This information is set forth in the following table.

Program: Mental health program—patient treatment and care.

Department or agency, and office or bureau: Department of Health, Education, and Welfare; St. Elizabeths Hospital.

TABLE 1.—*Level of operations or performance, fiscal years 1964–67*

Measure	Fiscal year 1964	Fiscal year 1965	Fiscal year 1966, esti- mates	Fiscal year 1967, esti- mates
(a) Magnitude of program (patients residing in hospital) (average daily patient population)-----	6,412	6,148	5,936	5,722
(b) Participants (average daily patient population):				
(1) Federal Government:				
(a) Direct appropriation-----	751	738	722	701
(b) Reimbursable patients from other Federal agencies-----	436	407	352	293
(2) District of Columbia-----	5,225	5,003	4,862	4,728
Total participants-----	6,412	6,148	5,936	5,722
(c) Federal finances (exclusive of reimbursements from other Federal agencies):				
(1) Unobligated appropriation available-----	\$7,312,202	\$8,851,327	\$9,440,200	\$7,211,900
(2) Obligations incurred-----	7,289,738	8,867,546	9,440,200	7,211,900
(3) Allotments or commitments made-----				
(d) Matching or additional obligations for the program: ¹				
(1) Reimbursements from the District of Columbia-----	17,820,000	17,330,270	17,922,230	20,415,560
(2) Reimbursements from other Federal agencies-----	1,789,873	1,849,885	1,706,000	1,480,230
(3) Reimbursements from miscellaneous other sources-----	63,874	63,398	60,000	60,240
Total additional obligations-----	19,673,747	19,243,553	19,688,230	21,956,030
(e) Number of Federal government employees (civilian employment engaged in operation and maintenance of hospital) (man-years):				
(1) Permanent-----	3,661	3,594	3,573	3,573
(2) Other-----	21	10	15	30
Total Federal personnel-----	3,682	3,604	3,588	3,588
(f) Non-Federal personnel employed in the program-----				
(g) Other measures of level or magnitude of performance:				
(1) Patient movement data (actual):				
Admissions-----	1,692	1,965	(2)	(2)
Discharges-----	1,446	1,557	(2)	(2)
Deaths-----	444	423	(2)	(2)
(2) Patients on rolls (residing in hospital plus patients on visit) (average daily patient population)-----	7,672	7,585	(2)	(2)

¹ Reimbursements to the hospital are divided between two programs. It is not feasible to distribute items (d)(1) through (d)(3), except to prorate them on the basis of percentage of total reimbursements attributable to each program.

² Estimate not available.

5. *Estimated magnitude of program in 1970*

Not answered.

6. *Prospective changes in program orientation*

Not answered.

7. *Coordination and cooperation*

The patient treatment and care program at St. Elizabeths Hospital maintains operational and financial relationships with other programs of the hospital, other agencies of the Department of Health, Education, and Welfare, other departments and agencies of the Federal Government, and with the District of Columbia. It is generally felt that the hospital avails itself of most of the opportunities for coordination and cooperation whenever they now exist. Examples of such coordinated activity are set forth in the following:

(a) *Coordination within the hospital.*—The hospital operates training and research programs in various medical and related disciplines, which are closely integrated with patient treatment activities. Under the training program, interns, residents, and affiliate student nurses are afforded unusual opportunities to observe and participate in the day-to-day treatment of the hospital's large and varied patient population. In recognition of the mutual benefits thus derived by both trainee and patient, some 60 percent of the annual operating cost of the training program is paid from reimbursements received for patient care. In addition, the 100 percent federally financed research program avails itself of the same patient population to provide much needed firsthand data required for the furtherance of numerous research projects. Conversely, this arrangement benefits the treatment program in terms of the new and improved medical and related techniques which are developed from such projects.

(b) *Coordination with other agencies of the Federal Government.*—The greatest single medium of coordination and cooperation by the hospital, with other agencies of the Federal Government, is found in the many arrangements by which the hospital provides psychiatric treatment and care for beneficiaries of the various Federal agencies, pursuant to the provisions of 24 U.S.C. 168a.

Typical of the agencies which obtain treatment services for certain of their beneficiaries are the Public Health Service, Veterans' Administration, U.S. Coast Guard, Department of State, and Department of Justice. At the present time, approximately 18 percent of the patient load at St. Elizabeths Hospital is comprised of various classes of Federal beneficiaries.

(c) *Coordination with the District of Columbia.*—In view of the physical location of St. Elizabeths Hospital within the District of Columbia, and in view of the fact that some 82 percent of the patient load at St. Elizabeths consists of District of Columbia residents, the relationships between the hospital and the community are numerous and varied. The hospital, for example, provides treatment and care for District of Columbia residents at a per diem rate comparable to that of mental hospitals in the upper 10 percent of the States. The difference between this rate and the actual per diem cost (a somewhat higher figure) is financed from direct Federal appropriations, and represents the cost of special or additional treatment services, which would not ordinarily be available in even the higher quality State mental hospitals. In recognition of the considerable impact which the treatment cost of some 5,000 District of Columbia patients has