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HEALTH TRAINING IMPROVEMENT ACT OF 1970

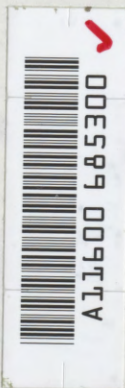
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RECEIVED  
HEARINGS  
BEFORE THE  
SUBCOMMITTEE ON HEALTH  
OF THE  
COMMITTEE ON  
LABOR AND PUBLIC WELFARE  
UNITED STATES SENATE  
NINETY-FIRST CONGRESS

SECOND SESSION

ON

S. 3586

TO AMEND TITLE VII OF THE PUBLIC HEALTH SERVICE ACT TO ESTABLISH ELIGIBILITY OF NEW SCHOOLS OF MEDICINE, DENTISTRY, OSTEOPATHY, PHARMACY, OPTOMETRY, VETERINARY MEDICINE, AND PODIATRY FOR INSTITUTIONAL GRANTS UNDER SECTION 771 THEREOF, TO EXTEND AND IMPROVE THE PROGRAM RELATING TO TRAINING OF PERSONNEL IN THE ALLIED HEALTH PROFESSIONS, AND FOR OTHER PURPOSES

S. 2753

TO AMEND THE PUBLIC HEALTH SERVICE ACT SO AS FURTHER TO ASSIST IN MEETING THE NATION'S NEEDS FOR ADEQUATELY TRAINED PERSONNEL IN THE ALLIED HEALTH PROFESSIONS, AND FOR OTHER PURPOSES

S. 3718

TO AMEND THE PUBLIC HEALTH SERVICE ACT TO EXTEND FOR ONE YEAR THE PROGRAMS OF ASSISTANCE FOR TRAINING IN THE ALLIED HEALTH PROFESSIONS, AND FOR OTHER PURPOSES

MAY 19 AND 20, 1970

Printed for the use of the Committee on Labor and Public Welfare



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## HEALTH TRAINING IMPROVEMENT ACT OF 1970

TUESDAY, MAY 19, 1970

U.S. SENATE,  
SUBCOMMITTEE ON HEALTH  
OF THE COMMITTEE ON LABOR AND PUBLIC WELFARE,  
*Washington, D.C.*

The subcommittee convened at 10 a.m., pursuant to notice, in room 4232, New Senate Office Building, Senator Ralph W. Yarborough, (chairman of the subcommittee) presiding.

Present: Senators Yarborough (presiding), Cranston, Javits and Saxbe.

Committee Staff present: John S. Forsythe, general counsel; James Babin, professional staff member; and Jay B. Cutler, minority counsel to the subcommittee.

The CHAIRMAN. The Subcommittee on Health will come to order. I have called these important hearings to consider S. 3586, the "Health Training Improvement Act of 1970," and related bills. My bill amends title VII of the Public Health Service Act to improve the program relating to training of personnel in the allied health professions, such as radiologic technicians, medical and laboratory technicians, dental assistants, physicians assistants, environmental aides, biomedical equipment technicians, air pollution technicians, child health associates, dieticians, and 200 other specialists who assist physicians in the practice of medical science.

I order the bills and other pertinent material printed in the record at this point.

(The bills, section-by-section analysis and departmental reports follows:)

91ST CONGRESS  
2D SESSION

# S. 3586

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## IN THE SENATE OF THE UNITED STATES

MARCH 12 (legislative day, MARCH 11), 1970

Mr. YARBOROUGH (for himself, Mr. CRANSTON, Mr. EAGLETON, Mr. HART, Mr. HUGHES, Mr. KENNEDY, Mr. MAGNUSON, Mr. MONDALE, Mr. NELSON, Mr. PASTORE, Mr. PELL, Mr. RANDOLPH, Mr. SPONG, and Mr. WILLIAMS of New Jersey) introduced the following bill; which was read twice and referred to the Committee on Labor and Public Welfare

---

## A BILL

To amend title VII of the Public Health Service Act to establish eligibility of new schools of medicine, dentistry, osteopathy, pharmacy, optometry, veterinary medicine, and podiatry for institutional grants under section 771 thereof, to extend and improve the program relating to training of personnel in the allied health professions, and for other purposes.

1        *Be it enacted by the Senate and House of Representa-*  
2        *tives of the United States of America in Congress assembled,*

3

### SHORT TITLE

4        SECTION 1. This Act may be cited as the "Health Train-  
5        ing Improvement Act of 1970".

II



1 Act from appropriations under section 770 of such Act for  
2 the fiscal years ending after June 30, 1970.

3 TITLE II—ALLIED HEALTH PROFESSIONS

4 GRANTS FOR CONSTRUCTION OF TEACHING FACILITIES

5 FOR ALLIED HEALTH PROFESSIONS PERSONNEL

6 SEC. 201. (a) Section 791 (a) (1) of the Public Health  
7 Service Act (42 U.S.C. 295h (a) (1) ) is amended (1) by  
8 striking out the “and”, and (2) by inserting immediately  
9 before the period at the end thereof the following: “; \$20,-  
10 000,000 for the fiscal year ending June 30, 1971; \$25,000,-  
11 000 for the fiscal year ending June 30, 1972; \$30,000,000  
12 for the fiscal year ending June 30, 1973; \$35,000,000 for  
13 the fiscal year ending June 30, 1974; and \$40,000,000 for  
14 the fiscal year ending June 30, 1975”.

15 (b) Section 791 (b) (1) of such Act (42 U.S.C. 295h  
16 (b) (1) ) is amended by striking out “July 1, 1969” and  
17 inserting in lieu thereof “July 1, 1974”.

18 GRANTS TO IMPROVE THE QUALITY OF TRAINING CENTERS

19 FOR ALLIED HEALTH PROFESSIONS

20 SEC. 202. (a) Section 792 (a) of the Public Health  
21 Service Act (42 U.S.C. 295h-1 (a) ) is amended by strik-  
22 ing out “and \$20,000,000” and all that follows down to  
23 but not including the period at the end thereof and inserting  
24 in lieu thereof the following: “\$20,000,000 for the fiscal year  
25 ending June 30, 1970; and \$15,000,000 for each of the next

1 five fiscal years; for grants for basic improvements under  
2 this section to assist training centers for the allied health  
3 professions to improve the quality of their educational  
4 programs”.

5 (b) Section 792 (a) of such Act is further amended  
6 (1) by inserting “(1)” immediately after “(a)”, and (2)  
7 by adding at the end thereof a new paragraph (2) as  
8 follows:

9 “(2) There are authorized to be appropriated \$20,-  
10 000,000 for the fiscal year ending June 30, 1971; \$25,-  
11 000,000 for the fiscal year ending June 30, 1972; \$30,-  
12 000,000 for the fiscal year ending June 30, 1973; \$35,-  
13 000,000 for the fiscal year ending June 30, 1974; and  
14 \$40,000,000 for the fiscal year ending June 30, 1975; for  
15 special project grants under this section to assist public or  
16 nonprofit private agencies, institutions, and organizations in  
17 providing or maintaining existing programs or planning or  
18 establishing new programs for training or retraining of allied  
19 health personnel.”

20 (c) Section 792 (b) of such Act (42 U.S.C. 295h-1  
21 (b) ) is amended by striking out “June 30, 1970” and in-  
22 serting in lieu thereof “June 30, 1975”.

23 (d) (1) Section 792 (c) of such Act (42 U.S.C. 295h-  
24 1 (e) ) is amended to read as follows:

25 “(c) From the sums appropriated under subsection

1 (a) (2) of this section for any fiscal year, the Secretary is  
2 authorized to make special project grants under this section  
3 to public or nonprofit private agencies, institutions, and or-  
4 ganizations to (A) plan, develop, or establish new pro-  
5 grams for the training or retraining of allied health person-  
6 nel, (B) effect significant improvements in the curriculums  
7 of programs for the training or retraining of such personnel,  
8 (C) expand training capacity in programs for the training  
9 or retraining of such personnel, or (D) establish special  
10 curriculums, in programs for the training or retraining of  
11 allied health personnel, designed to meet the needs of, and  
12 encourage and facilitate participation in such programs by  
13 individuals who are economically or culturally deprived, are  
14 returning veterans of the Armed Forces of the United States  
15 with training or experience in or related to the allied health  
16 fields, or are reentering or interested in reentering the allied  
17 health fields.”

18 (2) The heading to such section 792 (c) is amended by  
19 striking out “IMPROVEMENT” and inserting in lieu thereof  
20 “PROJECT”.

21 (e) Section 792 (d) (2) (A) of such Act (42 U.S.C.  
22 295h-1 (d) (2) (A) ) is amended by inserting “in the case  
23 of an application for a basic improvement grant,” immedi-  
24 ately after “(A)”.

1 (f) The amendments made by this section shall be effective only with respect to grants made under section 792 of the Public Health Service Act from sums appropriated under such section for fiscal years ending after June 30, 1970.

5 TRAINESHIPS FOR ADVANCED TRAINING OF ALLIED  
6 HEALTH PROFESSIONS PERSONNEL

7 SEC. 203. (a) Section 793 (a) of the Public Health Service Act (42 U.S.C. 295h-2 (a)) is amended (1) by striking out "and" after "June 30, 1969" and (2) by inserting after "June 30, 1970;" the following: "\$8,000,000 for the fiscal year ending June 30, 1971; \$9,000,000 for the fiscal year ending June 30, 1972; \$10,000,000 for the fiscal year ending June 30, 1973; \$11,000,000 for the fiscal year ending June 30, 1974; and \$12,000,000 for the fiscal year ending June 30, 1975;".

16 (b) Section 793 (b) of such Act (42 U.S.C. 295h-2 (b)) is amended by striking out "training centers for allied health professions" and inserting in lieu thereof "agencies, institutions, and organizations".

20 (c) Section 793 (c) of such Act (42 U.S.C. 285h-2 (c)) is amended by striking out "centers" and inserting in lieu thereof "public and nonprofit private agencies, institutions, and organizations".

## 1 DEVELOPMENT OF NEW METHODS

2 SEC. 204. (a) Section 794 of the Public Health Serv-  
3 ice Act (42 U.S.C. 295h-3) is amended (1) by striking  
4 out "and" after "June 30, 1969;"; (2) by inserting after  
5 "June 30, 1970;" the following: "\$6,000,000 for the fiscal  
6 year ending June 30, 1971; \$8,000,000 for the fiscal year  
7 ending June 30, 1972; \$10,000,000 for the fiscal year  
8 ending June 30, 1973; \$12,000,000 for the fiscal year  
9 ending June 30, 1974; and \$14,000,000 for the fiscal year  
10 ending June 30, 1975;" and (3) by inserting "or contracts  
11 with" immediately after "grants to".

12 (b) Such section 794 is further amended (1) by in-  
13 serting "(1)" after "projects", and (2) by inserting im-  
14 mediately before the period at the end thereof the following:  
15 " (2) to study and develop mechanisms for determining  
16 the equivalency and proficiency of previously acquired  
17 knowledge and skills related to the allied health professions,  
18 (3) to develop, experiment with, and demonstrate new  
19 teaching methods and curriculums relating to the allied  
20 health professions, and (4) to develop, demonstrate, and  
21 evaluate new means of recruitment, retraining, or reten-  
22 tion of allied health personnel".

## 1 REDESIGNATION OF SECTIONS

2 SEC. 205. Sections 795, 796, 797, and 798 of such Act  
3 are hereby redesignated as sections 799, 799a, 799b, and  
4 799c, respectively.

5 ENCOURAGEMENT OF FULL UTILIZATION OF EDUCATIONAL  
6 TALENT FOR THE ALLIED HEALTH PROFESSIONS

7 SEC. 206. Part G of title VII of the Public Health Serv-  
8 ice Act is amended by adding immediately after section 794  
9 thereof the following new sections:

10 "GRANTS AND CONTRACTS TO ENCOURAGE FULL UTILIZA-  
11 TION OF EDUCATIONAL TALENT FOR ALLIED HEALTH  
12 PROFESSIONS

13 "SEC. 795. (a) To assist in meeting the need for addi-  
14 tional trained personnel in the allied health professions, the  
15 Secretary is authorized to make grants to State or local edu-  
16 cational agencies or other public or nonprofit private agencies,  
17 institutions, and organizations, or enter into contracts without  
18 regard to section 3709 of the Revised Statutes (41 U.S.C.  
19 (5) ) for the purpose of—

20 " (1) identifying individuals of financial, educa-  
21 tional, or cultural need with a potential for education or  
22 training in the allied health professions, including return-  
23 ing veterans of the Armed Forces of the United States  
24 with training or experience in the health field, and en-  
25 couraging and assisting them, whenever appropriate, to

1 (A) complete secondary school, (B) undertake such  
2 postsecondary training as may be required to qualify  
3 them for training in the allied health professions, and  
4 (C) undertake postsecondary educational training in the  
5 allied health professions, or

6 “(2) publicizing existing sources of financial aid  
7 available to persons undertaking training or education in  
8 the allied health professions.

9 “(b) For the purpose of carrying out the provisions of  
10 this section, there is hereby authorized to be appropriated  
11 \$750,000 for the fiscal year ending June 30, 1971; \$1,000,-  
12 000 for the fiscal year ending June 30, 1972; \$1,250,000 for  
13 the fiscal year ending June 30, 1973; \$1,500,000 for the  
14 fiscal year ending June 30, 1974; and \$1,750,000 for the  
15 fiscal year ending June 30, 1975.

16 “SCHOLARSHIP GRANTS

17 “SEC. 796. (a) The Secretary is authorized to make (in  
18 accordance with such regulations as he may prescribe) grants  
19 to public or nonprofit private agencies, institutions, and or-  
20 ganizations with an established program for training or re-  
21 training of personnel in the allied health professions or occu-  
22 pations for (1) scholarships to be awarded by such agency,  
23 institution, or organization to students thereof, and (2)  
24 scholarships in retraining programs of such agency, institu-

1 tion, or organization to be awarded to allied health profes-  
2 sions personnel in occupations for which such agency, institu-  
3 tion, or organization determines there is a need for the devel-  
4 opment of, or the expansion of, training.

5 “(b) Scholarships awarded by any agency, institution,  
6 or organization from grants under subsection (a) shall be  
7 awarded for any year only to individuals of exceptional finan-  
8 cial need who require such assistance for such year in order  
9 to pursue a course of study offered by such agency, institu-  
10 tion, or organization.

11 “(c) Grants under subsection (a) may be paid in ad-  
12 vance or by way of reimbursement and at such intervals as  
13 the Secretary may deem appropriate and with appropriate  
14 adjustments on account of overpayments or underpayments  
15 previously made.

16 “(d) Any scholarship awarded from grants under sub-  
17 section (a) to any individual for any year shall cover such  
18 portion of the individual's tuition, fees, books, equipment,  
19 and living expenses as the agency, institution, or organization  
20 awarding the scholarship may determine to be needed by  
21 such individual for such year on the basis of his require-  
22 ments and financial resources; except that the amount of any  
23 such scholarship shall not exceed \$2,000, plus \$600 for each  
24 dependent (not in excess of three) in the case of any in-  
25 dividual who is awarded such a scholarship.

1       “(e) For the purpose of carrying out the provisions of  
2 this section, there is authorized to be appropriated \$6,000,000  
3 for the fiscal year ending June 30, 1971; \$7,000,000 for the  
4 fiscal year ending June 30, 1972; \$8,000,000 for the fiscal  
5 year ending June 30, 1973; \$9,000,000 for the fiscal year  
6 ending June 30, 1974; and \$10,000,000 for the fiscal year  
7 ending June 30, 1975.

8                               “WORK-STUDY PROGRAMS

9       “SEC. 797. (a) The Secretary is authorized to enter into  
10 agreements with public or nonprofit private agencies, institu-  
11 tions, and organizations with established programs for the  
12 training or retraining of personnel in the allied health pro-  
13 fessions under which the Secretary will make grants to such  
14 agencies, institutions, and organizations to assist them in the  
15 operation of work-study programs for individuals undergoing  
16 training or retraining provided by such programs.

17       “(b) Any agreement entered into pursuant to this  
18 section with a public or nonprofit private agency, institu-  
19 tion, or organization shall—

20       “(1) provide that such agency, institution, or orga-  
21 nization, will operate a work-study program for the  
22 part-time employment of its students or trainees either  
23 (A) in work for such agency, institution, or organiza-  
24 tion or (B) pursuant to arrangements between  
25 such agency, institution, or organization and another

1 public or private nonprofit agency, institution, or orga-  
2 nization, work which is in the public interest for such  
3 other agency, institution, or organization;

4 “(2) provide that any such work-study program  
5 shall be operated in such manner that its operation will  
6 not result in the displacement of employed workers or  
7 impair existing contracts for employment;

8 “(3) provide that any such work-study program  
9 will provide conditions of employment, for the students  
10 or trainees participating therein, which are appropriate  
11 and reasonable in light of such factors as type of work  
12 performed, prevailing wages in the area for similar  
13 work, and proficiency of the individual in the perform-  
14 ance of the work involved;

15 “(4) provide that no Federal funds made avail-  
16 able to such agency, institution, or organization pur-  
17 suant to such agreement shall be used for the construc-  
18 tion, operation, or maintenance of any facility or part  
19 thereof which is used or is to be used for sectarian  
20 instruction or as a place for religious worship;

21 “(5) provide that Federal funds made available  
22 to such agency, institution, or organization pursuant to  
23 such agreement shall be used only to make payments to  
24 its students or trainees performing work in the work-  
25 study program operated by such agency, institution, or

1 organization; except that such agency, institution, or  
2 organization may use a portion of such funds to meet  
3 administrative expenses connected with the operation of  
4 such program, but the portion which may be so used  
5 shall not exceed 5 per centum of that part of such  
6 funds which is used for the purpose of making payments,  
7 to such students or trainees, for work performed for a  
8 public or private nonprofit agency, institution, or organi-  
9 zation other than the agency, institution, or organiza-  
10 tion receiving such Federal funds pursuant to such  
11 agreement;

12 “(6) provide that such agency, institution, or orga-  
13 nization, in selecting students or trainees for employ-  
14 ment in such work-study program, will give preference  
15 to individuals from low-income families, and that no  
16 individual will be selected for employment in such pro-  
17 gram unless he (A) is in need of the earnings from  
18 such employment in order to pursue a course of study  
19 (whether on a full-time or part-time basis) for training  
20 or retraining of personnel in the allied health professions  
21 provided by such agency, institution, or organization,  
22 (B) is capable, in the opinion of such agency, institu-  
23 tion, or organization, of maintaining good standing in  
24 such course of study while employed under such work-

1 study program, and (C) in the case of any individual  
2 who at the time he applies for such employment is a new  
3 student or trainee, has been accepted for enrollment in  
4 such course of study on a full-time basis or part-time  
5 and, in the case of any other individual, is enrolled  
6 in such course of study on such a basis and is maintaining  
7 good standing in such course of study;

8 “(7) provide that such agency, institution, or or-  
9 ganization shall, in the operation of such work-study  
10 program, provide all individuals desiring employment  
11 therein to make application for such employment and  
12 that, to the extent that necessary funds are available,  
13 all eligible applicants will be employed in such program;  
14 and

15 “(8) include such other provisions as the Secre-  
16 tary may deem necessary or appropriate to carry out  
17 the purposes of this section.

18 “(c) The Secretary shall not approve any grant under  
19 this section unless the applicant therefor provides assurances  
20 satisfactory to the Secretary that funds made available  
21 through such grant will be so used as to supplement and,  
22 to the extent practical, increase the level of non-Federal funds  
23 which would, in the absence of such grant, be made avail-  
24 able for the purpose for which such grant is requested.

1       “(d) (1) Funds provided through any grant made under  
2 this section shall not be used to pay more than—

3               “(A) 90 per centum, in the case of the three-year  
4 period commencing on the date of the enactment of this  
5 section,

6               “(B) 85 per centum, in the case of the one-year pe-  
7 riod which immediately succeeds the period referred to in  
8 clause (A),

9               “(C) 80 per centum, in the case of the one-year  
10 period which immediately succeeds the period referred to  
11 in clause (B), nor

12               “(D) 75 per centum, in the case of any period after  
13 the period referred to in clause (C),

14 of the costs attributable to the payment of compensation  
15 to students or trainees for employment in the work-study pro-  
16 gram with respect to which such grant is made.

17       “(2) (A) In determining (for purposes of paragraph  
18 (1)) the amounts attributable to the payment of compensa-  
19 tion to students or trainees for employment in any work-  
20 study program, there shall be disregarded any Federal funds  
21 (other than such funds derived from a grant under this sec-  
22 tion) used for the payment of such compensation.

23       “(B) In determining (for purposes of paragraph (1))  
24 the total amounts expended for the payment of compensa-

1 tion to students or trainees for employment in any work-  
 2 study program operated by any agency, institution, or or-  
 3 ganization receiving a grant under this section, there shall  
 4 be included the reasonable value of compensation provided  
 5 by such agency, institution, or organization to such students  
 6 or trainees in the form of services and supplies (including  
 7 tuition, board, and books).

8 “(e) For the purpose of carrying out the provisions of  
 9 this section, there is authorized to be appropriated \$2,000,000  
 10 for the fiscal year ending June 30, 1971, \$4,000,000 for the  
 11 fiscal year ending June 30, 1972, \$6,000,000 for the fiscal  
 12 year ending June 30, 1973, \$8,000,000 for the fiscal year  
 13 ending June 30, 1974, and \$10,000,000 for the fiscal year  
 14 ending June 30, 1975.

15 “LOANS FOR STUDENTS OF THE ALLIED HEALTH

16 PROFESSIONS

17 “SEC. 798. (a) (1) The Secretary is authorized to enter  
 18 into an agreement for the establishment and operation of a  
 19 student loan fund in accordance with this section with any  
 20 public or private nonprofit agency, institution, or organiza-  
 21 tion which has an established program for the training or re-  
 22 training of personnel in the allied health professions.

23 “(2) Each agreement entered into under this subsection  
 24 shall—

25 “(A) provide for establishment of a student loan

1 fund by such agency, institution, or organization for stu-  
2 dents or trainees enrolled in such program;

3 “(B) provide for deposit in the fund of (i) the  
4 Federal capital contributions paid under this section to  
5 the school by the Secretary, (ii) an additional amount  
6 from other sources equal to not less than one-ninth of  
7 such Federal capital contributions, (iii) collections of  
8 principal and interest on loans made from the fund, (iv)  
9 collections pursuant to section (b) (6), and (v)  
10 any other earnings of the fund;

11 “(C) provide that the fund shall be used only for  
12 loans to students or trainees enrolled in such program of  
13 the agency, institution, or organization in accordance  
14 with the agreement and for costs of collection of such  
15 loans and interest thereon;

16 “(D) provide that loans may be made from such  
17 fund to students pursuing a course of study (whether  
18 full time or part time) in such program of such agency,  
19 institution, or organization and that while the agreement  
20 remains in effect no such student who has attended such  
21 agency, institution, or organization before July 1, 1971,  
22 shall receive a loan from a loan fund established under  
23 section 204 of the National Defense Education Act of  
24 1958; and

1           “(E) contain such other provisions as are necessary  
2           to protect the financial interests of the United States.

3           “(b) (1) The total of the loans for any academic year  
4           (or its equivalent, as determined under regulations of the  
5           Secretary) made by agencies, institutions or organizations  
6           from loan funds established pursuant to agreements under  
7           this section may not exceed \$1,500 in the case of any stu-  
8           dent. The aggregate of the loans for all years from such  
9           funds may not exceed \$6,000 in the case of any student.

10          “(2) Loans from any such student loan fund by any  
11          agency, institution or organization shall be made on such  
12          terms and conditions as it may determine; subject, however,  
13          to such conditions, limitations, and requirements as the  
14          Secretary may prescribe (by regulation or in the agreement  
15          with the school) with a view to preventing impairment of  
16          the capital of such fund to the maximum extent practicable  
17          in the light of the objective of enabling the student to com-  
18          plete his course of study; and except that—

19               “(A) such loan may be made only to a student  
20               who (i) is in need of the amount of the loan to pursue  
21               a part-time or full-time course of study at the agency,  
22               institution, or organization, and (ii) is capable, in the  
23               opinion of the agency, institution, or organization, of  
24               maintaining good standing in such course of study;

25               “(B) such loan shall be repayable in equal or grad-

1       uated periodic installments (with the right of the bor-  
2       rower to accelerate repayment) over the ten-year period  
3       which begins nine months after the student ceases to  
4       pursue a part-time or full-time course of study in a pro-  
5       gram for the training or retraining of personnel in the  
6       allied health professions at an agency, institution, or  
7       organization approved by the Secretary, excluding from  
8       such ten-year period all (i) periods (up to three years)  
9       of (I) active duty performed by the borrower as a mem-  
10      ber of a uniformed service, or (II) service as a volun-  
11      teer under the Peace Corps Act, and (ii) periods (up to  
12      five years) during which the borrower is pursuing a full-  
13      time course of study at a school leading to a baccalaure-  
14      ate or associate degree or the equivalent of either or to a  
15      higher degree in one of the allied health professions;

16           “(C) not to exceed 50 per centum of any such loan  
17      (plus interest) shall be canceled for full-time employ-  
18      ment in any of the allied health professions (including  
19      teaching any such profession or service as an administra-  
20      tor, supervisor, or specialist in any such profession) in  
21      any public or private nonprofit agency, institution, or  
22      organization, or in a rural area with an individual prac-  
23      titioner if such service is approved by a local county  
24      health department or its equivalent at the rate of 10  
25      per centum of the amount of such loan plus interest

1 thereon, which was unpaid on the first day of such  
2 service, for each complete year of such service, except  
3 that such rate shall be 15 per centum for each com-  
4 plete year of service in such a profession in a public or  
5 other nonprofit hospital or other health service facility  
6 or health agency in any area which is determined, in  
7 accordance with regulations of the Secretary, to be an  
8 area which has a substantial shortage of persons render-  
9 ing service in such profession, and for purposes of any  
10 cancellation at such higher rate, an amount equal to  
11 an additional 50 per centum of the total amount of such  
12 loans plus interest may be canceled;

13 “(D) the liability to repay the unpaid balance of  
14 such loan and accrued interest thereon shall be canceled  
15 upon the death of the borrower, or if the Secretary de-  
16 termines that he has become permanently and totally dis-  
17 abled;

18 “(E) such a loan shall bear interest on the unpaid  
19 balance of the loan, computed only for periods during  
20 which the loan is repayable, at the rate of 3 per centum  
21 per annum;

22 “(F) such a loan shall be made without security or  
23 endorsement, except that if the borrower is a minor and  
24 the note or other evidence of obligation executed by him  
25 would not, under the applicable law, create a binding ob-

1        ligation, either security or endorsement may be required;  
2        and

3            “(G) no note or other evidence of any such loan  
4        may be transferred or assigned by the agency, institution,  
5        or organization making the loan except that, if the bor-  
6        rower transfers to another agency, institution, or organi-  
7        zation participating in the program under this section,  
8        such note or other evidence of a loan may be transferred  
9        to such other agency, institution, or organization.

10        “(3) When all or any part of a loan, or interest, is  
11        canceled under this subsection, the Secretary shall pay to  
12        the agency, institution, or organization an amount equal to its  
13        proportionate share of the canceled portion, as determined by  
14        the Secretary.

15        “(4) Any loan for any year by an agency, institution, or  
16        organization from a student loan fund established pursuant  
17        to an agreement under this section shall be made in such in-  
18        stallments as may be provided in regulations of the Secretary  
19        or such agreement and, upon notice to the Secretary by the  
20        agency, institution, or organization that any recipient of a  
21        loan is failing to maintain satisfactory standing, any of all  
22        further installments of his loan shall be withheld, as may be  
23        appropriate.

24        “(5) An agreement under this section with any agency,  
25        institution, or organization shall include provisions designed

1 to make loans from the student loan fund established there-  
2 under reasonably available (to the extent of the available  
3 funds in such fund) to all eligible students in the agency,  
4 institution, or organization in need thereof.

5 “(6) Subject to regulations of the Secretary, an agency,  
6 institution, or organization may assess a charge with respect  
7 to a loan from the loan fund established pursuant to an agree-  
8 ment under this section for failure of the borrower to pay  
9 all or any part of an installment when it is due and, in the  
10 case of a borrower who is entitled to deferment of the loan  
11 under paragraph (2) (B) or cancellation of part or all of  
12 the loan under paragraph (2) (C), for any failure to file  
13 timely and satisfactory evidence of such entitlement. The  
14 amount of any such charge may not exceed \$1 for the first  
15 month or part of a month by which such installment or evi-  
16 dence is late and \$2 for each such month or part of a month  
17 thereafter. The agency, institution, or organization may elect  
18 to add the amount of any such charge to the principal amount  
19 of the loan as of the first day after the day on which such  
20 installment or evidence was due, or to make the amount of  
21 the charge payable to the agency, institution, or organiza-  
22 tion not later than the due date of the next installment after  
23 receipt by the borrower of notice of the assessment of the  
24 charge.

25 “(7) An agency, institution, or organization may pro-

1 vide, in accordance with regulations of the Secretary, that  
2 during the repayment period of a loan from a loan fund  
3 established pursuant to an agreement under this section pay-  
4 ments of principal and interest by the borrower with respect  
5 to all the outstanding loans made to him from loan funds so  
6 established shall be at a rate equal to not less than \$15 per  
7 month.

8 “(e) There are authorized to be appropriated to the  
9 Secretary for Federal capital contributions to student loan  
10 funds pursuant to subsection (a) (2) (B) (i) \$1,500,000 for  
11 the fiscal year ending June 30, 1971, \$3,000,000 for the  
12 fiscal year ending June 30, 1972, and such sums as are neces-  
13 sary for the next three fiscal years, and there are also author-  
14 ized to be appropriated such sums for the fiscal year ending  
15 June 30, 1976, and each of the two succeeding fiscal years  
16 as may be necessary to enable students who have received a  
17 loan from any academic year ending before July 1, 1975, to  
18 continue or complete their education. Sums appropriated  
19 pursuant to this subsection for any fiscal year shall be avail-  
20 able to the Secretary (1) for payments into the funds estab-  
21 lished by subsection (f) (4), and (2) in accordance with  
22 agreements under this section, for Federal capital contribu-  
23 tions to schools with which such agreements have been made,  
24 to be used together with deposits in such funds pursuant to

1 subsection (a) (2) (B) (ii), for establishment and main-  
2 tenance of student loan funds.

3       “(d) (1) From the sums appropriated pursuant to sub-  
4 section (c) for any fiscal year, the Secretary shall allot to  
5 each agency, institution, or organization, which has an estab-  
6 lished program for the training or retraining of personnel  
7 in the allied health professions approved by the Secretary,  
8 an amount which bears the same ratio to the amount so  
9 appropriated as the number of persons enrolled on a full-  
10 time basis in such agencies, institutions, or organizations  
11 approved by the Secretary bears to the total number of  
12 persons enrolled on a full-time basis in all such agencies,  
13 institutions, or organizations in all the States. The number  
14 of persons enrolled, in such a program, on a full-time  
15 basis in such agencies, institutions, or organizations for pur-  
16 poses of the subsection shall be determined by the Secretary  
17 for the most recent year for which satisfactory data are  
18 available to him. Funds available in any fiscal year for  
19 payment to agencies, institutions, or organizations under this  
20 section (whether as Federal capital contributions or as loans  
21 under subsection (f)) which are in excess of the amount  
22 appropriated pursuant to subsection (c) for that year shall  
23 be allotted among agencies, institutions, or organizations  
24 approved by the Secretary in such manner as the Secretary  
25 determines will best carry out the purposes of this section.

1       “(2) The Secretary shall from time to time set dates  
2 by which agencies, institutions, or organizations must file  
3 applications for Federal capital contributions and for loans  
4 pursuant to subsection (f).

5       “(3) The Federal capital contributions to a loan fund  
6 of an agency, institution, or organization approved by the  
7 Secretary under this section shall be paid from time to  
8 time in such installments as the Secretary determines will  
9 not result in unnecessary accumulations in its loan fund.

10       “(e) (1) After June 30, 1979, and not later than Sep-  
11 tember 30, 1979, there shall be a capital distribution of the  
12 balance of the loan fund established under an agreement pur-  
13 suant to subsection (a) (2) by each agency, institution or  
14 organization approved by the Secretary as follows:

15               “(A) The Secretary shall first be paid an amount  
16 which bears the same ratio to such balance in such fund  
17 at the close of June 30, 1979, as the total amount of  
18 the Federal capital contributions to such fund by the  
19 Secretary pursuant to subsection (a) (2) (B) (i) bears  
20 to the total amount in such fund derived from such  
21 Federal capital contributions from funds deposited  
22 therein pursuant to subsection (a) (2) (B) (ii).

23               “(B) The remainder of such balance shall be paid  
24 to the agency, institution, or organization approved by  
25 the Secretary.

1       “(2) After September 30, 1979, each agency, institu-  
2       tion or organization approved by the Secretary with which  
3       the Secretary has made an agreement under this section  
4       shall pay to the Secretary, not less often than quarterly, the  
5       same proportionate share of amounts received by it after  
6       June 30, 1979, in payment of principal and interest on loans  
7       made from the loan fund established pursuant to such agree-  
8       ment (other than so much of such fund as relates to pay-  
9       ments from the revolving fund established by subsection (f)  
10      (4) ) as was determined for the Secretary under paragraph  
11      (1).

12       “(f) (1) (A) During the fiscal year ending June 30,  
13      1971, and each of the next four fiscal years, the Secretary  
14      may make loans, from the revolving fund established by para-  
15      graph (4), to any public or private nonprofit agency, insti-  
16      tution or organization approved by him, to provide all or  
17      part of the capital needed by any such agency, institution or  
18      organization for making loans to students under this subsec-  
19      tion (other than capital needed to make the institutional  
20      contributions required of agencies, institutions or organiza-  
21      tions by subsection (a) (2) (B) (ii) ). Loans to students  
22      from such borrowed sums shall be subject to the terms, con-  
23      ditions, and limitations set forth in subsection (b). The re-  
24      quirement in subsection (a) (2) (B) (ii) with respect to  
25      institutional contributions by agencies, institutions, or orga-

1 nizations to student loan funds shall not apply to loans made  
2 to agencies, institutions, or organizations under this subsec-  
3 tion.

4 “(B) A loan to an agency, institution, or organization  
5 approved by the Secretary under this subsection may be  
6 made upon such terms and conditions, consistent with appli-  
7 cable provisions of subsection (a), as the Secretary deems  
8 appropriate. If the Secretary deems it to be necessary to  
9 assure that the purposes of this subsection will be achieved,  
10 these terms and conditions may include provisions making  
11 the obligation of the agency, institution, or organization to  
12 the Secretary on such a loan payable solely from such reve-  
13 nues or other assets or security (including collections on  
14 loans to students) as the Secretary may approve. Such a loan  
15 shall bear interest at a rate which the Secretary determines  
16 to be adequate to cover (i) the cost of the funds to the  
17 Treasury as determined by the Secretary of the Treasury,  
18 taking into consideration the current average yields of out-  
19 standing marketable obligations of the United States having  
20 maturities comparable to the maturities of loans made by the  
21 Secretary under this subsection, and (ii) probable losses.

22 “(2) If an agency, institution, or organization approved  
23 by the Secretary borrows any sums under this subsection,  
24 the Secretary shall agree to pay to it (A) an amount equal  
25 to 90 per centum of the loss to it from defaults on student

1 loans made from such sums, (B) the amount by which  
2 the interest payable by it on such sums exceeds the interest  
3 received by it on student loans made from such sums, (C)  
4 an amount equal to the amount of collection expenses author-  
5 ized by subsection (a) (2) (C) to be paid out of a student  
6 loan fund with respect to such sums, and (D) the amount  
7 of the principal which is canceled pursuant to subsection  
8 (b) (2) (C) or (D) with respect to student loans made  
9 from such sums. There are authorized to be appropriated  
10 without fiscal year limitation such sums as may be necessary  
11 to carry out the purposes of this paragraph.

12       “(3) The total of the loans made in any fiscal year  
13 under this subsection shall not exceed the lesser of (1)  
14 such limitations as may be specified in appropriation Acts,  
15 and the difference between \$35,000,000 and the amount  
16 of Federal capital contributions paid under this section for  
17 that year.

18       “(4) (A) There is hereby created within the Treasury  
19 an allied professions training fund (hereinafter in this para-  
20 graph referred to as the ‘fund’) which shall be available  
21 to the Secretary without fiscal year limitation as a revolving  
22 fund for the purposes of this subsection. A business-type  
23 budget for the fund shall be prepared, transmitted to the  
24 Congress, considered, and enacted in the manner prescribed  
25 by law (sections 102, 103, and 104 of the Government

1 Corporation Control Act, 31 U.S.C. 847-849) for wholly  
2 owned Government corporations.

3 “(B) The fund shall consist of appropriations paid into  
4 the fund pursuant to subsection (c), appropriations made  
5 pursuant to this paragraph, all amounts received by the  
6 Secretary as interest payments or repayments of principal  
7 on loans under this subsection, and any other moneys, prop-  
8 erty, or assets derived by him from his operations in connec-  
9 tion with this subsection (other than paragraph (2)), in-  
10 cluding any moneys derived directly or indirectly from the  
11 sale of assets, or beneficial interest or participations in assets,  
12 of the fund.

13 “(C) All loans, expenses (other than normal adminis-  
14 trative expenses), and payments pursuant to operations of  
15 the Secretary under this subsection (other than paragraph  
16 (s)) shall be paid from the fund, including (but not limited  
17 to) expenses and payments of the Secretary in connection  
18 with the sale, under section 302 (c) of the Federal Na-  
19 tional Mortgage Association Charter Act, of participation  
20 in obligations acquired under this subsection. From time to  
21 time, and at least at the close of each fiscal year, the Secre-  
22 tary shall pay from the fund into the Treasury as miscel-  
23 laneous receipts interest on the cumulative amount of ap-  
24 propriations paid out for loans under this subsection, less the

1 average undisbursed cash balance in the fund during the  
2 year. The rate of such interest shall be determined by the  
3 Secretary of the Treasury, taking into consideration the  
4 average market yield during the month preceding each fiscal  
5 year on outstanding Treasury obligations of maturity com-  
6 parable to the average maturity of loans made from the fund.  
7 Interest payments may be deferred with the approval of  
8 the Secretary of the Treasury, but any interest payments  
9 so deferred shall themselves bear interest. If at any time the  
10 Secretary determines that moneys in the fund exceed the  
11 present and any reasonable prospective future requirements  
12 of the fund, such excess may be transferred to the general  
13 fund of the Treasury.

14 “(g) The Secretary may agree to modifications of agree-  
15 ments or loans made under this section, and may compromise,  
16 waive, or release any right, title, claim, or demand of the  
17 United States arising or acquired under this section.”

18 EVALUATION

19 SEC. 207. (a) That section of the Public Health Service  
20 redesignated as section 799b by section 205 of this Act is  
21 amended (1) by striking out “or 794,” and inserting in lieu  
22 thereof “794, 795, 796, 797, or 798”.

23 (b) The amendments made by this section shall be  
24 effective only with respect to fiscal years ending after June  
25 30, 1970.



## 1 "ADVANCE FUNDING

2 "SEC. 799d. Sums authorized to be appropriated for any  
3 fiscal year for grants, contracts, or other payments, under  
4 this part are hereby authorized to be included in the appro-  
5 priation Act for the fiscal year preceding such fiscal year."

## SECTION-BY-SECTION ANALYSIS OF THE HEALTH TRAINING IMPROVEMENT ACT OF 1970

*Section 101* of the bill amends section 771 of the Public Health Service Act which currently stipulates that each school of medicine, dentistry, osteopathy, pharmacy, optometry, veterinary medicine and podiatry with an approved application shall receive \$25,000 with the remainder of the appropriation divided among approved schools on the basis of relative enrollment for the year of the grant, the relative increase in enrollment of such students for such year over the average enrollment of such schools for the five years preceding the year for which the application is made, and the relative number of graduates for such year. Section 771 currently requires at least a 2½ percent, or 5 students whichever is greater, increase in enrollment over the two school years having the highest enrollment during the five school years during the period July 1, 1963 through June 30, 1968. Section 101 of the bill would require the Secretary of Health, Education and Welfare to prescribe by regulations the criteria for enrollment increases to be met by new schools and for determining the amount of each grant to new schools in excess of \$25,000.

*Section 201* of the bill would extend section 791 of the Public Health Service Act for five years with increased authorizations.

*Section 202* amends section 792 of the Public Health Service Act which limits grants to junior colleges, colleges, or universities. In addition, since special improvement grants may be made only to the extent that the appropriation for this section is greater than the sum of the approved applications for basic improvement grants, no special improvement grants have ever been made. Section 202 of the bill would provide for separate authorization for special project grants and would expand coverage to permit grants to nonprofit organizations including junior college, colleges, and universities but not limited to them which provide training in the allied health professions. This in fact subscribes to a fairly strong consensus that if we are to close the existing gap between the supply and demand of allied health professionals, we must use all available qualified training resources. If a vocational school, a nonprofit trade association or a nonprofit organization claims that it can provide sound training in a scarce specialty in the allied health fields and the Department of Health, Education and Welfare is satisfied that it can, such a training program would be eligible for Federal assistance.

Section 202 would make it clear that special project grants may be used to establish special programs to reach group such as the economically and culturally deprived and returning veterans with training and experience in the health fields.

*Section 203* of the bill would extend the authorization for section 793 of the Public Health Service Act for five years with increased authorizations and would expand eligibility to include public and nonprofit private agencies, institutions, and organizations.

*Section 204* of the bill would extend the authorization for section 794 of the Public Health Service Act for five years with increased authorizations. It would also permit expansion of the field for which grants may be made. Among other things it would provide for grants to study and develop mechanisms for determining equivalency and proficiency acquired skills and to develop new means of recruitment, retraining, or retentions of allied health personnel.

*Section 205* would redesignate sections 795, 796, 797, and 798 of the Public Health Service Act as sections 799, 799a, 799b, and 799c. Only minor changes would be made in the wording of some of these sections. The one substantial change has to do with a requirement in section 209 of the bill which calls for a report from the Secretary of Health, Education, and Welfare to the President and to the Congress prior to January 1, 1972, on the administration of the programs including an appraisal in light of their adequacy to meet the needs for allied health professions personnel.

*Section 206* of the bill would amend title VII of the Public Health Service Act by adding new sections after section 794 of the Public Health Service Act to be designated as sections 795, 796, 797, and 798. New section 795 would provide for grants and contracts to encourage full utilization of the educational talents of veterans of the Armed Forces with training and experience in the health fields. The opportunities available to such veterans are not always well known. Thus while there is a severe shortage of allied health manpower, veterans with experience and training in the health fields are going into other

fields. The new authorities in section 206 coupled with the amendments provided by sections 202 and 204 should permit fuller utilization of veterans with training or experience in the health fields. It would also provide assistance in identifying individuals of financial, educational, or cultural need with a potential for education or training in the allied health professions.

*New Section 796* would provide for scholarship grants to individuals of exceptional financial need who require such assistance to pursue a course of study in the allied health fields. Current legislation does not provide for such grants.

*New Section 797* would provide for federal grants for a work-study program for those students who are not sufficiently poor to be eligible for a scholarship under new section 796 or who do not want to burden themselves financially for a long period of time with a loan under new section 798.

*New Section 798* would provide federal assistance for a loan program for students who are not eligible for a scholarship and for any number of reasons cannot or will not undertake a work-study program but still need some form of assistance to undertake a program of study in the allied health fields. This section also provides a cancellation clause of up to 50 percent of the loan for full-time employment in any of the allied health professions in any public or nonprofit private agency, institution or organization or in a rural area with an individual practitioner if such service is approved by a local county health department at the rate of 10 per cent per year with a faster and complete cancellation provision for such service in an area designated by the Secretary of Health, Education, and Welfare as having a substantial shortage of personnel in the allied health fields.

*Section 207* of the bill provides for a technical amendment occasioned by the redesignations stipulated by section 205 and the new sections called for by section 206.

*Section 208* would amend the redesignated section 799 of the Public Health Service Act to provide for a definition of "nonprofit agency, institution, or organization."

*Section 209* would call for a report from the Secretary of the Department of Health, Education and Welfare to the President and the Congress prior to January 1, 1972, on the administration of the allied health professions personnel training programs, including an appraisal of the programs in light of their adequacy to meet the needs of allied health professions.

*Section 210* would provide for a new section 799d which calls for advance appropriations to permit the Department of Health, Education, and Welfare and recipient institutions to plan more effectively as a result of the greater lead time provided by this section.

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COMPTROLLER GENERAL OF THE UNITED STATES,  
Washington, D.C., May 18, 1970.

B-143181.

HON. RALPH YARBOROUGH,  
Chairman, Committee on Labor and Public Welfare, U.S. Senate.

DEAR MR. CHAIRMAN: Reference is made to your letter of March 16, 1970, requesting our comments on S. 3586.

The purpose of the bill, as stated in its title, is to amend title VII of the Public Health Service Act to establish eligibility of new schools of medicine, dentistry, osteopathy, pharmacy, optometry, veterinary medicine, and podiatry for institutional grants under section 771 thereof; and to extend and improve the program relating to training of personnel in the allied health professions. The bill, if enacted, would be cited as the "Health Training Improvement Act of 1970."

Section 792 of the Public Health Service Act (hereinafter referred to as the "Act") currently authorizes grants for improving the quality of training centers for allied health professions, and section 793 authorizes grants for traineeships to be awarded to training centers for allied health professions. A training center is defined in section 795 of the Act as a junior college, college, or university which, among other qualifications, must include or be affiliated with a teaching hospital. By contrast, S. 3586 would authorize grants to any public or nonprofit private agency, organization, or institution to assist in meeting the costs of training allied health professions personnel, but the proposed legislation does not

specify any qualifications or conditions which a recipient institution would have to meet. The section-by-section analysis indicates a need to use all available qualified training resources and states that if a vocational school, a nonprofit trade association or a nonprofit organization claims that it can provide sound training in a scarce specialty in the allied health fields and the Department of Health, Education, and Welfare is satisfied that it can, such a training program would be eligible for Federal assistance.

The Committee may wish to consider the desirability of specifying certain minimum conditions under which institutions would be eligible for Federal assistance under the proposed special project and traineeship grants.

The bill would revise two existing grant programs for the allied health professions in such a way that their purposes appear to be similar in important respects. The program for special project grants under section 792(c) of the Act as revised by section 202(d) of the bill, would authorize, among other things, grants to public or nonprofit private agencies, institutions, and organizations to (a) plan, develop, or establish new programs for the training or retraining of allied health personnel and (b) effect significant improvements in the curriculums of programs for the training or retraining of such personnel. The program for the development of new training methods, under section 794 of the Act as revised by section 204 of the bill, would authorize, among other things, grants and contracts to public or nonprofit private agencies, institutions, and organizations to (a) develop, demonstrate, or evaluate curriculums and methods for the training of health technologists and (b) develop, experiment with, and demonstrate new teaching methods and curriculums relating to the allied health professions.

Therefore, your Committee may wish to consider the relationship of the two programs proposed in S. 3586 and the desirability of accomplishing their purposes under one program.

Section 206 of the bill would establish both a loan program and a scholarship program for the allied health professions by adding sections 796 and 798 to the Act. No provision is made therein to permit funds to be transferred between the programs. The loan and scholarship programs now included in title VII and title VIII of the Act for schools of medicine, dentistry, osteopathy, optometry, and podiatry, and for schools of nursing, provide for authority to transfer a specified percentage of appropriated funds between the respective programs (see 42 U.S.C. 294f, 295g-1, 297h and 298c-1). Your Committee may wish to consider the desirability of providing similar transfer authority for the allied health professions.

Section 206 of the bill would authorize a work study program for allied health professions in section 797 to be added to the Act. The program sets no limits on the hours that may be worked by a student or trainee. Title IV, part C, of the Higher Education Act of 1965, as amended, authorizes a work study program for students in institutions of higher education or area vocational schools which, among other things, limits the hours a student may work to an average of 15 hours per week over a semester during which the student is enrolled in classes. The purpose of this limitation is to prevent the work from interfering with a student's satisfactory completion of his courses. Your Committee may wish to consider placing a similar limitation in H.R. 3586.

The bill would change the name of "special improvement grants" presently authorized in section 792(c) of the Act to "special project grants." Section 792(d)(1) of the Act contains the term "special improvement grants" and should also be amended by striking out "basic or special improvement grants" and inserting in lieu thereof "basic improvement or special project grants."

The bill provides a program for loans to students or trainees. Although the proposed subsections 798(a)(2)(A) and (C) use the terms "students or trainees," the proposed subsections 798(a)(2)(D); 798(b)(1); 798(b)(2)(A); and 798(b)(2)(B) fail to mention trainees. We suggest that the word "trainees" be included throughout section 798 whenever reference is made to participants in the loan program.

Sections 794 and 795 of the Act as proposed to be amended by the bill, would authorize the Secretary to provide assistance through the use of contracts as well as grants. However, section 796 of the Act (to be redesignated as section 799a) which relates to recordkeeping and access to records for the purpose of audit by the Secretary and the Comptroller General of the United States, pertains only to the recipients of grants. Accordingly, we recommend that such section be amended to include recipients of funds under negotiated contracts. This could be accomplished by amending section 796 to read as follows:

## "RECORDS AND AUDIT

"Sec. 796. (a) Each recipient of assistance under this part pursuant to a grant or contract entered into under other than competitive bidding procedures shall keep such records as the Surgeon General shall prescribe, including records which fully disclose the amount and disposition by such recipient of the proceeds of such assistance, the total cost of the project or undertaking in connection with which such assistance is given or used, and the amount of that portion of the cost of the project or undertaking supplied by other sources, and such other records as will facilitate an effective audit.

"(b) The Secretary of Health, Education, and Welfare and the Comptroller General of the United States, or any of their duly authorized representatives, shall have access for the purpose of audit and examination to any books, documents, papers, and records of the recipients that are pertinent to the grants or contracts entered into under this part under other than competitive bidding procedures".

We note the following typographical errors in the bill: (1) the citation "42 U.S.C. 285h-2" on line 20, of page 6, should be "42 U.S.C. 295h-2"; (2) "and" should be inserted after the word "contributions" on line 21 of page 25; (3) line 16 of page 29 should be corrected by striking out "(S)" and inserting "(2)" in lieu thereof; and (4) the word "Act" should be inserted after "Public Health Service" on line 19 of page 30.

Also, we note that section 205 of the bill would redesignate section 798 of the Act as section 799c. Since the report required by such section apparently has been issued, this section could be repealed.

Sincerely yours,

R. F. KELLER,

*Acting Comptroller General of the United States.*

91<sup>ST</sup> CONGRESS  
1<sup>ST</sup> SESSION

# S. 2753

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## IN THE SENATE OF THE UNITED STATES

JULY 31 (legislative day, JULY 30), 1969

Mr. JAVITS (for himself and Mr. PROUTY) introduced the following bill; which was read twice and referred to the Committee on Labor and Public Welfare

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## A BILL

To amend the Public Health Service Act so as further to assist in meeting the Nation's needs for adequately trained personnel in the allied health professions, and for other purposes.

1 *Be it enacted by the Senate and House of Representa-*  
2 *tives of the United States of America in Congress assembled,*

3

### SHORT TITLE

4 SECTION 1. This Act may be cited as the "Veterans in  
5 Allied Health Professions and Occupations Act of 1969."

6

### DECLARATION OF POLICY

7 SEC. 2. The Congress hereby finds and declares: (1)  
8 that the accelerating needs for health manpower to provide  
9 personal health care and environmental health services has

1 been attested by national studies, task forces, congressional  
2 hearings, and such groups of experts as the participants in  
3 the White House Conference on Health, the Third National  
4 Conference on Public Health Training, the National Re-  
5 search Council, and the President's National Advisory Com-  
6 mission on Health Manpower; (2) that programs should be  
7 designed to encourage men and women who have received  
8 training in a health occupation while on active duty in the  
9 Armed Forces—an important source of health manpower—  
10 and others to seek employment in the health fields in urban  
11 and rural areas; (3) that the cooperation of professional  
12 groups, practitioners in the various health professions, edu-  
13 cational institutions, treatment facilities, licensing boards,  
14 and those responsible for training health technicians and  
15 technologists in the military will be necessary to accom-  
16 plish the most efficient utilization of such veterans in the  
17 allied health professions; (4) that a health careers program  
18 utilizing such veterans and others should be developed and  
19 conducted to help alleviate critical manpower shortages in  
20 the allied health professions; and (5) that a program must  
21 actively encourage improved techniques of training and re-  
22 training, provide for substantial financial assistance to stu-  
23 dents, and at all times be sufficiently flexible to meet the  
24 personnel needs of a constantly changing health system.

## 1 AMENDMENTS TO THE PUBLIC HEALTH SERVICE ACT

2 SEC. 3. (a) Title VII of the Public Health Service Act  
3 is amended by adding at the end thereof the following new  
4 sections:

## 5 "SPECIAL PROJECT GRANTS

6 "SEC. 799. (a) The Secretary is authorized to make  
7 grants to and enter into contracts with any public or non-  
8 profit private agency, organization, or institution to encour-  
9 age and assist it in meeting the costs of special projects to  
10 plan, develop, or establish new programs or modifications of  
11 existing programs of training or retraining of allied health  
12 professions personnel, including programs adapted to take  
13 advantage of the interests and skills of veterans with previous  
14 experience in the health fields and including the recruitment,  
15 selection, and enrollment of such veterans in such programs,  
16 which will help to increase the supply of adequately trained  
17 allied health professions personnel to meet the health needs  
18 of the Nation and with the objective of providing care more  
19 efficiently and increasing the quality of health care.

20 "(b) For the purpose of carrying out the provisions of  
21 this section, there is hereby authorized to be appropriated  
22 \$15,000,000 for the fiscal year ending June 30, 1970, \$20,-  
23 000,000 for the fiscal year ending June 30, 1971, and such

1 sums as may be necessary for each of the next two fiscal  
2 years.

3 "GRANTS AND CONTRACTS TO ENCOURAGE FULL UTILIZA-  
4 TION OF EDUCATIONAL TALENT FOR THE ALLIED  
5 HEALTH PROFESSIONS

6 "SEC. 799a. (a) To assist in meeting the need for addi-  
7 tional trained personnel in the allied health professions, the  
8 Secretary is authorized to make grants to or to enter into con-  
9 tracts (without regard to section 3709 of the Revised Stat-  
10 utes (41 U.S.C. 5) ) with State or local educational agen-  
11 cies, or other public or nonprofit private agencies, institu-  
12 tions, or organizations or enter into contracts (without regard  
13 to section 3709 of the Revised Statutes (41 U.S.C. 5) ) with  
14 public or private agencies, institutions, or organizations, for  
15 the purpose of—

16 " (1) identifying veterans of the Armed Forces with  
17 training or experience in the health fields and other  
18 individuals of financial, educational, or cultural need  
19 with a potential for education or training in the allied  
20 health professions and encouraging and assisting them,  
21 whenever appropriate, to (i) complete secondary school,  
22 (ii) undertake such postsecondary training as may be  
23 required to qualify them for training in the allied health  
24 professions, and (iii) undertake postsecondary educa-  
25 tional training in the allied health professions, or

1           “(2) publicizing existing sources of financial aid  
2 available to persons undertaking training or education in  
3 the allied health professions (including aid furnished  
4 under this part).

5           “(b) For the purpose of carrying out the provisions  
6 of this section, there is hereby authorized to be appropriated  
7 \$750,000 for the fiscal year ending June 30, 1970, \$1,500,-  
8 000 for the fiscal year ending June 30, 1971, and such sums  
9 as may be necessary for each of the next two fiscal years.

10                                 “SCHOLARSHIP GRANTS

11           “SEC. 799b. (a) The Secretary is authorized to make  
12 (in accordance with such regulations as he may prescribe)  
13 grants to public or nonprofit private agencies, organizations  
14 or institutions with an established program for training or  
15 retraining of personnel in the allied health professions or  
16 occupations and to training centers for the allied health pro-  
17 fessions for (1) scholarships to be awarded by such agency,  
18 organization, institution, or center to students thereof, and  
19 (2) scholarships in retraining programs of such agency,  
20 organization, institution, or center to be awarded to allied  
21 health professions personnel in occupations for which such  
22 agency, organization, institution or center determines there  
23 is a need for the development of, or the expansion of, training.

24           “(b) Scholarships made by any agency, organization,  
25 institution, or training center from grants under subsection

## 6

1 (a) shall be awarded for any year only to individuals of ex-  
2 ceptional financial need who require such assistance for such  
3 year to pursue a course of study offered by such center or  
4 institution.

5 “(c) Grants under subsection (a) may be paid in ad-  
6 vance or by way of reimbursement and at such intervals as  
7 the Secretary may find necessary and with appropriate ad-  
8 justments on account of overpayments or underpayments  
9 previously made.

10 “(d) Any scholarship made from grants under subsec-  
11 tion (a) to any individual for any year shall cover such  
12 portion of the individual's tuition, fees, books, equipment,  
13 and living expenses as the training center or other agency,  
14 organization or institution awarding the scholarship may de-  
15 termine to be needed by such individual for such year on  
16 the basis of his requirements and financial resources; except  
17 that the amount of any such scholarship shall not exceed  
18 \$2,000, plus \$600 for each dependent (not in excess of  
19 three) of such individuals.

20 “(e) For the purpose of carrying out the provisions of  
21 this section, there is authorized to be appropriated \$1,750,-  
22 000 for the fiscal year ending June 30, 1970, and such  
23 amounts as may be necessary for each of the next three  
24 fiscal years.

1 "NATIONAL ADVISORY COUNCIL ON TRAINING IN THE  
2 ALLIED HEALTH PROFESSIONS

3 "SEC. 799c. (a) (1) There is hereby established in the  
4 Public Health Service a National Advisory Council on Train-  
5 ing in the Allied Health Professions (hereinafter in this  
6 section referred to as the 'Advisory Council') which shall  
7 consist of the Surgeon General and sixteen members (one  
8 of whom shall be Chairman) to be appointed by the  
9 Secretary.

10 "(2) Members of the Advisory Council shall be ap-  
11 pointed for such term (not to exceed four years) as the  
12 Secretary may specify at the time of appointment; except  
13 that, in the appointment of members first taking office, the  
14 Secretary shall specify varying terms of office so as to assure  
15 continuity in the membership of the Advisory Council.

16 "(3) The appointed members of the Advisory Council  
17 shall be selected from among leading authorities in the vari-  
18 ous fields of health and education, except that not less than  
19 three of such members shall be selected from members of  
20 the general public who are outstanding leaders in public  
21 affairs.

22 "(b) It shall be the duty of the Advisory Council—

23 "(1) to advise the Secretary and the Surgeon Gen-  
24 eral in the preparation of general regulations promul-

1 gated with respect to this part or any other provision  
2 of this Act relating to training in the allied health pro-  
3 fessions and with respect to policy matters arising in  
4 the administration of this part or any other such  
5 provision;

6 “(2) assist the Secretary and the Surgeon General  
7 in conducting a study of existing laws, regulations, cus-  
8 toms, and practices governing the classifications of the  
9 various allied health professions, the licensing, certifica-  
10 tion, or other means by which individuals are determined  
11 to be qualified to practice such professions; and

12 “(3) on the basis of the information obtained from  
13 the study referred to in paragraph (2) and with the  
14 advice and assistance of appropriate State and local  
15 agencies, professional groups, and other appropriate  
16 groups and organizations, to prepare and recommend  
17 to States and professional groups a model code relating  
18 to the classification of the various occupations and spe-  
19 cialties within the allied health professions, the standards  
20 which must be met by personnel qualified to engage in  
21 such occupations or specialties, and the licensing, cer-  
22 tification, or other procedures to be employed in deter-  
23 mining whether individuals meet such standards.

24 The model code referred to in paragraph (3) of the preced-  
25 ing sentence shall be devised with a view to maximizing the

1 proper and efficient utilization of the allied health professions  
2 in meeting the health needs of the Nation.

3 “(c) The Advisory Council is authorized to engage  
4 such technical assistance as may be required to carry out its  
5 functions, and the Secretary shall, in addition, make avail-  
6 able to the Council such secretarial, clerical, and other assist-  
7 ance and any pertinent data prepared by the Department of  
8 Health, Education, and Welfare as it may require to carry  
9 out such functions.

10 “(d) Appointed members of the Advisory Council,  
11 while serving on business of the Advisory Council (inclusive  
12 of traveltime) shall receive compensation at rates fixed by  
13 the Secretary, but not exceeding \$100 per day and, while so  
14 serving away from their homes or regular places of business,  
15 they may be allowed travel expenses, including per diem in  
16 lieu of subsistence, as authorized by section 3705 of title 5,  
17 United States Code, for persons in the Government employed  
18 intermittently.

19 “LOANS FOR STUDENTS OF THE ALLIED HEALTH  
20 PROFESSIONS

21 “SEC. 799D. (a) (1) The Secretary is authorized to  
22 enter into an agreement for the establishment and operation  
23 of a student loan fund in accordance with this section with  
24 any public or private nonprofit training center for the allied

1 health professions (as defined in section 795 of the Public  
2 Health Services Act, as amended) which is located in a State  
3 or any other public or private nonprofit agency, organization,  
4 or institution which is a recipient of a special projects grant  
5 under section 799 or a scholarship grant under section 799  
6 (b), hereinafter referred to as a center or institution, and  
7 which is located in a State.

8 “(2) Each agreement entered into under this subsection  
9 shall—

10 “(A) provide for establishment of a student loan  
11 fund by such center or institution;

12 “(B) provide for deposit in the fund of (i) the Fed-  
13 eral capital contributions paid under this section to the  
14 school by the Secretary, (ii) an additional amount from  
15 other sources equal to not less than one-ninth of such  
16 Federal capital contributions, (iii) collections of prin-  
17 cipal and interest on loans made from the fund, (iv) col-  
18 lections pursuant to subsection (b) (6), and (v) any  
19 other earnings of the fund;

20 “(C) provide that the fund shall be used only for  
21 loans to students of the center or institution in accordance  
22 with the agreement and for costs of collection of such  
23 loans and interest thereon;

24 “(D) provide that loans may be made from such  
25 fund to students pursuing a course of study (whether

1 full time or part time) at such center or institution, and  
2 that while the agreement remains in effect no such stu-  
3 dent who has attended such center or institution before  
4 July 1, 1971, shall receive a loan from a loan fund  
5 established under section 204 of the National Defense  
6 Education Act of 1958; and

7 “(E) contain such other provisions as are neces-  
8 sary to protect the financial interests of the United  
9 States.

10 “(b) (1) The total of the loans for any academic year  
11 (or its equivalent, as determined under regulations of the  
12 Secretary) made by training centers for allied health profes-  
13 sions or other institutions from loan funds established pur-  
14 suant to agreements under this section may not exceed \$1,500  
15 in the case of any student. The aggregate of the loans for all  
16 years from such funds may not exceed \$6,000 in the case of  
17 any student.

18 “(2) Loans from any such student loan fund by any  
19 training center or other institution shall be made on such  
20 terms and conditions as it may determine; subject, however,  
21 to such conditions, limitations, and requirements as the Sec-  
22 retary may prescribe (by regulation or in the agreement with  
23 the school) with a view to preventing impairment of the capi-  
24 tal of such fund to the maximum extent practicable in the

1 light of the objective of enabling the student to complete his  
2 course of study; and except that—

3 “(A) such loan may be made only to a student who  
4 (i) is in need of the amount of the loan to pursue a part-  
5 time or full-time course of study at the training center  
6 or other institution, and (ii) is capable, in the opinion  
7 of the training center or other institution, of maintaining  
8 good standing in such course of study;

9 “(B) such loan shall be repayable in equal or  
10 graduated periodic installments (with the right of the  
11 borrower to accelerate repayment) over the ten-year  
12 period which begins nine months after the student ceases  
13 to pursue a part-time or full-time course of study at a  
14 training center for the allied health professions or other  
15 institution approved by the Secretary, excluding from  
16 such ten-year period all (i) periods (up to three years)  
17 of (I) active duty performed by the borrower as a mem-  
18 ber of a uniformed service, or (II) service as a volun-  
19 teer under the Peace Corps Act, and (ii) periods (up  
20 to five years) during which the borrower is pursuing a  
21 full-time course of study at a school leading to a bacca-  
22 laurate or associate degree or the equivalent of either  
23 or to a higher degree in one of the allied health profes-  
24 sions;

1           “(C) not to exceed 50 per centum of any such loan  
2           (plus interest) shall be canceled for full-time employ-  
3           ment in any of the allied health professions (including  
4           teaching any such profession or service as an administra-  
5           tor, supervisor, or specialist in any such profession) in  
6           any public or private nonprofit institution or agency, or  
7           in a rural area with an individual practitioner if such  
8           service is approved by local county health department  
9           of its equivalent at the rate of 10 per centum of the  
10          amount of such loan plus interest thereon, which was  
11          unpaid on the first day of such service, for each com-  
12          plete year of such service, except that such rate shall  
13          be 15 per centum for each complete year of service in  
14          such a profession in a public or other nonprofit hospital  
15          or other health service facility or health agency in any  
16          area which is determined, in accordance with regulations  
17          of the Secretary, to be an area which has a substantial  
18          shortage of persons rendering service in such profession,  
19          and for purposes of any cancellation at such higher rate,  
20          an amount equal to an additional 50 per centum of the  
21          total amount of such loans plus interest may be canceled;

22           “(D) the liability to repay the unpaid balance of  
23          such loan and accrued interest thereon shall be can-

1        celed upon the death of the borrower, or if the Secre-  
2        tary determines that he has become permanently and  
3        totally disabled;

4        “(E) such a loan shall bear interest on the unpaid  
5        balance of the loan, computed only for periods during  
6        which the loan is repayable, at the rate of 3 per centum  
7        per annum;

8        “(F) such a loan shall be made without security  
9        or endorsement, except that if the borrower is a minor  
10       and the note or other evidence of obligation executed  
11       by him would not, under the applicable law, create a  
12       binding obligation, either security or endorsement may  
13       be required; and

14       “(G) no note or other evidence of any such loan  
15       may be transferred or assigned by the training center  
16       or other institution making the loan except that, if the  
17       borrower transfers to another training center or other  
18       institution participating in the program under this sec-  
19       tion, such note or other evidence of a loan may be trans-  
20       ferred to such other training center or other institution.

21       “(3) When all or any part of a loan, or interest, is  
22       canceled under this subsection, the Secretary shall pay to the  
23       training center or other institution an amount equal to its  
24       proportionate share of the canceled portion, as determined  
25       by the Secretary.

1       “(4) Any loan for any year by a training center or  
2 other institution from a student loan fund established pur-  
3 suant to an agreement under this section shall be made in  
4 such installments as may be provided in regulations of the  
5 Secretary or such agreement and, upon notice to the Secre-  
6 tary by the training center or other institution that any re-  
7 cipient of a loan is failing to maintain satisfactory standing,  
8 any or all further installments of his loan shall be withheld,  
9 as may be appropriate.

10       “(5) An agreement under this section with any training  
11 center or other institution shall include provisions designed  
12 to make loans from the student loan fund established there-  
13 under reasonably available (to the extent of the available  
14 funds in such fund) to all eligible students in the training  
15 center or other institution in need thereof.

16       “(6) Subject to regulations of the Secretary, a training  
17 center or other institution may assess a charge with respect  
18 to a loan from the loan fund established pursuant to an agree-  
19 ment under this section for failure of the borrower to pay  
20 all or any part of an installment when it is due and, in the  
21 case of a borrower who is entitled to deferment of the loan  
22 under paragraph (2) (B) or cancellation of part or all of  
23 the loan under paragraph (2) (C), for any failure to file  
24 timely and satisfactory evidence of such entitlement. The  
25 amount of any such charge may not exceed \$1 for the first

1 month or part of a month by which such installment or  
2 evidence is late and \$2 for each such month or part of a  
3 month thereafter. The training center or other institution  
4 may elect to add the amount of any such charge to the  
5 principal amount of the loan as of the first day after the  
6 day on which such installment or evidence was due, or to  
7 make the amount of the charge payable to the training  
8 center or other institution not later than the due date of  
9 the next installment after receipt by the borrower of notice  
10 of the assessment of the charge.

11 “(7) A training center or other institution may provide,  
12 in accordance with regulations of the Secretary, that during  
13 the repayment period of a loan from a loan fund established  
14 pursuant to an agreement under this section payments of  
15 principal and interest by the borrower with respect to all  
16 the outstanding loans made to him from loan funds so estab-  
17 lished shall be at a rate equal to not less than \$15 per month.

18 “(c) There are authorized to be appropriated to the  
19 Secretary for Federal capital contributions to student loan  
20 funds pursuant to subsection (a) (2) (B) (i) \$1,500,000 for  
21 the fiscal year ending June 30, 1970, \$3,000,000 for the  
22 fiscal year ending June 30, 1971, and such sums as are  
23 necessary for the next two fiscal years, and there are also  
24 authorized to be appropriated such sums for the fiscal year  
25 ending June 30, 1974, and each of the two succeeding fiscal

1 years as may be necessary to enable students who have re-  
2 ceived a loan from any academic year ending before July 1,  
3 1973, to continue or complete their education. Sums appro-  
4 priated pursuant to this subsection for any fiscal year shall  
5 be available to the Secretary (1) for payments into the  
6 fund established by subsection (f) (4), and (2) in accord-  
7 ance with agreements under this section, for Federal capital  
8 contributions to schools with which such agreements have  
9 been made, to be used together with deposits in such funds  
10 pursuant to subsection (a) (2) (B) (ii), for establishment  
11 and maintenance of student loan funds.

12 “(d) (1) From the sums appropriated pursuant to sub-  
13 section (c) for any fiscal year, the Secretary shall allot to  
14 each training center for allied health professions or other  
15 institution approved by the Secretary an amount which  
16 bears the same ratio to the amount so appropriated as the  
17 number of persons enrolled on a full-time basis in such  
18 training center for allied health professions or other institu-  
19 tion approved by the Secretary bears to the total number  
20 of persons enrolled on a full-time basis in all such centers  
21 and institutions in all the States. The number of persons  
22 enrolled on a full-time basis in such centers and institutions  
23 for purposes of this subsection shall be determined by the  
24 Secretary for the most recent year for which satisfactory

1 data are available to him. For purposes of allotments under  
2 this subsection, a training center for allied health professions  
3 also includes any school with which the Secretary has, prior  
4 to the time the allotment is made, entered into an agreement  
5 for establishment of a student loan fund under this section.  
6 Funds available in any fiscal year for payment to training  
7 centers and institutions under this section (whether as Fed-  
8 eral capital contributions or as loans under subsection (f) )  
9 which are in excess of the amount appropriated pursuant  
10 to subsection (c) for that year shall be allotted among  
11 States and among training centers for the allied health pro-  
12 fessions and other institutions approved by the Secretary  
13 within States in such manner as the Secretary determines  
14 will best carry out the purposes of this section.

15 “(2) (A) The Secretary shall from time to time set  
16 dates by which training centers for allied health professions  
17 and other qualified institutions in a State must file appli-  
18 cations for Federal capital contributions and for loans pur-  
19 suant to subsection (f), from the allotment of such State  
20 under the first two sentences of paragraph (1).

21 “(B) If the total of the amounts requested for any fiscal  
22 year in such applications which are made by training centers  
23 and other qualified institutions in a State exceeds the amount  
24 of the allotment of such State for that fiscal year, the amounts  
25 to be paid to the loan fund of each such training center or

1 other institution shall be reduced to whichever of the follow-  
2 ing is the smaller: (i) the amount requested in its applica-  
3 tion, or (ii) an amount which bears the same ratio to the  
4 amount of the allotment of such State as the number of stu-  
5 dents who will be enrolled full time in such training center or  
6 other institution during such fiscal year bears to the total  
7 number of students who will be enrolled full time in all such  
8 training centers and other qualified institutions in such State  
9 during such year. Amounts remaining after allotment under  
10 the preceding sentence shall be redistributed in accordance  
11 with clause (ii) of such sentence among training centers and  
12 other qualified institutions which in their applications re-  
13 quested more than the amounts so paid to their loan funds,  
14 but with such adjustments as may be necessary to prevent  
15 the total paid to the loan fund of any such training center or  
16 other qualified institution from exceeding the total so re-  
17 quested by it. If the total of the amounts requested for any  
18 fiscal year in such applications which are made by training  
19 centers and other qualified institutions in a State is less than  
20 the amount of the allotment of such State for that fiscal year,  
21 the Secretary may reallocate the remaining amount from time  
22 to time, on such date or dates as he may fix, to other States  
23 in proportion to the original allotments to such States under  
24 paragraph (1) for such year. For the purpose of this subsec-  
25 tion, the number of students who graduated from secondary

1 schools in each State during a fiscal year and the number of  
2 students who will be enrolled full time in training centers for  
3 allied health professions shall be estimated by the Secretary  
4 on the basis of the best information available to him.

5 “(3) The Federal capital contributions to a loan fund  
6 of a training center for the allied health professions or other  
7 institution approved by the Secretary under this section shall  
8 be paid to it from time to time in such installments as the Sec-  
9 retary determines will not result in unnecessary accumula-  
10 tions in its loan fund.

11 “(e) (1) After June 30, 1977, and not later than Sep-  
12 tember 30, 1977, there shall be a capital distribution of the  
13 balance of the loan fund established under an agreement pur-  
14 suant to subsection (a) (2) by each training center for the  
15 allied health professions or other institution approved by the  
16 Secretary as follows:

17 “(A) The Secretary shall first be paid an amount  
18 which bears the same ratio to such balance in such fund  
19 at the close of June 30, 1977, as the total amount of  
20 the Federal capital contributions to such fund by the  
21 Secretary pursuant to subsection (a) (2) (B) (i) bears  
22 to the total amount in such fund derived from such Fed-  
23 eral capital contributions from funds deposited therein  
24 pursuant to subsection (a) (2) (B) (ii).

25 “(B) The remainder of such balance shall be paid

1 to the training center for the allied health professions or  
2 other institution approved by the Secretary.

3 “(2) After September 30, 1977, each training center  
4 for the allied health professions or other institution approved  
5 by the Secretary with which the Secretary has made an  
6 agreement under this section shall pay to the Secretary, not  
7 less often than quarterly, the same proportionate share of  
8 amounts received by it after June 30, 1977, in payment of  
9 principal and interest on loans made from the loan fund es-  
10 tablished pursuant to such agreement (other than so much of  
11 such fund as relates to payments from the revolving fund  
12 established by subsection (f) (4) ) as was determined for the  
13 Secretary under paragraph (1).

14 “(f) (1) (A) During the fiscal year ending June 30,  
15 1970, and each of the next three fiscal years, the Secretary  
16 may make loans, from the revolving fund established by  
17 paragraph (4), to any public or private nonprofit training  
18 center for allied health professions or other public or private  
19 nonprofit institution approved by him, which is located in a  
20 State, to provide all or part of the capital needed by any  
21 such center or institution for making loans to students under  
22 this subsection (other than capital needed to make the insti-  
23 tutional contributions required of centers or institutions by  
24 subsection (a) (2) (B) (ii) ). Loans to students from such  
25 borrowed sums shall be subject to the terms, conditions, and

1 limitations set forth in subsection (b). The requirement in  
2 subsection (a) (2) (B) (ii) with respect to institutional con-  
3 tributions by centers or institutions to student loan funds  
4 shall not apply to loans made to centers or institutions under  
5 this subsection.

6 “(B) A loan to a training center for the allied health  
7 professions or other institution approved by the Secretary  
8 under this subsection may be made upon such terms and  
9 conditions, consistent with applicable provisions of subsec-  
10 tion (a), as the Secretary deems appropriate. If the Secre-  
11 tary deems it to be necessary to assure that the purposes of  
12 this subsection will be achieved, these terms and conditions  
13 may include provisions making the obligation of the center or  
14 other institution to the Secretary on such a loan payable sole-  
15 ly from such revenues or other assets or security (including  
16 collections on loans to students) as the Secretary may ap-  
17 prove. Such a loan shall bear interest at a rate which the  
18 Secretary determines to be adequate to cover (i) the cost of  
19 the funds to the Treasury as determined by the Secretary of  
20 the Treasury, taking into consideration the current average  
21 yields of outstanding marketable obligations of the United  
22 States having maturities comparable to the maturities of  
23 loans made by the Secretary under this subsection, and (ii)  
24 probable losses.

25 “(2) If a training center for allied health professions

1 or other institution approved by the Secretary borrows any  
2 sums under this subsection, the Secretary shall agree to pay  
3 to it (A) an amount equal to 90 per centum of the loss to  
4 it from defaults on student loans made from such sums, (B)  
5 the amount by which the interest payable by it on such  
6 sums exceeds the interest received by it on student loans  
7 made from such sums, (C) an amount equal to the amount  
8 of collection expenses authorized by subsection (a) (2) (C)  
9 to be paid out of a student loan fund with respect to such  
10 sums, and (D) the amount of the principal which is canceled  
11 pursuant to subsection (b) (2) (C) or (D) with respect to  
12 student loans made from such sums. There are authorized  
13 to be appropriated without fiscal year limitation such sums  
14 as may be necessary to carry out the purposes of this para-  
15 graph.

16 “(3) The total of the loans made in any fiscal year  
17 under this subsection shall not exceed the lesser of (1) such  
18 limitations as may be specified in appropriation Acts, and  
19 the difference between \$35,000,000 and the amount of  
20 Federal capital contributions paid under this section for  
21 that year.

22 “(4) (A) There is hereby created within the Treasury  
23 an allied professions training fund (hereinafter in this para-  
24 graph referred to as the ‘fund’) which shall be available  
25 to the Secretary without fiscal year limitation as a revolving

1 fund for the purposes of this subsection. A business-type  
2 budget for the fund shall be prepared, transmitted to the  
3 Congress, considered, and enacted in the manner prescribed  
4 by law (sections 102, 103, and 104 of the Government  
5 Corporation Control Act, 31 U.S.C. 847-849) for wholly  
6 owned Government corporations.

7       “(B) The fund shall consist of appropriations paid into  
8 the fund pursuant to subsection (c), appropriations made  
9 pursuant to this paragraph, all amounts received by the  
10 Secretary as interest payments or repayments of principal  
11 on loans under this subsection, and any other moneys, prop-  
12 erty, or assets derived by him from his operations in connec-  
13 tion with this subsection (other than paragraph (2)), in-  
14 cluding any moneys derived directly or indirectly from the  
15 sale of assets, or beneficial interests or participations in  
16 assets, of the fund.

17       “(C) All loans, expenses (other than normal adminis-  
18 trative expenses), and payments pursuant to operations  
19 of the Secretary under this subsection (other than para-  
20 graph (2)) shall be paid from the fund, including (but not  
21 limited to) expenses and payments of the Secretary in con-  
22 nection with the sale, under section 302 (c) of the Federal  
23 National Mortgage Association Charter Act, of participation  
24 in obligations acquired under this subsection. From time to  
25 time, and at least at the close of each fiscal year, the Secre-

1 tary shall pay from the fund into the Treasury as miscella-  
2 neous receipts interest on the cumulative amount of appro-  
3 priations paid out for loans under this subsection, less the  
4 average undisbursed cash balance in the fund during the  
5 year. The rate of such interest shall be determined by the  
6 Secretary of the Treasury, taking into consideration the av-  
7 erage market yield during the month preceding each fiscal  
8 year on outstanding Treasury obligations of maturity com-  
9 parable to the average maturity of loans made from the  
10 fund. Interest payments may be deferred with the approval  
11 of the Secretary of the Treasury, but any interest payments  
12 so deferred shall themselves bear interest. If at any time the  
13 Secretary determines that moneys in the fund exceed the  
14 present and any reasonable prospective future requirements  
15 of the fund, such excess may be transferred to the general  
16 fund of the Treasury.

17 “(g) The Secretary may agree to modifications of  
18 agreements or loans made under this section, and may com-  
19 promise, waive, or release any right, title, claim, or demand  
20 of the United States arising or acquired under this section.”

21 AMENDMENTS TO TITLE 38, UNITED STATES CODE

22 SEC. 4. (a) Subchapter III of chapter 34 of title 38,  
23 United States Code, is amended by adding after section 1678  
24 the following new section:

1 **“§ 1679. Training in the allied health professions**

2       “(a) The Administrator shall pay to an eligible veteran  
3 pursuing a course of study in one of the allied health profes-  
4 sions (as determined by the Secretary of Health, Educa-  
5 tion, and Welfare for purposes of part G of title VII of the  
6 Public Health Service Act), an educational assistance allow-  
7 ance as provided in sections 1681 and 1682 of this chapter.

8       “(b) The educational assistance allowance authorized  
9 by this section shall be paid without charge to any period of  
10 entitlement the veteran may have earned pursuant to sec-  
11 tion 1661 (a) of this chapter.”

12       (b) The section analysis at the beginning of chapter  
13 34 of title 38, United States Code, is amended by inserting  
14 immediately after

“1678. Special training for the educationally disadvantaged.”

15 the following:

“1679. Training in the allied health professions.”

GENERAL COUNSEL OF THE DEPARTMENT OF DEFENSE,  
*Washington, D.C., May 11, 1970.*

Hon. RALPH YARBOROUGH,  
*Chairman, Committee on Labor and Public Welfare, U.S. Senate,*  
*Washington, D.C.*

DEAR MR. CHAIRMAN: Reference is made to your request for the views of the Department of Defense with respect to S. 2753, 91st Congress, a bill "To amend the Public Health Service Act so as further to assist in meeting the Nation's needs for adequately trained personnel in the allied health professions, and for other purposes."

The purpose of the bill is stated in its title.

The Department of Defense is in agreement with the bill's apparent goals. On the question, however, of whether the specific provisions of the bill represent the best method of achieving the goals in question, the Department of Defense defers to the views of the Department of Health, Education, and Welfare.

The Bureau of the Budget advises that, from the standpoint of the Administration's program, there is no objection to the presentation of this report for the consideration of the Committee.

Sincerely,

L. NIEDERLEHNER,  
*Acting General Counsel.*

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE,  
 May 19, 1970.

Hon. RALPH YARBOROUGH,  
*Chairman, Committee on Labor and Public Welfare, U.S. Senate,*  
*Washington, D.C.*

DEAR MR. CHAIRMAN: This is in response to your request of August 4, 1969, for a report on S. 2753, a bill "To amend the Public Health Service Act so as further to assist in meeting the Nation's needs for adequately trained personnel in the allied health professions, and for other purposes", and to your request of March 6, 1970, for a report on S. 3586, a bill "To amend title VII of the Public Health Service Act to establish eligibility of new schools of medicine, dentistry, osteopathy, pharmacy, optometry, veterinary medicine, and podiatry for institutional grants under section 771 thereof, to extend and improve the program relating to training of personnel in the allied health professions, and for other purposes".

On May 19, 1970, Assistant Secretary for Health and Scientific Affairs, Dr. Roger O. Egeberg, testified before your Committee on S. 2753, S. 3586, and S. 3718, which embodies provisions of a draft bill submitted by this Department to the President of the Senate on April 1, 1970.

In our report dated May 7, 1970, on S. 3718, this Department recommended prompt and favorable consideration of S. 3718.

For this reason and for the reasons stated in the testimony, a copy of which is enclosed, we recommend against enactment of S. 2753 and S. 3586.

We are advised by the Bureau of the Budget that this report is consistent with the objectives of the Administration.

Sincerely,

ROBERT H. FINCH, *Secretary.*

91ST CONGRESS  
2D SESSION

# S. 3718

IN THE SENATE OF THE UNITED STATES

APRIL 15, 1970

Mr. JAVITS (for himself, Mr. DOMINICK, Mr. MURPHY, Mr. PROUTY, Mr. SAXBE, and Mr. SCOTT) introduced the following bill; which was read twice and referred to the Committee on Labor and Public Welfare

## A BILL

To amend the Public Health Service Act to extend for one year the programs of assistance for training in the allied health professions, and for other purposes.

1 *Be it enacted by the Senate and House of Representa-*  
2 *tives of the United States of America in Congress assembled,*  
3 That this Act may be cited as the "Allied Health Profes-  
4 sions Training Amendments of 1970".

5 GRANTS FOR CONSTRUCTION OF TEACHING FACILITIES  
6 FOR ALLIED HEALTH PERSONNEL

7 SEC. 2. (a) Paragraph (1) of subsection (a) of sec-  
8 tion 791 of the Public Health Service Act (42 U.S.C. 295h)  
9 is amended by striking out "and" before "\$10,000,000" and

1 by inserting before the period at the end thereof “; and such  
2 sums as may be necessary for the fiscal year ending June 30,  
3 1971”.

4 (b) Paragraph (1) of subsection (b) of such section is  
5 amended by striking out the first sentence thereof.

6 GRANTS AND CONTRACTS TO IMPROVE THE QUALITY  
7 OF TRAINING OF ALLIED HEALTH PERSONNEL

8 Authorization of Appropriations

9 SEC. 3. (a) Effective with respect to appropriations for  
10 the fiscal year beginning July 1, 1970, subsection (a) of  
11 section 792 of such Act (42 U.S.C. 295h-1) is amended to  
12 read:

13 “(a) There are authorized to be appropriated such  
14 sums as may be necessary for the fiscal year ending June 30,  
15 1971, for basic improvement grants under subsection (b).”

16 Basic Improvement Grants

17 (b) Effective with respect to grants for appropriations  
18 for the fiscal year beginning July 1, 1970, paragraph (1)  
19 of subsection (b) of such section is amended by striking out  
20 “Subject to the provisions of paragraph (2)”, and inserting  
21 in lieu thereof “From sums available therefor from appropria-  
22 tions made under subsection (a) and subject to the provi-  
23 sions of paragraph (2)”; and by striking out “June 30,  
24 1970”, and inserting in lieu thereof “June 30, 1971”.



1 ing veterans with experience in a health field, or persons  
2 reentering any of the allied health fields;

3 “(C) developing, demonstrating, or evaluating new  
4 or improved teaching methods or curriculums;

5 “(D) developing, demonstrating, or establishing  
6 interrelationships among institutions which will facilitate  
7 the training, retraining, or utilization of allied health  
8 manpower;

9 “(E) developing, demonstrating, or evaluating new  
10 types of health manpower;

11 “(F) developing, demonstrating, or evaluating tech-  
12 niques for appropriate recognition (including equiva-  
13 lency and proficiency testing mechanisms) of previously  
14 acquired training or experience; and

15 “(G) developing, demonstrating, or evaluating new  
16 or improved means of recruitment, retraining, or reten-  
17 tion of allied health manpower.”

18 Applications for Grants

19 (d) Effective with respect to grants from appropriations  
20 for the fiscal year beginning July 1, 1970, subsection (d)  
21 of such section is amended as follows:

22 (1) Paragraph (1) of such subsection is amended  
23 by striking out “basic or special improvement grants”  
24 and inserting in lieu thereof “basic improvement or  
25 special project grants”;

1 (2) Paragraph (2) of such subsection is amended  
2 by inserting "in the case of a basic improvement grant,"  
3 directly after "(A)"; and

4 (3) Paragraph (3) of such subsection is amended  
5 to read:

6 "(3) In considering applications for grants under sub-  
7 section (c), the Secretary shall take into consideration the  
8 relative effectiveness of the applicant's plan in carrying out  
9 the purposes of such subsection."

10 TRAINEESHIPS FOR ADVANCED TRAINING OF ALLIED

11 HEALTH PERSONNEL

12 SEC. 4. (a) Subsection (a) of section 793 of such Act  
13 (42 U.S.C. 295h-2) is amended by striking out "and" be-  
14 fore "\$5,000,000" and by inserting "and such sums as may  
15 be necessary for the fiscal year ending June 30, 1971;" after  
16 "June 30, 1970;"

17 (b) Effective with respect to grants from appropriations  
18 for the fiscal year beginning July 1, 1970—

19 (1) Subsection (b) of such section is amended by  
20 striking out "training centers for allied health profes-  
21 sions" and inserting in lieu thereof "agencies, organiza-  
22 tions, and institutions".

23 (2) Subsection (c) of such section is amended by  
24 striking out "centers" and inserting in lieu thereof "pub-

1       lic or nonprofit private agencies, organizations, and  
2       institutions”.

3                               TECHNICAL AMENDMENTS

4       SEC. 5. (a) Effective with respect to the fiscal year  
5       beginning July 1, 1970, part G of title VII of the Public  
6       Health Service Act is amended by repealing section 794  
7       and section 798.

8       (b) Effective with respect to the fiscal year beginning  
9       July 1, 1970, section 797 of such Act is amended by  
10      striking out “793 or 794”, and inserting in lieu thereof  
11      “or 793”.

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE,  
*May 7, 1970.*

HON. RALPH YARBOROUGH,  
*Chairman, Committee on Labor and Public Welfare, U.S. Senate,  
 Washington, D.C.*

DEAR MR. CHAIRMAN: This is in response to your request of April 17, 1970, for a report on S. 3718, a bill "To amend the Public Health Service Act to extend for one year the programs of assistance for training in the allied health professions, and for other purposes."

This bill, which may be cited as the "Allied Health Professions Training Amendments of 1970," embodies the provisions of a draft bill submitted to the Congress by this Department on April 1, 1970. The details of the bill are explained in a letter of the same date to the President of the Senate, a copy of which is enclosed.

For the reasons stated in the enclosed letter, we recommend prompt and favorable consideration of S. 3718.

We are advised by the Bureau of the Budget that enactment of this bill would be consistent with the Administration's objectives.

Sincerely,

ROBERT H. FINCH, *Secretary.*

Enclosure.

THE SECRETARY OF HEALTH, EDUCATION, AND WELFARE,  
*Washington, D.C., April 1, 1970.*

HON. SPIRO T. AGNEW,  
*President of the Senate,  
 Washington, D.C.*

DEAR MR. PRESIDENT: I am enclosing for your consideration a draft bill to amend the Public Health Service Act to extend for one year the programs of assistance for training in the allied health professions, and for other purposes.

In April 1969, I transmitted a report to the President and the Congress on the Allied Health Professions Personnel Training Act of 1966. Implicit in that report was the challenge to move fast enough in the training and preparation of allied health personnel to catch up and to keep up with the revolutionary changes that are taking place in the health care field. That report recommended a one-year extension of the allied health authorizations.

The legislation we are proposing would extend the allied health professions program through fiscal year 1971 and permit the initiation of vital new efforts in the coming year. I urge the Congress to act upon this legislation at the earliest possible date to assure the extension of the authorizations for this program which are due to expire June 30 of this year.

Other health manpower authorizations in the Department of Health, Education, and Welfare programs are due to expire June 30, 1971. In addition, the President has recently proposed, in his message of March 19 on higher education, a Career Education program starting in fiscal year 1972, which should contribute to the supply of allied health personnel. Accordingly, we believe a one-year extension of this legislation is the appropriate course at the present time. Such an extension will make the present allied health program authorizations coterminous with the other health manpower authorizations, and will permit an assessment of the potential role of the proposed Career Education program in relation to the allied health program.

We are making an across-the-board assessment of health manpower programs in terms of their interrelationships and their impact on the health needs of the Nation. We consider such an assessment to be absolutely essential if we are to fulfill our responsibilities to the Nation to increase not only the number of health service personnel, but the breadth and quality of their services. Our examination will take into account the programs of other Federal agencies which are contributing to meeting health manpower needs.

We shall continue our review of the allied health program as part of this overall assessment and, upon its completion, we will present to the Congress our legislative recommendations relating to all the health manpower authorities. In the interim, however, the changes we are proposing in the attached bill will enable us to move forward without delay toward the achievement of certain urgent allied health manpower objectives.

For the coming fiscal year, the proposed legislation would:

(1) extend the authority for basic improvement (formula) grants for training centers for allied health professions;

(2) separate the special improvement grant authority from its present dependence on the basic improvement grant;

(3) replace the present section 792(c) authority for special improvement grants with new broad, flexible authority for special projects for experimentation, demonstration, and institutional improvement, and consolidate the authorities of section 794 of the Public Health Service Act (developmental grants) into the new section 792(c);

(4) extend the authority for advanced traineeships, and broaden the eligible institutions to include other agencies, organizations, or institutions which provide such training, in addition to currently eligible training centers;

(5) extend the authority for construction of teaching facilities for training centers for allied health professions.

The new consolidated special authority provides broad authority for experimentation and demonstration which will allow support of such activities as the development of new types of health manpower, new teaching methods, new or improved means of recruiting, retraining, or retention of allied health manpower.

This authority will also provide a start toward more effective and flexible means for assisting institutions to maintain, expand, and improve their existing programs and to plan and develop additional programs so that significantly greater numbers of allied health personnel will be prepared to provide increasingly effective health services. Under this broadened authority, we will be able to reach special groups such as the economically or culturally deprived, returning veterans with experience in the health fields, or persons re-entering any of the allied health fields.

The shortages of competent faculty in training programs at all levels constitute one of the greatest obstacles to the improvement and expansion of training programs for the allied health professions. As training programs enlarge and new programs are added, the demand for teachers mounts. We are proposing extension of the authority for advanced traineeships for preparation of teachers, supervisors, and administrators in the allied health field, and are broadening the eligible institutions to include, not only training centers for allied health professions, but other institutions and agencies which provide such advanced training.

There are now major unmet needs for health manpower. Indeed, the lack of allied health manpower is a most serious problem as we aspire to bring the full potential of modern medicine to all members of our society. We must expand the training and use of allied health personnel, develop new types of health personnel, recruit from many different kinds of potential health manpower pools, and increase the availability of trained allied health personnel.

Enactment of this proposed bill would provide the necessary legislative authority for such efforts in fiscal year 1971, pending our overall assessment of health manpower programs.

We shall appreciate it if you will refer the enclosed draft bill to the appropriate committee for consideration.

The Bureau of the Budget advises that the enactment of this legislation would be consistent with the Administration's objectives.

Sincerely,

ROBERT H. FINCH, *Secretary*.

Enclosure.<sup>1</sup>

The CHAIRMAN. Our health care delivery system is in a state of chaos. Some would say it is near collapse. The demand for service far exceeds the capacity of our health system to respond. Thus, costs escalate and service deteriorates.

Our schools are not producing enough graduates in the health fields. This is true of both doctors and support personnel in the allied health fields.

<sup>1</sup> This is S. 3718 which is printed preceding this report.

While I am convinced that our health delivery system is in need of major reform, I recognize that until we have such reform, the Federal Government must continue to provide assistance under existing Federal grant programs. We must, of course, improve existing programs wherever possible. We must also extend and improve those which are about to expire.

I do not think anyone will deny that we have a severe shortage of physicians. Currently, this shortage stands at about 50,000 doctors. And there are not enough medical schools to alleviate this situation in the foreseeable future. Indeed, the situation promises to grow worse before it improves.

One of the best opportunities available to improve the productivity of our doctors is through the team approach—the use of health personnel trained to assist doctors in routine tasks within their levels of competence. In other words, today's physicians must make more efficient use of their time. They must use more allied health professionals as an extension of their own diagnostic and therapeutic efforts.

Yet all too often today we find that doctors are performing tasks which often could well be done better and at less cost by individuals who are trained less broadly, but more intensively. Unfortunately, the shortage of allied health personnel is also severe.

Part of the rising need for allied health professionals is due to our increasing population and increasing demand for medical services. Part of it is due to changing medical practices. Advances in medical and environmental research and technology, for instance, have brought about an increase in new allied health occupations. Some examples of these are the physician assistants, biomedical equipment technicians, air pollution technicians, child health associates and others. This is a field that encompasses 200 different specialties and the number is growing. All of these specialties could be eligible for assistance.

It is obvious that the problems I have described cannot be corrected by State or local government or by the medical profession itself. Federal assistance is necessary, and it must be substantial. As I have stated on a number of occasions in the past, I am greatly disturbed that this, the richest country on earth, ranks well below a number of industrial countries in infant mortality, maternal mortality, and life expectancy. We have the means to improve our ranking. We must do so.

The need for qualified professionals in the allied health fields has been amply demonstrated. The bill I introduced, the "Health Training Improvement Act of 1970" (S. 3586) will not of itself solve our health problems. Without it, however, existing conditions will deteriorate. We cannot permit this to happen.

My bill would provide for such assistance on a level which would enable us to begin to meet our Nation's needs. First, it would make grants for construction of research facilities at existing institutions available to new institutions as well. This provision would go into effect in or after fiscal year 1971. Second, it would extend the teaching facilities construction program for 5 years at the following authorization levels:

Fiscal year 1971	\$20,000,000
Fiscal year 1972	25,000,000
Fiscal year 1973	30,000,000
Fiscal year 1974	35,000,000
Fiscal year 1975	40,000,000

The deadline for the receipt of applications for assistance would also be extended for 5 years.

Existing law provides for grants to improve the quality of training centers for allied health professions. My bill would extend the grant program for basic improvements in curricula for 5 years with an authorized funding level of \$15 million. The bill also would create a new category of "special project grants" which would be made to public or nonprofit private agencies, institutions, and organizations to assist them in maintaining, improving, or developing new training or retraining programs in allied health fields. The program would be authorized for 5 years at the following levels:

Fiscal year 1971	\$20,000,000
Fiscal year 1972	25,000,000
Fiscal year 1973	30,000,000
Fiscal year 1974	35,000,000
Fiscal year 1975	40,000,000

The existing basic grants program would be continued for five more levels at current authorization levels. Special Project Grants would be made available for development of new training programs, improving curriculum, expanding the capacity of existing programs, and developing special programs for veterans with prior experience in allied health fields. Matching funds provisions in the law would not apply to the Special Project Grants program.

My bill would extend the traineeship program for advanced training in allied health fields for 5 more years. The program would be authorized at the following levels:

Fiscal year 1971	\$8,000,000
Fiscal year 1972	9,000,000
Fiscal year 1973	10,000,000
Fiscal year 1974	11,000,000
Fiscal year 1975	12,000,000

Public or private nonprofit agencies, institutions, or organizations would be allowed to participate in the traineeship program.

The provisions in the law for curriculum improvement grants for health technology training facilities would be extended for 5 more years at the following levels of authorization:

Fiscal year 1971	\$6,000,000
Fiscal year 1972	8,000,000
Fiscal year 1973	10,000,000
Fiscal year 1974	12,000,000
Fiscal year 1975	14,000,000

There is also a new provision for development of curriculum evaluation methods, for new curriculum development, and for new recruiting programs in allied health fields.

Finally, my bill proposes a new program to locate promising students in allied health fields and to assist them in financing their education through scholarships, work-study grants, and loans. The location program would be authorized for 5 years at the following levels:

Fiscal year 1971	\$750,000
Fiscal year 1972	1,000,000
Fiscal year 1973	1,250,000
Fiscal year 1974	1,500,000
Fiscal year 1975	1,750,000

Scholarships of up to \$2,000 per year plus \$600 for each dependent would be made available to needy students. The scholarship program would be authorized for 5 years as follows:

Fiscal year 1971	\$6,000,000
Fiscal year 1972	7,000,000
Fiscal year 1973	8,000,000
Fiscal year 1974	9,000,000
Fiscal year 1975	10,000,000

Authorizations for the work-study program would run for 5 years also at the following levels:

Fiscal year 1971	\$2,000,000
Fiscal year 1972	4,000,000
Fiscal year 1973	6,000,000
Fiscal year 1974	8,000,000
Fiscal year 1975	10,000,000

The loan program would be similar in form to the NDEA loan program which I helped to pass 12 years ago when I first came to the Senate. In fiscal year 1971, the program would be authorized at \$1.5 million, in fiscal year 1972, at \$3 million. For the next 3 years, there is no authorization ceiling and for the fiscal years 1976 and 1977, funds would be authorized at levels sufficient to enable recipients of loans before July 1, 1975, to complete their education. The authorizations are also to be used to assist schools in setting up student loan funds. The loans are due 10 years after completion of education, but up to 50 percent of the total may be waived for work in rural or ghetto areas. There is a provision in this bill for advance funding of the new financial assistance program.

Finally, my bill calls for a study by the Secretary of HEW to be submitted prior to January 1, 1972, detailing the Secretary's evaluation of the adequacy of allied health training programs and containing his recommendations resulting from this study.

We will also make a part of the record at this point two articles, an excerpt from the Journal of the American Medical Association and the pamphlet from National Academy of Science on Allied Health Personnel.

(The information referred to follows:)

[Excerpt from the Journal of the American Medical Association, vol. 210, No. 8, November 24, 1969: "Medical Education in the United States 1968-1969."]

#### SECTION V—EDUCATIONAL PROGRAMS IN AREAS ALLIED WITH MEDICINE

The increasing complexity of our society of the health care system continues to create new importance and visibility for the professions and services allied with medicine for the care of the patient. To deliver service on the scale that is necessary and at the level of technical competence necessary, it is clear that the medical profession must utilize the capabilities of a growing spectrum of professions, each expert in a specific facet of knowledge and services. It is equally true that the public relies on the medical profession to be knowledgeable about the education and utilization of medically related personnel. The AMA Department of Allied Medical Professions and Services concentrates on the task of assisting in meeting the responsibilities of medicine to allied health education. The policy leadership for the activities of this Department is provided by the

Council on Medical Education. Within the structure of the Council, the Advisory Committee on Education for the Allied Health Professions and Services provides intensive study of issues of allied health education.

In an effort to assure the effective and safe care of patients, to assure the welfare of students, and as a service to the public good, the Council on Medical Education collaborates with 14 allied health and medical specialty organizations to work toward sound educational practices and broaden resources for 13 allied health occupations. The concept of collaboration has been progressively refined during the past few months. The philosophy is one of joint effort on the part of autonomous organizations, each maintaining its unique identity, while working within a common framework. A primary effort during the past year has been to identify the structure and the operating relationships of the present participants in the collaborative educational process. Table 1 summarizes the involvement of each organization in the process of accreditation of allied health education programs.

TABLE 1.—ACCREDITATION OF ALLIED HEALTH EDUCATIONAL PROGRAMS<sup>1,2</sup>

Organizations collaborating with American Medical Association	Allied health occupations	Survey and review groups of collaborating organizations	Advisory Committee on Education for the Allied Health Professions and Services	American Medical Association	House of Delegates
American Society of Clinical Pathologists	Certified laboratory assistant	Board of Schools, committees on—	Essentials revised, 1967.		
American Society of Medical Technologists	Cyrotechnologist	Medical laboratory technicians	Do.		
American Occupational Therapy Association	Medical laboratory technician	Medical technologists	Essentials (future)		
American Physical Therapy Association	Medical technologist	Histotechnicians	Essentials revised, 1968.		
American Association of Medical Record Librarians	Occupational therapist	Accreditation committee	Essentials (future), 1965		
American Association for Inhalation Therapy	Physical therapist	Committee on basic education	Essentials revised, 1955.		
American College of Chest Physicians	Medical record librarian	Education and registration committee	Essentials revised, 1967.		
American Society of Anesthesiologists	Medical record technician	do	Essentials revised, 1965.		
American College of Radiology	Inhalation therapy technician	Joint review committee for inhalation therapy education	Essentials revised, 1967.		
American Society of Radiologic Technologists	Radiologic technologist (formerly X-ray technician)	Joint review committee for radiologic technologists	Revised essentials before House.		
American College of Radiology	Radiation therapy technologist	Radiation therapy technologists	Essentials approved, 1968.		
American Society of Clinical Pathologists	Nuclear medicine technologist	Joint review committee for nuclear medicine technology	Essentials adopted, 1969.		
American Society of Radiologic Technologists	Nuclear medicine technician	Nuclear medicine technologists	Do.		
Society of Nuclear Medicine	do	Nuclear medicine technicians	Do.		
American Association of Medical Assistants	Medical assistant	Approval committee	Do.		
American Academy of Orthopaedic Surgeons	Orthopedic assistant	Subcommittee on the Orthopaedic Assistant	Essentials before House.		
		Committee on Allied Health Professions and Services, AADS.			

<sup>1</sup> Sept. 15, 1969, Draft of Optimal Relationships, subject to review by all the organizations listed.

<sup>2</sup> The voluntary National Commission on Accrediting designates the Council on Medical Education of the American Medical Association, in collaboration with the other professional organizations listed, to accredit baccalaureate educational programs for the medical record librarian, medical technologist, occupational therapist and physical therapist. The official Commissioner of Education, U.S. Office of Education, also designates the AMA, in collaboration with the other organizations listed, to accredit the same and a growing list of other allied health occupations.

The effort to make explicit the accreditation structure is the concern of each involved organization, and these relationships are under continuous review. The table is an attempt to identify optimal relationships. Work continues on this task.

To strengthen these efforts, the president of each of the 14 national professional associations collaborating with the AMA in the accrediting process appointed a representative to the newly formed *Panel of Consultants* to the Advisory Committee on Education for the Allied Health Professions and Services. The Panel will provide a broader base of available information to the Advisory Committee and will serve as a two-way channel for communication on problems and solutions involving the collaborating organizations and the AMA Council on Medical Education.

#### TRENDS IN THE FIELD OF ALLIED HEALTH EDUCATION

In a time of rapid change and transition, new directions are beginning to emerge in allied health education:

*From Hospitals to Colleges.*—Allied health educational programs have traditionally been organized within the context of the hospital. There is a growing trend toward placing these programs on college campuses. In such arrangements, the community and medical services serve as clinical affiliations to provide the technical component of the educational experience.

*The Growth and Significance of the Junior/Community College.*—Community colleges are developing at a rapid rate. Presently there are over 1,000 such institutions in the United States. There is an increasing awareness of the present and potential contribution of the community/junior college in allied health education. It is evident that increasing numbers of individuals will be trained in the community/junior college and will develop skills in providing patient services as they assist the physician and other health professions.

*Emergence of Colleges of Allied Health Professions.*—In the past year, there have also been significant developments on senior college campuses. New administrative units have been organized to bring together the various allied health curricula offered in universities. The Association of Schools of the Allied Health Professions is a new organization developed by a number of these institutions to provide and support allied health education.

*Core Curriculum and Educational Mobility.*—Two continuing themes of thought and discussion are the ideas of core curriculum and educational mobility. Core curriculum essentially suggests that those who are to work together as a team should have common educational experiences. The greater efficiency of such an approach is particularly attractive to the educational institution. Educational mobility suggests the structuring of curricula within and between disciplines to provide lateral and vertical movement for the student in his educational career. These concepts are under experimental study in a variety of settings.

The goal of the AMA in allied health education is to serve as a unifying force to shape an effective coordinated effort.

The Council on Medical Education, in collaboration with the allied health professions concerned, accredited 2,431 educational programs for nine occupations as of the summer of 1969. Table 2 presents summary information concerning the number of programs and estimates of student capacity, enrollment, and number of graduates for the current reporting year in nine of the thirteen occupations accredited by the AMA. The "Essentials" which outline the requirements for the accreditation of education programs in these areas and a comprehensive listing of all the educational programs currently accredited are available from the AMA Department of Allied Medical Professions and Services.

TABLE 2.—AMA ACCREDITED EDUCATIONAL PROGRAMS IN 9 ALLIED HEALTH OCCUPATIONS

	Sept. 15, 1969		Academic year 1968-69	
	Number of accredited programs	Student capacity	Enrollment <sup>1</sup>	Graduates <sup>1</sup>
Certified laboratory assistant.....	187	1,852	935	830
Cytotechnologist.....	118	670	421	388
Inhalation therapy technician.....	55	443	385	145
Medical record librarian.....	27	300	251	212
Medical record technician.....	20	260	218	218
Medical technologist.....	787	8,221	5,055	3,710
Occupational therapist.....	36	835	<sup>2</sup> 521	( <sup>3</sup> )
Physical therapist.....	49	( <sup>3</sup> )	1,385	( <sup>3</sup> )
Radiologic technologist.....	1,152	14,274	11,324	4,606
Total.....	2,431	28,308	20,495	10,079

<sup>1</sup> Estimates based on programs reporting.

<sup>2</sup> 4-year enrollment only.

<sup>3</sup> Figures not available.

For each of these nine allied health specialties, the following are general occupation descriptions presented with descriptive data on growth trends in educational resources.

#### CERTIFIED LABORATORY ASSISTANT

A (certified) laboratory assistant, working under the direct supervision of a registered medical technologist and a pathologist or other qualified physician, performs the simpler laboratory procedures in bacteriology, blood banking, chemistry, hematology, parasitology, serology, and urinalysis.

NOTE: The Certified Laboratory Assistant program was operationally effective July 1, 1968. Therefore, no growth trend data are as yet available.

#### CYTOTECHNOLOGIST

The cytotechnologist, working under a pathologist, screens slides of cell samplings, magnified a thousand times under the microscope, tracing clues to disease in the patterns of cytoplasm and nuclei stained with special dyes to make them stand out brightly. Abnormalities can be warning signs of cancer.

TABLE 3.—CYTOTECHNOLOGY EDUCATIONAL PROGRAMS: TREND DATA, 1962-63 THROUGH 1968-69

Academic year	Programs	Capacity	Enrollment	Graduates
1968-69.....	118	670	421	388
1967-68.....	109	585	405	368
1966-67.....	98	621	429	348
1965-66.....	92	529	375	325
1964-65.....	84	463	340	332
1963-64.....	79	454	330	291
1962-63.....	77	432	352	292

#### INHALATION THERAPY TECHNICIAN

The inhalation therapy technician assists qualified medical specialists and senior therapists in the treatment, management, control, and care of patients with deficiencies and abnormalities associated with respiration. The inhalation therapy technician manages a wide range of equipment, medical gages, medications, and other therapeutic agents.

TABLE 4.—INHALATION THERAPY TECHNICIAN EDUCATIONAL PROGRAMS: TREND DATA, 1963-64 THROUGH 1968-69

Academic year	Programs	Capacity	Enrollment	Graduates
1968-69	55	443	385	145
1967-68	44	367	323	200
1966-67	30	200	178	150
1965-66	21	122	102	102
1964-65	11	52	48	48
1963-64	7	49	49	-----

## MEDICAL RECORD LIBRARIAN

The medical record librarian has five major responsibilities: (1) to design health information systems, (2) to plan, organize, direct, and control medical record services, (3) to develop, analyze, and evaluate medical records and indexes, (4) to cooperate with the medical staff in developing methods for evaluation of patient care, and (5) to cooperate with the medical and administrative staff in research projects utilizing health care information.

TABLE 5.—MEDICAL RECORD LIBRARIAN EDUCATIONAL PROGRAMS: TREND DATA, 1959-60 THROUGH 1968-69

Academic year	Programs	Capacity	Enrollment <sup>1</sup>	Graduates
1968-69	27	300	251	212
1967-68	27	291	214	191
1966-67	28	313	211	192
1965-66	28	331	214	192
1964-65	29	222	199	180
1963-64	27	221	174	161
1962-63	28	244	150	142
1961-62	27	-----	168	152
1960-61	28	-----	146	139
1959-60	29	-----	144	137

<sup>1</sup> Enrollment in final year only.

## MEDICAL RECORD TECHNICIAN

The medical record technician's duties chiefly include: (1) reviewing medical records for completeness and accuracy, and translating diseases and operations into the proper coding symbols, (2) filing medical records (or supervising file clerks) or preparing records for microfilming, (3) typing medical reports of operations, x-ray and laboratory examinations, or special treatments given to patients, (4) compiling various statistics, including the hospital's daily census, information on reportable diseases for public health authorities and others, (5) assisting the medical staff by preparing special studies and tabulating data from records for research, (6) supervising the day-to-day operation of a medical record department, taking records to court, and maintaining the flow of health information to all departments of the hospital.

TABLE 6.—MEDICAL RECORD TECHNICIAN EDUCATIONAL PROGRAMS: TREND DATA, 1959-60 THROUGH 1968-69

Academic year	Programs	Capacity	Enrollment	Graduates
1968-69	20	260	218	188
1967-68	16	200	130	118
1966-67	12	216	118	93
1965-66	15	150	115	105
1964-65	13	130	77	70
1963-64	14	140	130	98
1962-63	14	96	95	81
1961-62	12	-----	74	72
1960-61	12	-----	48	47
1959-60	12	-----	46	46

## MEDICAL TECHNOLOGIST

Medical technologists perform the scientific fact-finding tests in the clinical pathology laboratory that help track down the cause and cure of disease. For example, they examine the blood chemically for cholesterol and microscopically for leukemia, they culture bacteria to identify disease-causing organisms and analyze the chemical composition of urine for diabetes and of spinal fluid for polio. In addition to the technical skill required to perform a test, the medical technologist possesses the theoretical knowledge required to recognize that a determination does not coincide with clinical evidence.

TABLE 7.—MEDICAL TECHNOLOGY EDUCATIONAL PROGRAMS: TREND DATA, 1959-60 THROUGH 1968-69

Academic year	Programs	Capacity	Enrollment <sup>1</sup>	Graduates
1968-69	787	8,221	5,055	3,715
1967-68	787	7,619	5,285	3,855
1966-67	786	7,596	5,119	3,840
1965-66	773	7,020	4,752	3,465
1964-65	781	6,383	4,161	3,069
1963-64	784	6,694	4,291	2,689
1962-63	779	6,751	4,377	3,259
1961-62	757	-----	4,638	2,809
1960-61	734	-----	4,086	2,633
1959-60	702	-----	3,944	2,57

<sup>1</sup> Student enrollment is for the year of specialized training, including all students admitted during the year.

## OCCUPATIONAL THERAPIST

The occupational therapist attempts to direct the patient's attentive response to selected activity to promote and maintain health, to prevent disability, to evaluate behavior, and to treat or train patients with physical or psychosocial dysfunction. The occupational therapist is skilled in the therapeutic use of a wide spectrum of treatment procedures ranging from basic activities of daily living to complex mechanical and artistic skills.

TABLE 8.—OCCUPATIONAL THERAPY EDUCATIONAL PROGRAMS: TREND DATA, 1960-61 THROUGH 1968-69

Year	Programs	Capacity	Enrollment		Graduates <sup>3</sup>
			Seniors and post-baccalaureate students <sup>1</sup>	Students in Clinical Practice <sup>2</sup>	
1968-69	32	835	726	521	(4)
1967-68	32	835	696	469	554
1966-67	32	770	615	476	536
1965-66	32	770	602	438	485
1964-65	32	770	537	491	505
1963-64	32	-----	578	407	438
1962-63	31	-----	501	332	364
1961-62	31	-----	439	270	302
1960-61	31	-----	372	329	367

<sup>1</sup> Final academic year.

<sup>2</sup> Following fourth year for seniors and fifth and sixth years for postbaccalaureate students.

<sup>3</sup> Calendar year data on graduates with at least 4 years of academic education and a period of clinical practice which qualified them for professional registration on successful completion of the national examination conducted by the American Occupational Therapy Association.

<sup>4</sup> Figures not available.

## PHYSICAL THERAPIST

Physical therapists evaluate the physical capabilities and disabilities of patients and plan treatment programs for patients. Physical therapists receive referrals for services to patients from licensed physicians, surgeons, and dentists. For the patient to achieve and maintain optimal function, possible treatments may consist of various tests, use of agents as heat, cold, massage, or therapeutic exercise, and of teaching patients and their families appropriate activities and use of devices in their homes.

TABLE 9.—PHYSICAL THERAPY EDUCATIONAL PROGRAMS: TREND DATA, CALENDAR YEAR 1960 THROUGH CALENDAR YEAR 1968

Academic year	Programs	Capacity <sup>1</sup>	Enrollment <sup>2</sup>	Graduates <sup>3</sup>
1968-69	49	1,453	1,385	(4)
1967-68	48	1,278	1,165	1,122
1966-67	43	-----	1,066	1,005
1965-66	42	-----	991	936
1964-65	42	-----	955	890
1963-64	42	-----	930	891
1962-63	42	-----	814	757
1961-62	40	-----	727	689
1960-61	39	-----	739	682

<sup>1</sup> Final academic year only.

<sup>2</sup> October enrollment of seniors and postbaccalaureate students.

<sup>3</sup> During calendar year.

<sup>4</sup> Figures not available.

## RADIOLOGIC TECHNOLOGIST

The radiologic technologist is concerned primarily with the medical uses of ionizing radiation. Under the direction of a physician, often a radiologist, the radiologic technologist prepares a patient for X-ray examination. Such examination may consist of fluoroscopic, therapeutic, or radiologic (photographic) examination. In addition to the operation of the equipment and the preparation of patients for the various types of treatments, the technologist prepares and maintains records.

TABLE 10.—RADIOLOGIC TECHNOLOGY EDUCATIONAL PROGRAMS: TREND DATA, 1959-60 THROUGH 1968-69

Academic year	Programs	Capacity	Enrollment <sup>1</sup>	Graduates
1968-69	1,152	14,274	11,324	4,606
1967-68	1,126	15,000	11,277	4,767
1966-67	1,049	14,214	13,435	4,027
1965-66	968	12,250	9,460	4,175
1964-65	901	9,625	8,970	3,058
1963-64	789	9,919	7,341	2,938
1962-63	755	8,564	6,944	2,722
1961-62	718	-----	6,231	2,315
1960-61	673	-----	5,512	-----
1959-60	609	-----	4,581	2,285

<sup>1</sup> Students enrolled in 2-year program or last 2 years of 3- or 4-year course.

Table 11 indicates the number of programs in the nine allied health fields for each state. Only four states—Massachusetts, New York, Pennsylvania, and Washington—have programs in all nine disciplines; Hawaii, Nevada, and Wyoming have the least number represented, with two each. Alaska currently has no listed program in any of the nine areas. Medical technology and radiologic technology, the two largest fields, have at least one program in each of the states, except Alaska.

TABLE 11.—NUMBER OF ACCREDITED ALLIED HEALTH PROGRAMS BY FIELD AND STATE, SEPT. 15, 1969

State	Certified laboratory assistant	Cytotechnologist	Inhalation therapy technician	Medical technologist	Medical record librarian	Medical record technician	Occupational therapist	Physical therapist	Radio-logic technician
Alabama.....	4	2	0	12	0	0	1	1	12
Arizona.....	0	0	0	6	0	2	0	0	9
Arkansas.....	2	1	0	9	0	0	0	0	7
California.....	0	6	4	66	2	2	3	6	102
Colorado.....	0	2	1	17	0	0	1	1	16
Connecticut.....	6	3	4	14	0	0	0	1	19
Delaware.....	3	0	0	1	0	0	0	0	1
District of Columbia.....	2	2	0	10	0	0	0	0	5
Florida.....	8	3	1	19	0	0	1	1	29
Georgia.....	6	2	1	15	2	0	0	0	21
Hawaii.....	0	0	0	5	0	0	0	0	2
Idaho.....	0	0	1	6	0	0	0	0	7
Illinois.....	10	3	11	51	1	0	1	1	66
Indiana.....	9	2	1	20	1	0	1	1	26
Iowa.....	3	3	0	16	0	0	1	1	21
Kansas.....	1	3	2	9	0	1	1	1	22
Kentucky.....	6	1	1	13	0	0	0	1	16
Louisiana.....	0	1	0	19	1	0	0	0	16
Maine.....	1	0	0	3	0	0	0	0	9
Maryland.....	2	2	0	5	1	1	0	1	17
Massachusetts.....	5	2	3	24	1	3	2	3	59
Michigan.....	3	3	2	34	1	1	3	2	35
Minnesota.....	3	1	0	13	1	1	2	2	40
Mississippi.....	1	1	0	8	1	0	0	0	10
Missouri.....	0	2	3	20	2	1	1	3	30
Montana.....	1	0	0	4	0	0	0	0	6
Nebraska.....	0	1	0	9	1	0	0	0	9
Nevada.....	0	0	0	3	0	0	0	0	7
New Hampshire.....	1	0	0	2	0	0	1	0	8
New Jersey.....	8	2	0	30	0	0	0	0	37
New Mexico.....	2	1	0	5	0	0	0	0	7
New York.....	7	11	4	41	3	2	5	2	53
North Carolina.....	4	7	2	13	1	0	0	2	28
North Dakota.....	0	1	0	5	0	0	1	2	8
Ohio.....	13	10	1	47	0	0	1	2	75
Oklahoma.....	1	1	1	13	1	0	0	1	9
Oregon.....	0	1	0	6	0	0	0	0	12
Pennsylvania.....	26	8	4	38	1	1	2	3	91
Rhode Island.....	1	2	1	6	0	0	0	0	7
South Carolina.....	4	2	1	6	0	0	0	0	13
South Dakota.....	2	0	1	6	0	0	0	0	8
Tennessee.....	5	3	2	18	1	1	2	4	14
Texas.....	10	9	0	42	2	2	2	4	59
Utah.....	0	1	0	8	0	0	0	0	7
Vermont.....	2	0	0	1	0	0	0	0	3
Virginia.....	9	5	0	11	0	0	1	1	23
Washington.....	1	2	2	11	1	3	2	1	13
West Virginia.....	7	2	0	7	0	0	0	0	25
Wisconsin.....	7	3	1	35	1	0	2	2	30
Wyoming.....	0	0	0	1	0	0	0	0	2
Canal Zone.....	0	0	0	1	0	0	1	0	0
Puerto Rico.....	0	1	0	3	1	0	1	1	0
Japan.....	1	0	0	0	0	0	0	0	0

Four areas among the emerging allied medical professions and services have developed educational criteria which are either under consideration by the Council on Medical Education or have received formal recognition by the AMA House of Delegates. These "Essentials" have been established as guidelines for the edu-

cation of (1) radiation therapy technologists, (2) nuclear medicine technicians and technologists, (3) medical assistants, and (4) orthopedic assistants.

The "Essentials of an Acceptable School of Radiation Therapy Technology" were approved by the AMA House of Delegates on Dec. 1, 1968. The Essentials, developed in cooperation with the American College of Radiology, American Registry of Radiologic Technologists, and American Society of Radiologic Technologists, outline requirements for establishing an educational program of at least 12 months' duration. Applications for accreditation have been received from five programs and are currently being reviewed by the Council on Medical Education.

"Essentials of an Accredited Educational Program in Nuclear Medicine Technology" were approved at the July 1969 Annual Convention of the AMA House of Delegates. These educational criteria were developed by the Council on Medical Education in collaboration with the American College of Radiology, Society of Nuclear Medicine, American Society of Clinical Pathologists, American Society of Medical Technologists, American Society of Radiologic Technologists, and Society of Nuclear Medicine Technologists. The Essentials provide a curriculum of at least 12 months' duration that may be developed at the associate degree or the baccalaureate degree level. Nuclear medicine technicians and technologists are trained to work under physicians qualified in the clinical use of radionuclides.

Medical assistants assist the physician usually within the professional office or the hospital, performing administrative and/or clinical assignments delegated in relation to their specific training. The "Essentials of an Accredited Educational Program for Medical Assistants," developed in collaboration with the American Association of Medical Assistants, were adopted by the House of Delegates in July 1969. Five two-year programs in junior colleges have been accredited by the Council.

One of the most recently recognized members of the health team is the orthopedic assistant, who is trained to assist the orthopedic surgeon in caring for orthopedic surgical patients in hospitals, clinics, or private offices. In cooperation with the American Academy of Orthopaedic Surgeons' Sub-Committee for the Training of the Orthopaedic Assistant, the Council on Medical Education has developed the "Essentials of an Accredited Educational Program for Orthopaedic Assistants," specifying a two-year curriculum which may be offered in a junior college with appropriate clinical affiliations. These Essentials will be presented for consideration and adoption by the AMA House of Delegates in December 1969.

With the addition of these new educational programs, the Council on Medical Education in collaboration with the allied health professions concerned, accredits 13 categories of education programs for the training of these professionals:

1. Certified Laboratory Assistant.
2. Cytotechnologist.
3. Inhalation Therapy Technician.
4. Medical Assistant.
5. Medical Record Librarian.
6. Medical Record Technician.
7. Medical Technologist.
8. Nuclear Medicine Technician.
9. Nuclear Medicine Technologist.
10. Occupational Therapist.
11. Physical Therapist.
12. Radiation Therapy Technologist.
13. Radiologic Technologist.

Several specific tasks are projected for the coming year: the task of implementing "Essentials" for new fields was elaborated in the previous paragraphs. During the next few months, a major study of the costs of accreditation in the allied health fields is anticipated. Further steps to assist the developing programs within the junior and community colleges will be taken. Preliminary work will be expanded to identify the committees and individuals in state and county medical societies who have concern for allied health education. Education for the allied health professions is an expanding activity which requires the participation of innumerable people and organizations. The Department of Allied Medical Professions and Services exists to assist the medical profession in fulfilling its responsibility of providing leadership and support for allied health education.

# ALLIED HEALTH

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# PERSONNEL

A REPORT ON THEIR USE IN THE MILITARY SERVICES AS A  
MODEL FOR USE IN NONMILITARY HEALTH-CARE PROGRAMS

*Ad Hoc* Committee on Allied Health Personnel  
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National Academy of Engineering

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## PREFACE

It has been a privilege for our ad hoc Committee on Allied Health Personnel, appointed by the Chairman of the Division of Medical Sciences, National Research Council, to conduct a study of the education, training, and assignment practices pertaining to allied health personnel of the military medical departments.

We appreciate the interest and cooperation of the Deputy Assistant Secretary (Health and Medical) of the Department of Defense, and the Surgeons General of the U.S. Army, U.S. Air Force, and U.S. Navy. The conduct of the study was greatly facilitated by the assistance furnished by the liaison representative that each Surgeon General appointed to the Committee. The assistance of the staffs of the military bases that were visited is appreciated, as is the excellent work done by the staff of the Division of Medical Sciences.

The Committee believes that the educational and training techniques used for military corpsmen (medics), as well as the ways in which their skills are used, are worthy of consideration for the allied health professions in civilian life.

The health needs of the nation are immense; however, supplying enough personnel to provide optimal health care is still a problem. If this report proves to be of value in pointing the way to a partial solution of the problem, our efforts will have been worth while.

Lamar Soutter

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## INTRODUCTION

In the last few years, studies by governmental groups, professional organizations, and individuals have compellingly documented the need for improvement in the nation's systems for the delivery of medical care.<sup>2,9,13,14,20</sup> Such improvement requires a substantial increase in the numbers of educated and trained health-care personnel. Not only are more physicians, dentists, and registered nurses needed, but more personnel are needed in all of the some 125 categories of health occupations<sup>31</sup> that contribute to the over-all quality of care that present medical knowledge and technology make it possible to deliver. The magnitude of this manpower need has been stated to be about 10,000 additional persons per month during the decade 1966-1975, i.e., over 1 million in the decade.<sup>33</sup>

This report relates to systems and manpower problems, inasmuch as the original purpose of the study was to "explore, using the military medical departments as a model, the extent to which it would be feasible to train nonprofessional health manpower to perform tasks associated with direct health services but that may not require full professional training and skills and thus to permit physicians, dentists and nurses to extend the performance of professional services which they alone are capable of providing." Early in the conduct of the study, it became apparent that there were not one but two important areas to review: (1) the military's health-care training experiences and personnel assignment practices, and (2) the extent to which trained military health-care personnel can be developed as a manpower resource on their return to civilian life.

## ORGANIZATION AND CONDUCT OF THE STUDY

An agreement was reached in February 1968 between the Commonwealth Fund and the National Research Council to conduct this study. In March 1968, a group of persons knowledgeable in education, training, and health-care practices were assembled, including representatives from the armed forces, for a 1-day informal ex-

change of information and discussion with staff members of the Division of Medical Sciences (see Appendix A). The meeting resulted in three decisions: (1) that situations and conditions peculiar to the military should be studied, (2) that there should be an attempt to determine which of these unique situations or conditions could be simulated in a nonmilitary setting, and (3) that the military formal education and training programs, on-the-job instruction programs, and career ladders and other opportunities available to the military man should be examined.

In April 1968, an *ad hoc* Committee on Allied Health Personnel was appointed, chaired by Dr. Lamar Soutter, Dean, University of Massachusetts School of Medicine. The other members of the Committee also have had a broad experience in and possess detailed knowledge of health-related education and training programs and administrative medicine. The Surgeons General of the U.S. Air Force, Army, and Navy each appointed liaison representatives from their staffs to the Committee.

During August and September 1968, representatives from the Committee, military liaison officers, and a staff member of the Division visited the National Naval Medical Center, Brooke Army Medical Center, and Sheppard Air Force Base. They held discussions with the staffs of the appropriate schools in regard to selection of students, curricula, and goals. A special point was made to hold informal discussions with the senior enlisted instructors to learn their opinions on what they hoped to achieve with their students and on the capabilities of the students. The instructors were asked what they themselves had found good in the service and what they considered the less desirable features. A number of the enlisted instructors were nearing the time when they would retire from the military and become candidates for civilian employment. The pro's and con's of military training and experience as preparation for entering civilian employment were discussed at some length.

In addition, discussions were held and correspondence exchanged with several education-oriented groups and with governmental officials.

#### THE ARMED FORCES MEDICAL SERVICES AND THEIR PERSONNEL

The armed forces furnish complete health care to the some 3.5 million service personnel on active duty. They also furnish

health care to retired personnel, dependents of active and retired servicemen, their widows, and others declared eligible by Congressional or other competent authority. In the aggregate, the military medical departments have a major degree of responsibility for the health care of about 10 million persons.

To carry out their responsibilities, the military medical departments need large numbers of personnel trained in health-related fields. To meet the need for competent personnel to support the physicians, dentists, and registered nurses in their commissioned officers corps, they conduct their own in-service education and training courses, including programs of on-the-job instruction.

### Mission

The basic mission of the armed forces medical departments is a health commitment to the serviceman on a worldwide basis. It encompasses preventive medicine, patient care under any conditions (including combat), and adequate plans to meet medical emergencies involving the armed forces whenever and wherever they occur.

The armed forces of necessity have an authoritarian line of command. The duties and responsibilities of all sectors of the military establishment are carefully spelled out in Congressional statutes and in regulations issued by the Department of Defense and the Departments of the Army, Navy, and Air Force. In general, one can say that the Surgeons General are responsible for the health-related needs of the military and carry out this executive responsibility through personnel and institutions directly under their control or through personnel advisory to line commanders.

### The Delivery of Health Care by the Military

It is the Committee's opinion that, in general, most institutional and out-patient care by the military is as skillful as that furnished in nonmilitary medical institutions and clinics with full-time closed staffs. The Surgeons General insist that the serviceman and any other person to whom the military furnishes medical care receive care of the best quality. To this end, all permanent military hospitals are inspected by the Joint Commission on Accreditation of Hospitals and, as appropriate, by representatives of medical, dental, and other specialty boards. There is active surveillance of all

formal education and training programs, and it is insisted that active programs of on-the-job education be maintained at stations with medical departments.

Every commissioned officer in the medical departments who is involved in direct patient care holds a degree, diploma, or certificate from an appropriate educational institution. The military may assign corpsmen who have adequate training to perform some direct patient-care and technical procedures that in a nonmilitary environment are usually performed by a physician, dentist, or registered nurse. In some situations (in general, peculiar to the military), the corpsman acts as the medical support for a unit, the professional support being geographically removed, as in front-line combat units and on smaller Naval vessels.

### The Corpsman (Medic)

The word "corpsman," when used by itself, indicates that a man is an enlisted member of a military medical service. Qualifying words must be used to indicate his status, in regard to both his professional skills and his military experience.

One can generalize and say that the corpsman is a person who entered the armed forces without training or experience in health-related fields; that he volunteered, or was assigned to, and completed the course in a military school for the training of corpsmen in basic health care; and that he probably was then assigned to a military hospital or clinic for duty. During wartime or other periods of emergency, the basic-school graduate is likely to be assigned directly to a field medical school and, on graduation, join a field unit. Corpsmen who remain in the service for any appreciable period almost without exception attend advanced technical or nursing schools, and over the years attain a high degree of skill in one or another of the many technical or nursing specialties.

Through the provisions of the Selective Service System, many medical-department personnel are brought on active duty for a period of service of 2 years. It is widely believed that many of those who voluntarily enlist in the armed forces do so because of the pressures of the provisions of the draft law. Voluntary enlistments are for 4 years. Among the corpsmen, most of the draftees (about 98%) and many of the volunteers (about 80%) leave the services after fulfilling their obligated periods of service.\* This rapid turnover

\*Information presented verbally by armed forces representatives.

accounts for the magnitude of the basic education and training programs in the military for corpsmen needed to keep sufficient trained men on active duty to meet the military's requirements.

During each of the last 4 years, the armed forces have sent about 32,000 men through their basic schools for corpsmen. This represents giving such training annually to about 13%, 12.5%, and 40% of the Navy, Air Force, and Army corpsmen, respectively. The Army has a far higher replacement problem than the other services, because it is the recipient of most of the 2-year men brought onto active duty through the Selective Service System, and because it also trains a number of men in various reserve categories who are on active duty for a few months for training purposes. In every recent year, over 30,000 corpsmen with various degrees of health-related training and experience have returned to civilian life.

The three armed forces train their corpsmen in some 30 military occupational specialty fields (Appendix B). It is important to emphasize that these corpsmen advance in the military along two paths: one in a technical (military occupational) specialty, and the other in their military responsibilities. The assignment of responsibilities of a health-related nature is based on a man's skill and demonstrated ability in his health-care specialty, whereas responsibilities and advancement in the military structure are based, in addition, on his abilities as a leader of men and as a supervisor.

#### SOME COMMENTS ON THE NATION'S MEDICAL SERVICE

The system of delivery of health care to the nation, exclusive of that furnished by the military, is not susceptible to a brief description. No effort will be made here to analyze in detail the methods by which health-care services are obtained by the roughly 190 million citizens who are not eligible to look to the military services. The magnitude of these over-all health-care services is illustrated by the fact that, exclusive of inpatient hospital visits, the average person sees a physician 3.2-4.9 times each year.<sup>14</sup>

Federal, state, county, and city governments are involved to various degrees in the direct delivery of health care to segments of the population. By far, the largest of the services offered is that of the Veterans' Administration to the some 26 million veterans. These publicly organized and financed programs constitute a considerable supplement to the much larger health-care program of the private sector of the nation furnished via individual practicing

professional personnel, group practices, and inpatient and out-patient services available at nongovernmental hospitals and clinics.

The financial support for such health care is also very complex. Financial compensation of the deliverer of health care may be direct from the patient's resources; direct through the patient but from another resource, such as insurance policies; and through third-party payments, such as workmen's compensation, Medicare, and Medicaid. An important consideration in the adequate delivery of health care is the high cost of educating personnel, providing new facilities, and modernizing and maintaining existing facilities.

In our society, a person is free to pursue a career in the health field of his choice at a locale of his choice. This adds another dimension to the problem of delivery of health care to the civilian population: the geographic distribution of health-care facilities and personnel. Therefore, in addition to recruiting adequate numbers of persons into needed health-care specialty fields, a solution must be found to the distribution problem, so that appropriate health-care facilities and persons will be attracted to and retained in rural areas and sections of cities that house the indigent and poor.<sup>14, 18</sup> Information drawn from the military experience will not help to solve this problem. The military can, if necessary, by the mechanism of the Selective Service System, obtain the services of a man and, through the use of its military control, assign him to the locale where his services are required. Also, the military constructs and maintains medical facilities at the sites where long-range plans indicate that such services will be needed.

In considering changes that might be advantageous to the delivery of health care to the civilian population of this country, including the development of additional types of supporting personnel, a number of legal and professional problems must be faced, particularly (1) constraints imposed by federal and state laws, and (2) rules and standards adopted by national health-related organizations of educational, professional, and technical personnel, and by institutions that furnish health care. Collectively, those considerations, in effect, regulate what health services may be performed legally and ethically by an individual or an institution.

Laws have been passed and organizations have been formed primarily to safeguard the interest of the patient. It may seem that with time many practices have become unduly restrictive. However, before changes are made, there must be assurance that adequate safeguards for the patient will remain.

The nation's most extensive medical-care program under centralized control is that of the Veterans' Administration. The Vet-

erans' Administration has had abundant experience in its hospitals with education and training programs, and maintains affiliation arrangements with educational institutions for training in numerous health-related classifications. The Committee, in discussing organizations that are prime candidates to conduct pilot programs for newer types of personnel and to try out changes in the education and training of present types, considers that the Veterans' Administration is extremely well qualified to take an important part.

## DISCUSSION

To enable them to carry out their over-all mission, the armed forces operate about 230 hospitals with approximately 49,000 beds (exclusive of southeast Asia) and 450 dispensaries, and maintain special medical facilities, such as those aboard ships and in the field. The military personnel in the armed forces medical services number about 158,000: 15,400 physicians, 6600 dentists, 12,000 registered nurses, 11,600 allied health specialists and administrative officers, and 112,000 enlisted men (the great majority of whom are corpsmen). A number of civilian physicians, nurses, and other health-related personnel are employed to augment the military personnel.

In the over-all health-care system of the nation, including the military, there are about 7160 hospitals with more than 1,679,000 beds to which about 29,151,000 patients are admitted each year. There are about 305,000 physicians, 99,000 dentists, and 659,000 registered nurses.<sup>17, 29</sup> In 1966, employment in the health-care industry reached about 3,700,000 and an additional 400,000 workers were employed in health occupations outside the health-service industry.<sup>32</sup>

Comparison of the health-care resources of the military with those of the nation as a whole indicates that the military has about 5% of the nation's population as potential customers and about 5% of the nation's health-care resources.

In the military medical departments, physicians, dentists, and registered nurses account for about 21% of the military personnel on active duty. In 1967, in the nation as a whole, physicians, dentists, and registered nurses accounted for 31% of those active in allied health occupations.<sup>29</sup> These percentages indicate that, on an over-all basis, the military medical departments have a greater proportion of allied health personnel than the nation as a whole, in relation to the numbers of physicians, dentists, and registered nurses.

### The Corpsman in the Military Environment

The armed services medical departments have demonstrated that, by the use of relatively short, intensive, and carefully structured educational and training programs, they can graduate a corpsman with sufficient basic knowledge and skills to be placed, under supervision, in situations involving the direct delivery of patient care. With continuing, supervised, on-the-job instruction programs, they can produce in a few more months a corpsman with adequate skills to perform many basic nursing and other procedures. The same man over a span of years, with intermittent attendance at special service schools, develops skills and abilities commensurate with his civilian counterpart performing similar types of tasks.

Thus, the military has been able to develop a cadre of persons that, in the military environment, successfully perform under supervision such tasks as "specially defined physical examinations, the treatment of minor illnesses and injuries, application of casts and traction following fractures, collection of blood for transfusion and/or analysis, intravenous treatment with blood and blood derivatives, the administration and supervision of drug treatments, and immunizing procedures. Most important of all in terms of adapting the medical program of the Armed Forces to civilian medical care is the participation of the medical corpsmen in the care of civilian dependents of the Armed Forces."<sup>21</sup>

### The Corpsman When He Leaves the Military Environment

The corpsman may, but often does not, complete the basic educational or technical-school requirements to be registered by a nationally recognized nursing or technical association. Corpsmen are in five general categories in regard to employment in civilian health-care programs when they return to civilian life:

(1) those with sufficient educational background, technical training, and experience to meet civilian registration and licensing standards (these men can, if they desire, transfer to appropriate civilian positions);

(2) those with experience and training similar to those required in civilian jobs, but with insufficient theoretical education or formal training to qualify for the accreditation necessary for comparable civilian employment;

(3) those with prolonged military medical experience qualifying them to do much of what a nurse or a physician's assistant does, but unable to turn to similar employment in civilian life because comparable positions do not exist or, if they exist, because a degree in nursing or some other specialty is required;

(4) those who lack a basic educational background and have had only lower levels of training and experience, so that they meet the requirements only for civilian jobs that carry minimal responsibilities; and

(5) those who interrupted their education to fulfill military obligations and who return to civilian life to complete their original educational programs, and the many men who have no interest in remaining in the health-care field and, even if qualified, will still seek other employment.

The mission of the military is to train its personnel for its own needs, so that it can satisfactorily carry out its assigned responsibilities. When it is feasible, the military medical departments conduct their educational and training programs in a manner that meets civilian licensing or accreditation requirements; it generally is not possible to do so. In addition, the military encourage their corpsmen to enroll in on-the-station educational programs, programs of nearby educational institutions, or correspondence courses. In this manner, a man, if he is fortunately located, may obtain the academic credits required to be recognized in civilian life in a technical or nursing specialty.

During interviews with enlisted instructors, at the time of the site visits, Committee members were told by most of the men that they were interested in continuing in the health-care field. The principal reasons given for seeking civilian employment in other than health-care fields were ineligibility for recognition in their specialty and the low wage scales and lack of responsibilities associated with the jobs for which they could qualify. There appear to be very few career patterns in civilian life comparable with the one in the military, where a person can obtain recognition for his technical knowledge and skill and, by advancement in rating, obtain a highly respected military stature. This factor may play a part in a man's decision not to remain in the health-care field in civilian life.

### Recruiting the Ex-corpsman into the Health-Related Employment Pool

No one knows how many of the approximately 30,000 corpsmen who return to civilian life each year remain in the health-care field. If only 20,000 of these ex-corpsmen could be so recruited, they would amount to 20% of the 100,000 additional recruits needed each year by the civilian economy, and they would already have some health-related knowledge and experience. There are at least three mechanisms for such recruiting:

(1) the offer of educational and training opportunities leading to accreditation, including financial support, to those who do not already meet civilian requirements (this might be based on a part-time day in a work status and part time as a student);

(2) pilot or continuing programs in which the ex-serviceman candidate can demonstrate, through qualifying examinations or other appropriate means, his skill and ability to perform in an acceptable manner relative to the requirements of the appropriate accreditation body (such programs, if carefully thought out and skillfully administered, ought to be received with enthusiasm by the present national accreditation organizations and by licensing bodies); and

(3) review of the present legal and other fixed standards and modification thereof to accommodate otherwise qualified persons.

Project Transition of the Department of Defense and Project REMED of the Department of Health, Education, and Welfare both seek to assist the ex-serviceman in entering civilian employment; Project REMED is related only to the health-care field. They have prepared a guide to convertibility of military and civilian health occupations to assist ex-corpsmen. Both are valuable, but neither is so organized (and perhaps cannot be organized) as to implement any of the three mechanisms just listed. The responsibility must be assumed by nonmilitary organizations, most of which are non-governmental.

### General

In developing health-care teams for the future, full consideration must be given to prospective requirements for skills in fields and of types not now commonly developed, such as supervisors and repairmen for advanced electronic equipment in laboratories, a

variety of physician assistants, and well-trained emergency-room and ambulance attendants. Very important, also, is the development of true career patterns and pathways, whereby an ambitious and bright young person can progress from one level to another without having to start at the bottom and retrace his educational steps each time he advances in responsibility.

The military has developed a dual career pattern, whereby a man simultaneously increases his technical skills and his military responsibility. In nonmilitary health-care circles, legal statutes and precedents limit flexibility in personnel assignments. It would appear to be practical for the nonmilitary health-care community to modify its policies to increase flexibility.

### CONCLUSIONS

1. A belief that the military makes more effective use of supporting health personnel than does civilian medicine in the delivery of medical care is probably well founded.

2. The following characteristics of the military medical system—an authoritarian, centrally-managed system—are pertinent: (1) it can assign, from enlisted personnel, those to be trained in selected skills; (2) it can develop its own training programs and standards of skills to suit its own needs; (3) it can assign the personnel it trains for service when and where it needs them; and (4) it can provide incentives and rewards in terms of advancement in rate on the basis of the quality of leadership shown by the enlisted man, and not merely on the range of service he has been trained and assigned to give.

3. Civilian medical care cannot be described as "a system," but is rather a series of interlacing systems independently managed and unified only by the fact that its practices are molded by the customs and traditions of the profession of medicine. It is basically a free-enterprise system, and it must recruit supporting health personnel, in competition with other industries. It does not have the power to assign trained recruits to areas or skills in which they may be most needed. The training, certification, and licensing of supporting personnel are determined by a confusing array of professional, craft, and governmental regulations and restrictions that tend to make dead-end streets of many areas of supporting medical service and limit the opportunity for advancement in skills, leadership, and economic rewards. This reduces the attractiveness of these types of service to alert and ambitious young people.

4. The military has benefited for years from the use of civilian consultants to assist in the development and conduct of its health-related programs. The civilian medical community should likewise benefit by the use of consultants from the armed forces, especially in areas related to the education, training, and use of allied health personnel.

5. In each recent year, at least 30,000 corpsmen with various degrees of health-related training and experience have left the military services. Many thousands of these men carry with them a store of health-related knowledge and skill, much of which will be lost to society unless strong and timely efforts are made to recruit and retain them in appropriate civilian employment.

6. There is a great need in both military and nonmilitary circles for new approaches to the delivery of health care. Important aspects of such an approach are the identification of new types of skills required by modern medicine and adequate action to incorporate newly identified types of personnel—for instance, physician assistants, autopsy assistants, pediatric nurse practitioners, nurse clinical specialists, and medical technicians—into education, training, and health-care programs. As their worth is demonstrated, they should become a recognized part of the health-care support spectrum.

7. A detailed review of military health-care personnel practices will be of value only insofar as it is accompanied by a comparative review of civilian medical personnel practices and by a willingness by both groups to accept changes that will improve their delivery of total health care.

## RECOMMENDATIONS

1. The Committee strongly recommends that those in positions of leadership in civilian medicine re-examine the ranges of services rendered by the many categories of health-care personnel, and restructure these services in ways that increase the effectiveness of the delivery of health care by both professional and supporting personnel.

2. The Committee recommends that leaders in civilian medicine counsel with leaders in military medicine to learn from the military experience better ways of training and using supporting personnel in civilian health-care systems—hospitals, clinics, and private practice.

3. The Committee recommends that experiments be conducted in the training of new categories of supporting health personnel and their integration into health-care teams, and in desirable changes in the skills of presently recognized personnel categories to meet changing requirements. The Veterans' Administration is suggested as a logical system in which such experiments might be tried.

4. The Committee recommends that career patterns for supporting health-care personnel be so structured that a person can rise from one classification to another in his present specialty or enter a related field while receiving adequate credit for prior training, experience, and education.

5. The Committee recommends that adequate attention be given to methods of recruiting and retaining ex-corpsmen in the civilian health-care system; to pilot programs for developing adequate methods of evaluating the ex-corpsmen's existing skills, and programs for increasing those skills to meet specific technical and other job requirements; and to seeking the necessary changes in accreditation and licensing regulations and laws that at present often prevent the technically qualified person from meeting employment requirements.

6. The Committee recommends that each state establish a permanent committee, which would report to that official agency of the state best qualified to supervise professional qualifications, such as the agency for administering state health planning functions as provided for by the Comprehensive Health Planning and Public Health Services Amendments of 1966 (Public Law 89-749), or, as appropriate, to the State Board of Medical Examiners or some other group. The committee would have members drawn from professional, legal, educational, and hospital administrative groups, to serve as an advisory body to educational institutions that establish pilot educational and training programs in the health-care field. This body would consider the adequacy of faculty, facilities, and curricula, and would assist in obtaining modifications in statutes, rules, and regulations so as to facilitate the use of new categories of personnel produced by these training programs.

## APPENDIX A

Attendees at the Allied Health Personnel Planning Meeting  
26 March 1968

Vice Admiral Robert B. Brown The Surgeon General Department of the Navy Washington, D.C.	Lt. Col. Reginald C. Loyd Department of the Army Washington, D.C.
Col. Roy E. Clausen, Jr. Department of the Army Washington, D.C.	Dr. Harold Margulies American Medical Association Washington, D.C.
Dr. Edwin B. Coyl National Research Council Washington, D.C.	Dr. Darrel J. Mase University of Florida Gainesville, Florida
Dr. Charles L. Dunham National Research Council Washington, D.C.	Mr. Joseph Murtaugh Board on Medicine National Academy of Sciences Washington, D.C.
Mr. Frederick Erickson Public Health Service Arlington, Virginia	Dr. George H. Reifenshtein National Naval Medical Center Bethesda, Maryland
Mrs. Barbara Friz National Research Council Washington, D.C.	Dr. Charles A. Rosenberg Veterans' Administration Central Office Washington, D.C.
Dr. Joseph A. Gallagher Public Health Service Arlington, Virginia	Dr. David D. Rutstein Harvard Medical School Boston, Massachusetts
Dr. Henry T. Gannon National Research Council Washington, D.C.	Col. Robert B. W. Smith Department of the Air Force Washington, D.C.
Lt. Col. Marion K. Kennedy Army Nurse Corps Washington, D.C.	Dr. Marjorie J. Williams Veterans' Administration Central Office Washington, D.C.

## APPENDIX B

Enlisted Military Occupational Specialty Titles  
of the Armed Forces Medical DepartmentsAir Force<sup>7</sup>

Medical Helper  
 Aeromedical Technician  
 Medical Service Technician  
 Operating Room Technician  
 Radiology Technician  
 Medical Laboratory Technician  
 Histopathology Technician  
 Pharmacy Technician  
 Medical Administrative Supervisor  
 Preventive Medicine Technician  
 Veterinary Technician  
 Laboratory Animal Technician  
 Radioisotope Laboratory Technician  
 Neurology Technician  
 Physiological Training Supervisor  
 Ophthalmology Surgical Technician  
 Otolaryngology Surgical Technician  
 Urology Surgical Technician  
 Orthopaedic Clinic Technician  
 Allergy/Immunology Technician  
 Physical Therapy Technician  
 Occupational Therapy Technician  
 Orthopaedic Appliance Technician  
 Psychiatric Clinic Technician  
 Psychiatric Ward Technician  
 Medical Materiel Supervisor  
 Cardiopulmonary Laboratory Technician  
 Protective Equipment Specialist  
 Dental Specialist  
 Preventive Dental Specialist  
 Dental Technician  
 Dental Laboratory Specialist  
   Complete Dental Prosthetics  
   Crown and Fixed Partial Denture Prosthetics  
   Removable Partial Denture Prosthetics

Army<sup>28</sup>

Medical Equipment Repairman  
 Orthopedic Specialist  
 Brace Specialist  
 Dental Removable Prosthetic Specialist  
 Dental Fixed Prosthetic Specialist  
 Optical Laboratory Specialist  
 Medical Records Specialist  
 Medical Supply and Parts Specialist  
 Medical Corpsman  
 Medical Specialist  
 Clinical Specialist  
 Operating Room Specialist  
 Dental Specialist  
 Neuropsychiatric Specialist  
 Clinical Psychology Specialist  
 Social Work Specialist  
 Physical Therapy Specialist  
 Physical Reconditioning Specialist  
 Occupational Therapy Specialist  
 Electroencephalograph Specialist  
 Electrocardiograph-Basal Metabolism Rate Specialist  
 Radiographic Specialist  
 Pharmacy Specialist  
 Food Inspection Specialist  
 Preventive Medicine Specialist  
 Veterinary Specialist  
 Eye, Ear, Nose, and Throat Specialist  
 Medical Senior Sergeant  
 Medical Laboratory Specialist  
 Diet Cook  
 Hospital Food Service Steward

Navy<sup>8</sup>

Nuclear Submarine Medicine Technician  
 Submarine Medicine Technician  
 Medical Field Service Technician  
 Advanced General Service Technician  
 Aviation Medicine Technician  
 Nuclear Medicine Technician  
 Cardiopulmonary Technician  
 Aviation Physiology Technician  
 Clinical Laboratory Assistant  
 Tissue Culture Technician  
 Clinical Chemistry Technician

Radioisotopes Technicián  
 Clinical Laboratory Technician  
 Preventive Medicine Technician  
 Medical Administrative Technician  
 X-ray Technician  
 Electrocardiograph and Basal Metabolism Technician  
 Electroencephalograph Technician  
 Optical (General) Technician  
 Optical (Laboratory) Technician  
 Photography Technician  
 Pharmacy Technician  
 Orthopedic Appliance Technician  
 Operating Room Technician  
 Eye, Ear, Nose, and Throat Technician  
 Neuropsychiatry Technician  
 Urological Technician  
 Occupational Therapy Technician  
 Orthopedic Cast Room Technician  
 Special Operations Technician  
 Medical Deep Sea Diving Technician  
 Physical Therapy Technician  
 Dermatology Technician  
 Embalming Technician  
 Medical Illustrating Technician  
 Medical Repair Technician  
 Advanced General Dental Technician  
 Field Service Dental Technician  
 Clinical Laboratory Dental Technician  
 Research Assistant  
 Administrative Dental Technician  
 Dental Equipment Repair Technician  
 Prosthetic Technician  
 Advanced Prosthetic Technician  
 Maxillofacial Prosthetic Technician

## APPENDIX C

## Selected Reports on Education for and Delivery of Health Care

Darley and Somers have written a thoughtful four-part report on medical manpower;<sup>3-6</sup> their final conclusion is as follows:

The increased use of medical-care teams, adequately supported by technical and vocational auxiliaries, and the hardware and software developments in automation and information processing and communications, that may dominate much of medicine's future, will not displace the need for individualized professional judgments and continuing attention upon the part of well educated health professionals. On the contrary, by freeing the professional's time and energy, these technics and auxiliaries may facilitate the individualization and personalization of health and medical evaluation and management.

J. F. McCreary, of the University of British Columbia, in a talk on the team approach to medical education, stated that one of the reasons why the physician is not meeting the challenge of primary health care is that he is not provided with sufficient assistance. In the hospital, physicians are assisted, but in private practice, most physicians do what is to be done for their patients without assistants.<sup>16</sup>

The Task Force on Prescription Drugs, appointed by the Secretary of the Department of Health, Education, and Welfare, in its Second Interim Report of 20 August 1968 states that appropriately trained pharmacists may become new vital members of the total health team by serving as drug information specialists.<sup>30</sup>

The American Medical Association (AMA) Commission to Coordinate Relationships of Medicine with Allied Health Professions and Services proposed in 1967 that the AMA set up a "new council not limited to, but concerned with, the following: (1) Identification and definition of groups now engaged in activities related to health care; (2) identification and delineation of other areas in which persons who are not physicians may contribute to the total effort in health care; (3) continual assessment of total manpower needs; (4) cooperation with allied health professions in recruiting efforts when indicated."<sup>22</sup> In 1968, the AMA established a Council on Health Manpower and the American Hospital Association established a Council on Manpower and Education.

D. J. Mase, Dean of the College of Health Related Professions of the University of Florida, in a talk before the American Public Health Association in 1966, stated that one should think in terms of mindpower utilization, rather than manpower utilization. Some of his comments were as follows:<sup>15</sup>

Mindpower implies using the knowledges, skills, and capacity for independent action of our health personnel for those things for which they are uniquely qualified and delegating to others things previously assumed to be their vested interests. Half or more of those in the health occupations have bachelor's, master's, or doctor's degrees. This makes the health occupations lopsided in respect to the duties to be performed, as those with advanced degrees do things which do not require their knowledge, skill, and capacity for independent action. Table 1 offers a possible plan for academic training at four levels.

TABLE 1. A Numerical Representation (0-4+) of Amount of Knowledge, Skill, and Capacity for Independent Action as These Relate to Four Levels of Education for Personnel in the Health Occupations

Level of Education	Knowledge	Skill	Capacity for Independent Action
I - Doctorate	4+	4+	4+
II - Bachelor's and Master's Degrees	4+	4+	2+
III - 2-year College Associate Degree	2+	4+	1+
IV - Vocational or Technical Training	1+	4+	0

H. I. Greenfield, an economist, in a talk on health manpower problems, said:<sup>12</sup>

We need schools to provide the whole continuum of degrees—doctor of medicine (MD), master of science in medicine (MSM), bachelor of science in medicine (BSM), and associate of arts in medicine (AAM), as well as new types of related health degrees. The new educational spectrum should include senior medical colleges, junior medical colleges, schools of allied health professions, and community colleges. On the secondary level, vocational schools fit into the picture by their preparation of licensed practical nurses and other health workers in which the job requirements are similar. Corresponding to these new medical workers should be new types of medical facilities where they will work—and here is where the division of clinical

facilities fits: neighborhood ambulatory clinics and diagnostic centers (for medical, dental, and mental problems), hospital satellites, and comprehensive medical service centers.

The Pediatric Nurse Practitioner Program at the University of Colorado Medical Center<sup>19,25</sup>

prepares nurses to assume an expanded role in providing increased health care to children in areas with inadequate health services and in the offices of private pediatricians. The association of a physician and a pediatric nurse-practitioner in a true team relationship allows each of them to fulfill his role and use his skills in medicine and nursing wisely and in a manner that is appropriate for his level of preparation. The end result is improved patient care, benefit to society by conservation of scarce manpower resources, increased availability of comprehensive, expert, and accessible services, and the development of the role of each health practitioner to its fullest.

In 1965, Duke University Medical Center initiated a 2-year course, the Duke Plan for Physician's Assistants.<sup>27</sup> The proposal called for a new member of the health team as follows:

The physician's assistant is seen as a new category within the structure of the health field, designed to provide a career opportunity for men functioning under the direction of doctors and with greater capabilities and growth potential than informally trained technicians. As the title implies, these individuals would be trained to assist the doctor in his clinical or research endeavors in such a way as to facilitate better utilization of available physicians and nurses. Graduates of this program are viewed as individuals capable of performing, responsibly and reliably, certain of the skills currently practiced by doctors, nurses, and technicians. In patient care areas, the physician's assistant will be able to draw blood, start and regulate IV's, intubate the GI tract, and do other procedures classically performed by the doctor. He will be trained to monitor vital signs, give medications and keep progress records, skills classically performed by nurses. He will also be trained to operate certain diagnostic and therapeutic instruments, such as an EKG machine and respirator, as well as perform routine laboratory studies, skills usually performed by technicians. The physician's assistant would receive most of his training within a clinical discipline of defined scope, in order to develop quality of performance and an understanding of illnesses in the field.

The task then is to provide an educational framework designed to attract career-oriented men and supply them with the skills to function effectively as a physician's assistant. Selection of students and curriculum should reflect this goal. It is important, we believe, to differentiate this program and its goals from previously unsuccessful attempts to develop male nurses. This program

calls for intensive training in areas which complement available talents without attempting to replace available talents. Training and salary potential should be consistent with a career in the health field and should reflect the ability of trained assistants to increase the earning power of their employer by an amount appropriate to their projected salary.

In 1968, Alderson-Broaddus College also initiated a curriculum for physician's assistants,<sup>1</sup> with much the same goals as the Duke program. However, the Alderson-Broaddus program is based on 4 years of training, leading to a bachelor of science degree with a major in medical science.

The Frontier Nursing Service<sup>11</sup> was started in 1925 in Leslie County, Kentucky, primarily to assist mothers-to-be at the time of delivery and to provide health care for the children. Health teaching was thus provided for the whole family. The service has made and continues to make a great contribution to the health of those residing in the mountainous area surrounding Leslie County.

Smith and Mottram have reported favorably on their experience in England with the use of experienced nurses to make the initial house calls on patients and evaluate the need and type of medical assistance required.<sup>26</sup> Sidel has reported on the role and training of the feldsher in the U.S.S.R.<sup>24</sup>

In a reorganization of health-care services, to make optimal use of all health-related personnel, legal problems must be given some consideration.<sup>23</sup> Forgotson, a physician, and Cook, a lawyer, summarize the problems as follows:<sup>10</sup>

Shortages of all skilled health personnel, both physicians and others, new scientific and technological developments, and new methods of organizing health services have made the question of new uses for allied health personnel the critical issue to be resolved if our supply of health manpower is to be used effectively and productively. Analysis of licensure laws regulating health personnel and administrative and judicial enforcement procedures and attitudes indicate that present legal regulation of health manpower restricts optimal allocation of tasks among members of the medical manpower matrix and operates as a barrier to experiments to train and utilize new categories of health professionals. The many and complex factors involved in expanding the functions of allied personnel warrant a revised legal approach perhaps utilizing broad statutory standards, the expertise of an administrative body, and judicial supervision. Primary consideration must be given to the creation of a regulatory scheme to facilitate experimental programs to train and utilize new categories of health professionals and to translate experimental findings into

patterns of regular medical care. To this end, state legislatures must remove the barriers to experimental programs designed to supply the necessary data and knowledge to introduce new categories of health professionals into the personal health service industry.

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**STATEMENT OF HON. JACOB K. JAVITS, A U.S. SENATOR FROM THE  
STATE OF NEW YORK**

Senator JAVITS. I am pleased that we have today commenced hearings on various legislative proposals—including two bills I sponsored, the Veterans in Allied Health Professions and Occupations Act of 1969 (S. 2753), which I authored and introduced with Senator Prouty last July; and the administration's Allied Health Professions Training Amendments of 1970 (S. 3718) which I introduced on behalf of myself and Senators Prouty, Murphy, Dominick, and Saxbe—all the Republican members of the health subcommittee—and Senator Scott to extend and improve programs of assistance for training in the allied health professions.

I am particularly gratified that the administration bill and the chairman's allied health professions legislative proposal, S. 3586, all incorporate features in my own bill, S. 2753, relating to the utilization of the medical corpsmen who leave the military service and to broadening the scope of eligible institutions which can participate in training and retraining programs for allied health profession personnel.

As we aspire to bring the full potential of modern medicine to every American—whatever his economic status—we must overcome the grave deficiencies in health manpower. Although the full range of health manpower shortages plaguing the public are all too well known to us to require repetition—particularly in the more clearly recognized and longer established health professions of medicine, dentistry, and nursing—I would like to share with the subcommittee the documented sad statistics of allied health profession personnel shortages.

The April 1969 report to the President and the Congress, by the Department of Health, Education, and Welfare on the Allied Health Professions Personnel Training Act of 1966, as amended, reveals the magnitude of the allied health manpower deficits in 1967 as follows:

Shortage of medical allied manpower.....	110,000
Shortage of dental allied manpower.....	28,700
Shortage of environmental health allied manpower.....	60,000

To help overcome these critical manpower shortages, I believe we must increase the Nation's supply of manpower in the allied health fields by taking an important first step forward and utilizing in our civilian-health industry the more than 30,000 medical corpsmen who leave the military service each year. What better way to help many of the thousands of returning Vietnam veterans find meaningful employment? Surely, a medical corpsman who is qualified to treat the wounded on the battlefield should be quickly qualified to assist in the treatment of patients in our hospitals' wards and emergency rooms.

My bill S. 2753 was not intended to replace existing legislation which now provides resources to educational and training institutions that presently support allied health training, but to supplement such legislation. It was designed to bring veterans and others with background and interest into the civilian medical service where they are desperately needed and to explore the possibility of finding new sources of manpower capable of performing many of the functions now carried out by highly skilled and scarce professional personnel.

In reviewing the pending legislation I might note that one of our greatest concerns—in helping overcome the critical manpower shortages—is the need for conducting a comprehensive study of existing laws, regulations, customs, and practices governing the licensing, certification, or other means by which individuals are determined to be qualified to practice in the allied health professions. On the basis of the information obtained from the study, and with the advice and assistance of appropriate State and local agencies, professional groups, and other appropriate groups and organizations we should recommend to States and professional groups model codes relating to the classification of the various occupations and specialties within the allied health professions, the standards which must be met by personnel qualified to engage in such occupations or specialties and the licensing, certification, or other procedures to be employed in determining whether individuals meet such standards.

This feature is provided for by my bill and I would request that each of the witnesses be asked to comment on the need for such a provision in allied health professions legislation.

I have long been concerned with the pressing problems of meeting the needs for health manpower in the allied health professions and the critical problems of the education of allied health manpower and the utilization and development of new kinds of workers. Therefore, I ask unanimous consent that an article appearing in the *Journal of the American Medical Association*, November 24, 1969, relating to the role of the AMA in meeting the responsibilities to allied health education be made a part of the hearing record.

Also, I ask unanimous consent that a report published by the National Academy of Sciences on Allied Health Personnel and their use in the military services as a model for use in nonmilitary health care programs be made a part of the hearing record.

The CHAIRMAN. One of the cosponsors of S. 3586, the first cosponsor with me on this bill, is the very able Senator from California who has been in the Senate less than 2 years and has already earned the title distinguished. It isn't applied to him merely because he was elected, but because, among other reasons, his outstanding examination of our veterans' hospitals detailed partly in this week's issue of *Life* magazine, which has won him recognition already as one of the Senators with concern for the people and with the ability to carry that concern into action.

Senator Cranston, I have just made a brief opening statement. Would you care to make any remarks?

Senator CRANSTON. First, I want to thank you for those very generous remarks. I am extremely interested in the particular topic that we have before the committee today. And we have some particularly fine witnesses. Roger Egeberg is a man I respect greatly. I am delighted to have an opportunity to hear his testimony here. I regret I will not be able to stay the whole time. But I want to say that on the Veterans' Affairs subcommittee we hope to be able to bring about the establishment of certain new procedures that will provide new opportunities for the use of paramedical and allied health personnel in ways that will demonstrate to the medical community as a whole how effective that approach can be.

I hope we can do this quite soon through existing doors that are open to us in the veterans' hospitals and create an atmosphere that will speed the ability to do the same thing in the rendering of medical service generally in the United States.

For that reason, I am particularly interested in this hearing on S. 3586, which I am privileged to cosponsor, and the leadership that Ralph Yarborough in his very effective way is providing in this field as he has in so many others.

The CHAIRMAN. Thank you, Senator Cranston.

The first witness on the list today is the Assistant Secretary for Health and Scientific Affairs, Department of Health, Education, and Welfare; and Dr. Roger Egeberg, I believe you have some associates and members of your staff with you. Will you introduce them, please?

**STATEMENT OF DR. ROGER EGERBERG, ASSISTANT SECRETARY FOR HEALTH AND SCIENTIFIC AFFAIRS, ACCOMPANIED BY DR. KENNETH ENDICOTT, DIRECTOR, BUREAU OF HEALTH PROFESSIONS EDUCATION AND MANPOWER TRAINING, NATIONAL INSTITUTES OF HEALTH; DR. JOHN ZAPP, ACTING DEPUTY ASSISTANT SECRETARY FOR HEALTH MANPOWER; THOMAS HATCH, ACTING DIRECTOR, DIVISION OF ALLIED HEALTH, BUREAU OF HEALTH PROFESSIONS EDUCATION AND MANPOWER TRAINING, AND DAVE BAYER, DIVISION OF STUDENT FINANCIAL AID, OFFICE OF EDUCATION, DEPARTMENT OF HEALTH, EDUCATION AND WELFARE**

Dr. EGERBERG. Thank you, sir. I will. On my extreme right is Mr. Dave Bayer, who is from the Office of Education, where he is in the Division of Student Financial Aid. Next to me on my right is Dr. Kenneth Endicott, who is the head of the Health Manpower Bureau, now in the National Institutes of Health. You may remember him formerly as head of the National Cancer Institute. On my immediate left is Mr. Thomas Hatch, who is Acting Director of the Division of Allied Health Manpower in the Bureau of Health Manpower with Dr. Endicott. On my extreme left is Dr. John Zapp, Acting Deputy Assistant Secretary for Health Manpower in our office.

Senator Cranston, I am personally very grateful for the relationships that you helped to bring about between the Veterans' Administration and our Department. As you know, I have long been deeply interested and involved with the VA. I think we are in the process of working out some cooperative efforts toward the development of health manpower, which, I think, the Veterans' Administration is more admirably suited for than virtually any other Government agency at the present time.

Mr. Chairman, I am grateful for the quality of your statement, the feeling in it, and the vehemence with which you delivered it. I agree with everything that you have said.

Now, I would like to read a prepared statement.

The CHAIRMAN. I want to thank you for those kind words, Dr. Egeberg.

Dr. EGEBERG. I hope you realize how I feel about you, sir.

The CHAIRMAN. We are grateful for the effort you are putting forth. We know you work under extreme difficulties because of budget restrictions. We are not unsympathetic to this extreme difficulty, but we are determined to try to get better health for the American people.

Dr. EGEBERG. I think we are trying to accomplish the same thing. If we fight in here, we will understand.

I am told, if I can read this in less than 15 minutes, it would be a good idea.

It is a pleasure to be here this morning to testify on S. 2753, S. 3586, and S. 3718, bills which would significantly broaden and strengthen the Allied Health Professions Personnel Training Act authorities of part G of title VII of the Public Health Service Act. These authorities are due to expire June 30, 1970. These bills evidence a serious concern for the health of the American people and a commitment to prepare the manpower necessary to provide needed health services.

There are now major unmet needs for health manpower. Indeed, as you have said, sir, the lack of allied health manpower is a most serious problem as we aspire to bring the full potential of modern medicine to all members of our society.

Efforts to increase medical, dental, and nursing manpower have received major attention for a number of years. Relatively little attention, however, has been given until recently to the essential contributions of allied health personnel to the provision of modern health services.

Their effectiveness is already clearly demonstrated in many settings where health care is provided. Improvement in the utilization of health manpower can be effected through greater use of capable supportive personnel in the delivery of vitally needed health services. This is now done to only a very limited extent in the American health-care system. More general use of allied health manpower in this country requires effective utilization of our present training capacities and experimentation and development of new and improved ways of training and increasing the effective use of allied health personnel.

The Allied Health Professions Personnel Training Act of 1966 (Public Law 89-751) was approved November 3, 1966. This law was enacted in recognition of the increasing importance of personnel in the allied health professions and technical occupations as essential elements in the provision of health services.

It authorized four types of grants-in-aid to "training centers of allied health professions": grants for the construction of teaching facilities; basic and special improvement grants (formula and special project grants) for the expansion and improvement of allied health curriculums; traineeships for advanced training of allied health personnel to become teachers, administrators, supervisors, or specialists; and grants for the development of new methods for the training of new types of health technologists.

Only modest appropriations (\$3.7 million) were available for these programs in the first year of operation, which was fiscal year 1967, and at the time of the Health Manpower Act of 1968 there had been only very limited experience on which to base recommendations for modifications of the legislation. That act extended the legislative

authorities for the allied health programs for one year (through fiscal year 1970) and also included a provision, proposed by Senator Javits, requiring the Secretary of Health, Education, and Welfare to submit to the President and the Congress a report on the administration of the Allied Health Professions Personnel Training Act of 1966, an appraisal of programs thereunder in the light of their adequacy to meet the needs for allied health personnel, together with his recommendations.

In April 1969, pursuant to that directive, a report was transmitted to the President and the Congress on the Allied Health Professions Personnel Training Act of 1966. Implicit in that report was the challenge to move fast enough in the training and preparation of allied health personnel to catch up and to keep up with the revolutionary changes that are taking place in the health field. That report recommended a one-year extension of the allied health authorizations.

Consonant with that recommendation the administration has submitted a bill, S. 3718, which would extend the allied health professions program through fiscal year 1971 and permit the initiation of vital new efforts in the coming year.

This request for a short extension must not be construed as an indication of lack of interest or commitment to this vital area of health manpower. Quite the contrary, our concern is with providing a strong legislative framework for the conduct of health manpower activities.

As you are aware, the Health Professions Educational Assistance Act and the Nurse Training Act are due to expire June 30, 1971. In addition, the President has recently proposed, in his March 19 Message on Higher Education, a career education program starting in fiscal year 1972 which should contribute to the supply of allied health personnel.

Accordingly, we believe a 1-year extension of this legislation is the appropriate course at the present time. Such an extension will make the present allied health program authorizations coterminous with the other health manpower authorizations, and will permit an assessment of the potential role of the proposed career education program in relation to the allied health program.

Moreover, we are currently making an across-the-board review of health manpower programs to determine their interrelationships and impact on the health needs of the Nation. Our examination will take into account the programs of other Federal agencies which are contributing to meeting health manpower needs. The proposed 1-year extension would give us an opportunity to complete our review of these programs in light of overall health manpower requirements and to develop a coordinated and comprehensive health manpower proposal.

The substantive changes which the administration bill proposes are so crucial to the success of the allied health manpower effort that we could not justify delay, even for 1 year, in obtaining a legislative flexibility which is essential in this rapidly changing field. We strongly urge enactment of the extension proposed in the administration bill, S. 3718.

The enactment and subsequent implementation of the Allied Health Professions Personnel Training Act of 1966 focused national atten-

on a vast pool of health manpower, which provides a multitude of health services. The resources available to accomplish the purposes of this act have been extremely limited, however, the experience and the effort to date represent a modest beginning in dealing with a complex and important field.

Although construction moneys have been appropriated in only 2 years of the program, we have been able to fund six projects for the construction of teaching facilities with new spaces for nearly 1,000 students.

The largest proportion of total moneys available for the allied health programs has been spent on the formula grants for basic improvement of allied health curriculum in baccalaureate and associate degree programs in junior colleges, colleges, and universities. In fiscal year 1969, 577 allied health training programs in 258 institutions received formula grant assistance.

As you know, special improvement grants are authorized to be made to training centers having approved applications for basic improvement grants from sums remaining available after full funding of the formula grants. Because of this statutory interrelationship between the basic improvement and the special improvement grant authorities, the special improvement grant authority has never been funded.

One of the most important programs authorized is that for traineeships for advanced training of allied health personnel to be teachers, administrators, supervisors, or specialists in the allied health professions.

In fiscal year 1969 awards were made to 77 training programs for advanced traineeships for about 400 trainees. With the rapid increase in numbers of training programs, it is imperative that faculty be prepared and that administrators and supervisory personnel be trained to make the optimum use of significantly expanded numbers of trained personnel.

Under the authority for development and evaluation of new types of health personnel, a dramatic beginning has been made in spite of the modest funds available. Under this authority we are supporting 16 projects which are experimenting with such new types of personnel as orthopedic assistant, child health associate, physical therapy assistant, and so forth.

The bills we are considering here today would broaden and significantly strengthen the authorities under which to conduct a national effort in the allied health manpower field. The allied health professions and occupations are undergoing rapid changes. These bills provide a legislative flexibility which is essential in this rapidly changing field.

Patterns of education and training in the allied health field are still changing and developing in methodology and content, as well as the settings in which training takes place. As different patterns of care emerge, and as better ways of preventing illness are devised, as technologies change, and as demands increase, training resources must be assisted to keep pace with the ever-increasing demands that scientific and social change are placing on them.

It is of utmost importance that as our efforts to produce increased numbers of allied health personnel are sustained and enhanced, simultaneous support must be given to a wide variety of activities directed toward priority areas in the allied health field.

Both S. 3586 and the administration bill, S. 3718 would extend the existing authorities of part G, title VII of the Public Health Service Act, for (1) construction of teaching facilities for training centers for allied health professions; (2) basic improvement (formula) grants for training centers for allied health professions; (3) advanced traineeships for allied health personnel, and (4) developmental grants.

Although S. 2753 does not extend any of these authorities, it does, however, contain provisions which are essentially comparable to certain of the authorities for developmental grants and for the new special project grants.

In addition, both S. 3586 and the administration bill separate the special project grant authority from its present dependence on the basic improvement grant authority and replace the special improvement grant authority with broad and flexible authority for special projects.

One of the most significant provisions in these bills is the new, broad special project authority. Separation of project grants from the formula grants, and the significant broadening of the special project authorities, in terms both of the institutions that can participate and the purposes to which their efforts may be directed, will provide the needed flexibility for targeted support to high priority programs.

All of these bills, through one mechanism or another, would provide special project authority which would make possible more effective efforts to plan and establish new training programs, to update existing training programs and to make them increasingly relevant to changing technologies and practices; to establish or adapt training programs to meet the special needs of persons with previous health training or skills, for example, returning veterans with experience in the health fields; and to undertake special efforts to reach the economically or culturally deprived with potential for allied health training.

In addition, both S. 3586 and the administration bill, S. 3718, provide broad authority for experimentation and demonstration which will allow support of such activities as the development of new types of health manpower, new teaching methods, new or improved means of recruiting, retraining, or retention of allied health manpower and the development of appropriate mechanisms for recognition of previously acquired skills.

It is imperative that we be able to tap new sources of allied health manpower and to make optimum use of persons with previous experiences in the health fields, including returning veterans with experience in the health fields who could use their training and experience in the civilian health sector, and former practitioners who have left the field and could return if refresher courses were available.

Equivalency and proficiency mechanisms have far-reaching implications for the health occupations. They can be used to accelerate the formal academic programs for allied health personnel—by advanced placement. They can serve as a sound basis for occupational mobility;

they can make it possible for many allied health workers to undertake additional advanced training with appropriate recognition of the principles and techniques they have mastered. This is particularly true in the case of the returning veteran who has had training and experience in a health field while serving in the Armed Forces.

Mr. Chairman, I should like to call your attention to section 3(c) of the administration bill, S. 3718. As you know, the present allied health law provides separate authorities in separate sections for special improvement grants and for new methods—developmental—grants (see sections 792(c) and 794 of the Public Health Service Act, respectively). Both S. 3586 and the administration bill, S. 3718, would extend and broaden these authorities. However, the administration bill would also consolidate these separate authorities into one section, “Special Projects for Experimentation, Demonstration, and Institutional Improvement,”—new section 792(c)—which would replace the present special improvement grant section.

The proposed consolidation of these two special project authorities will make possible a more effective and flexible means for coordinated and concerted efforts, and will reduce the number of separate Federal assistance programs in the allied health field.

We recommend enactment of the more flexible consolidated authority for “Special Projects for Experimentation, Demonstration, and Institutional Improvement” as proposed in the administration bill, whose number I am sure you remember by now, in lieu of the two special project and developmental sections provided in S. 3586, or the two separate additional programs authorized in S. 2753, for special projects, and for recruitment activities.

Section 206 of S. 3586 and new section 799a proposed in S. 2753 would add new authority, patterned after that of section 868 of the Public Health Service Act for grants and contracts to identify individuals of financial, educational, or cultural need with potential for education or training in the allied health professions, and including returning veterans with experience or training in a health field, and to encourage them to undertake allied health training.

We are in full accord with the objectives of this amendment. However, these purposes could be accomplished under the broadened special project authorities in both S. 3586 and the administration bill, S. 3718, authorizing projects for improved methods of recruitment, retraining, or retention of allied health manpower, and for the development or establishment of special programs to reach special groups, such as economically or culturally deprived and returning veterans. We would recommend enactment of the broad special project authorities in lieu of establishing yet another separate program.

S. 2753 would add a new section 799 to the Public Health Service Act which would authorize grants and contracts to public or nonprofit agencies, organizations, or institutions for special projects to plan, develop, or establish new programs or modifications of existing programs of training or retraining allied health professions personnel, including programs adapted to take advantage of the interests and skills of veterans with previous experience in the health fields and including recruitment, selection, and enrollment of such veterans in such programs.

We are in full accord with the objectives of this provision. The proposed special project authorities of both the administration bill and S. 3586 specifically provide the legislative framework for assistance, through either grants or contracts, to the types of institutions proposed in S. 2753, for the accomplishment of these objectives. We recommend enactment of the broad, flexible special project authority as proposed in S. 3718, the administration bill, in lieu of establishing an additional separate program.

The shortage of competent faculty in training programs at all levels constitutes one of the greatest obstacles to the improvement and expansion of training programs for the allied health professions. As training programs enlarge and new programs are added, the demand for teachers mounts.

Under present law, traineeship grants can be made only to training centers for the allied health professions as defined in section 795 of the Public Health Service Act. Both S. 3586 and the administration bill, S. 3718, would broaden the eligibility to include other institutions, agencies, or organizations which provide such advanced training. We recommend extending institutional eligibility as proposed in these bills in order to utilize the training competencies of other institutions as well as those of allied health training centers.

#### STUDENT AID

Both S. 3586 and S. 2753 would add authorities for new allied health student aid programs to the Public Health Service Act: (1) A scholarship program, (2) a capital contribution loan program, and (3) a revolving fund loan program. In addition, S. 3586 would authorize a work-study program.

The CHAIRMAN. Would you yield for one moment?

Senator CRANSTON has one question. He has another committee meeting that is crucial. I already agreed to yield to him for the first question. He asked if he might ask it during your statement.

Dr. EGEBERG. I would be very happy to yield, sir.

Senator CRANSTON. Something else just came up that compels me to leave at this point.

First, I want to express my admiration for the way you have been doing so many things and in particular, your emphasis on giving opportunities to returning veterans in the health field. I think it is just great that you are doing that.

I want to express some very deep concerns I have about one aspect of the implementation of the opportunities that exist for allied health professionals and paraprofessionals, and I would like to ask that Dr. Hamburg and others who will testify later to comment on this in my absence, if they would, after their prepared testimony.

Some personal observations and some personal experience that I have had have given me a deep feeling of concern about what we do about one particular thing: The use of allied health professionals and paraprofessionals who have not gone through the total training that doctors and nurses go through to prepare for their responsibilities causes some people to be involved in hospitals and other institutions who have not been given any particular training in bedside manner.

They may not be totally aware, just because they have not had adequate training, of the deep emotional, psychological and other problems that people lying in bed in institutions are undergoing.

They lack what we used to have from doctors who had time to use what used to be called the bedside manner. The fact that doctors now are so hurried and so pressed and so specialized that we have perhaps a greater need than ever for other health personnel who are at the bedside or have daily contact with patients to be prepared to render that sort of compassionate assistance to patients who need emotional understanding as they undergo the severe problems inherent in being institutionalized.

I am concerned about an absence of that understanding among people who are now health professionals and paraprofessionals and who are doing various types of work around hospitals. The pending measure suggests—as does the measure that I am working on in relation to veteran hospitals—opportunities for them. Preference will be given in employment to individuals from low income families who would work in the public or nonprofit agencies, institutions, and other health facilities. Those people in turn may have their own particular grievances, and quite justly so, against society because they have had unequal treatment, unequal opportunity. Many of them may just automatically be behaving as human beings do and may be taking out their own feelings of abuse against hospital patients with whom they come in contact.

This can be particularly distressing when it happens within an institution where the patients have other personal grievances due to what is happening to them physically or mentally.

What I wanted to ask you and other witnesses is what do you think can be done to deal with this problem which I think is an immense one? What might we put into this measure and other measures in this field, that would insure that there is an awareness of this problem and that whatever training is possible to prepare allied health professionals and paraprofessionals to deal intelligently and wisely, to the best of their abilities, with this problem is undertaken in the training period?

Dr. EGEBERG. I am deeply grateful that you are bringing this up to the surface at a hearing like this, Senator Cranston. I think in the days when the teams were smaller that the good physicians and nurses have their impact on the others. I have worked in many public hospitals. I have been amazed how often the patients expressed the warmest gratitude to the ward maid who washes and cleans around the bed and listens to them, who will perhaps arrange a few things, who is very sympathetic with them and who they feel, since she isn't exactly tending them, is giving them something free of her time when she does it.

I mention that because this is a quality without which medicine loses, or the health professions lose, what is called their art and they become purely scientific.

I would think that if that could be emphasized in anything having to do with the training of anybody in the health professions it would be useful. The good practitioners of medicine do it by example for their students on the ward. The nurses do the same. But as we get harassed and pressed for time this does get thinner.

And I would think that as we get more people to do the job, and there isn't the extreme pressure to do so much, that our human feelings could come back to the surface again. I can't think of any one thing that would bring this out except that I like to emphasize it. I am glad to hear you emphasizing it. I know Senator Yarborough has referred to it. I think it is part of our human relationship which, if we applied it as we walk around, we wouldn't have quite the schisms that we have today in society at large.

I can only say I am grateful you brought it out. The only expression I think is that if you can in a government vehicle use the word "love" I would use it, because that is the quality that the healers have to have.

Senator CRANSTON. It seems to me that we should include something covering this area in the curriculum and specify that in the measure. I will seek to develop language and solicit advice as to how to do it from you and other experts in this field.

On the matter of love. I received a petition about "love" from some veterans in one of the Veterans' hospitals out in California, who are not the sort of people one might expect to use that word after all they have been through. But they were suffering from an absence of adequate interest in their own emotional problems that they felt was needed from those around them in the hospital. They said in a petition to me, "What we need around this place is some love."

Thank you very much for your advice. I wish you would think more specifically as to how we can amend the bill to cover this point.

Dr. EGEBERG. I will do that, sir. And thank you for the opportunity.

Senator CRANSTON. Thank you very much.

The CHAIRMAN. Before you leave, Senator Cranston, in line with what Dr. Egeberg was saying, yesterday in hearing evidence on another bill, a social anthropologist was talking about this loss of community spirit that we had in the age where people lived in town and helped each other with the dehumanizing factors of modern living and technological society in the cities.

They said that one reason these young people move off and live in a commune is that they are grasping for something that has been lost in our society, the kind of thing you mentioned, Dr. Egeberg, how we bring back certain human values that have been lost with this rapid transformation in the kind of society we have now.

He mentioned other things. They said basically the same thing that you said a moment ago, that if we would bring back human factors—they weren't talking about those communes, of course—desire to have some kind of family group affiliation that it would lessen the schisms and the discord in our society that we have now.

Senator CRANSTON. I want to thank you both for letting me interrupt. That point that you make is directly relevant to this.

The CHAIRMAN. You may proceed, Dr. Egeberg.

Dr. EGEBERG. The proposed scholarship provisions of both bills would authorize grants to public or nonprofit private agencies, institutions, and organizations with an established program for training or retraining personnel in the allied health professions or occupations for scholarships not to exceed \$2,000, plus \$600 for each dependent, up to three, to be awarded by the institution to individuals of exceptional financial need.

S. 3586 would authorize grants to institutions having established programs for the training or retraining of allied health professions personnel to assist them in the operation of work-study programs for individuals undergoing training or retraining in the allied health professions. The provisions of this amendment are almost identical to those of the Higher Education Work-Study Authorities administered by the Office of Education, under which institutions of higher education, area vocational schools, and certain proprietary schools are eligible to participate in this program. Students of the allied health professions currently enrolled in such institutions are eligible to participate in such programs.

Both S. 3586 and S. 2753 would also authorize loans for students of the allied health professions. Moneys would be made available to the training institution under one or both of two mechanisms: (1) matching grants to training institutions for the capitalization of their student loan funds, and (2) loans to schools for the capitalization of their student loan funds.

From the loan funds so established, loans would be made to allied health students, repayable with interest at the rate of 3 percent per annum. The maximum loan per year would be \$1,500 with an aggregate ceiling to any individual of \$6,000.

Allied health students are currently eligible to receive loans under the national defense student loan program at 3 percent interest per annum, up to \$1,000 per year (or \$5,000 aggregate) for prebaccalaureate studies and \$2,500 per year for post-baccalaureate education (or an aggregate of \$10,000, including both pre-baccalaureate and post-baccalaureate training). They are also eligible for loans under the guaranteed loan program which is administered by the Office of Education.

In his March 19, 1970, Message on Higher Education, the President made recommendations to assist all needy students in obtaining post-secondary education. Among other things, he proposed the creation of the National Student Loan Association, "To enable all students to obtain Government-guaranteed loans, increasing the pool of resources available for this purpose by over \$1 billion in its first year of operation, with increasing aid in future years."

The administration's "Higher Education Opportunity Act of 1970" (S. 3636) was designed to carry out this and other recommended improvements in student aid authorities, as well as the career education program mentioned previously. Thus, when enacted, S. 3636 should further increase educational opportunities in the field of allied health.

Legislation authorizing special programs of assistance—scholarships, work study, or student loans—to students of the allied health professions would further proliferate student assistance programs and would pose additional administrative burdens on the schools. Accounting systems will have to be set up with separate reporting and different requirements from those for programs of student aid already conducted by the school. Such systems are costly and cumbersome to initiate and maintain.

We oppose further fragmentation and proliferation of student assistance mechanisms and therefore strongly recommend against enactment of these proposed student aid authorities.

## VETERANS EDUCATIONAL ALLOWANCES

Section 4 of S. 2753 would add a new section 1679 to title 38 of the United States Code which would require the Administrator of the Veterans' Administration to pay educational assistance allowances to eligible veterans pursuing a course of study in one of the allied health professions (as determined by the Secretary of Health, Education, and Welfare for purposes of part G of title VII of the Public Health Service Act).

Present law provides that veterans are eligible for educational allowances for a period of time varying with their length of service on active duty, but, with certain exceptions in the case of the educationally disadvantaged, for no period in excess of 36 months.

The bill would afford a special incentive for veterans undertaking allied health training. It would provide that educational allowances for veterans pursuing a course of study in one of the allied health professions are to be paid without charge to any period of entitlement the veteran may have earned.

Although we are in accord with the objective of encouraging veterans (particularly those with experience in the health field) to undertake training in the allied health professions or occupations, we have difficulty in justifying an incentive—namely, the payment of educational allowances without relationship to the veteran's length of service—solely to allied health personnel in the face of critical shortages in other health professions and occupations, and indeed in other occupations in which trained personnel are in critically short supply.

However, we defer to the views of the Veterans' Administration and other departments as to the desirability or necessity for this provision.

## ADVISORY COUNCIL

S. 2753 would add a new section 799c to the Public Health Service Act which would establish a National Advisory Council on Training in the Allied Health Professions. The Council would consist of the Surgeon General and 16 members appointed by the Secretary, at least three of whom shall be selected from members of the public who are outstanding leaders in public affairs. Other members would be selected from leading authorities in various fields of health and education.

In January 1967, the Secretary of Health, Education, and Welfare established the National Advisory Allied Health Professions Council. This Council consists of the Director, National Institutes of Health, as chairman, and 16 members, as least four of whom are selected from the general public, four from fields of higher education, and eight from health fields. It advises and consults with the Director, National Institutes of Health, on matters relating to the Allied Health Professions Personnel Training programs authorized in part G of title VII of the Public Health Service Act.

The Advisory Council proposed in S. 2753 would advise the Secretary and the Surgeon General in the preparation of regulations promulgated not only with respect to the allied health training au-

thorities of part G of title VII of the Public Health Service Act, but also with respect to any other provision of the Public Health Service Act relating to training in the allied health professions, and with respect to policy matters arising in the administration of such authorities.

We strongly urge that action on any proposal to establish a statutory allied health council with such augmented authority be deferred. As indicated earlier in this testimony, we are continuing our review of allied health programs as part of our overall assessment of health manpower programs in the Department. We recommend against the establishment of a statutory Advisory Council—particularly one whose authority goes beyond part G of title VII of the Public Health Service Act—until after completion of that assessment which could have significant bearing on the delineation of functions and appropriate membership of an Allied Health Advisory Council for the future.

S. 2753 would also require the Advisory Council to assist the Secretary and the Surgeon General in conducting a study of existing laws, regulations, customs, and practices governing the classifications of the various allied health professions, and the licensing, certification, or other means by which individuals are determined to be qualified to practice such professions.

On the basis of information obtained from the study and the advice and assistance of appropriate State and local agencies, professional groups, and other appropriate groups and organizations, it would be the duty of the Council to prepare and recommend to States and professional groups a model code related to the classification of the various occupations within the allied health professions, qualifications for engaging in such occupations, and licensing or other procedures for determining whether individuals meet such standards. The bill directs that the model code be devised with a view to maximizing the proper and efficient utilization of the allied health professions in meeting the health needs of the Nation.

We fully share the concern evidenced by this proposal which touches upon a crucial area having significance for the whole spectrum of health manpower. The Department recognizes the increasing importance of examining licensure, certification, and other qualifications for practice in the context of current and emerging patterns of delivery of health services.

This is a large and complex field. It involves not only a wide diversity of professions and occupations now in existence, but also new types of health personnel which are emerging as new technologies develop and patterns of health service change.

Ancillary health workers are increasingly called upon to perform functions that have been exclusively within the province of such primary personnel as physicians and dentists. Any study of the qualifications and practice in the allied health professions must also take into consideration medical, dental, and other professional practice acts. It must also consider the service settings within which health personnel function. These vary from highly supervised institutional settings to the equivalent of independent practice with little or no supervision.

The challenge in this field is to balance the protection of the patient against unskilled personnel, on the one hand, and assurance of an

adequate quantity of health manpower to provide the service the public needs and expects, on the other.

The Department is presently identifying the major problems associated with licensure, certification, and other qualifications for practice in the health manpower field and developing alternatives from which to choose the most appropriate and effective mechanisms for the solution of these problems.

In view of the complexity of this field, and the fact that any study of licensure, certification, and qualifications for practice in the allied health professions and occupations must encompass laws relating to other health professions, we recommend that responsibility for this endeavor not be vested in the National Allied Health Advisory Council. We further recommend that any decision as to the appropriate Federal role in this complex area be deferred pending completion of the Department's analysis.

#### EXTENSION

Mr. Chairman, S. 3586 would extend the present allied health authorities for 5 years (fiscal year 1971 through fiscal year 1975). S. 2753 does not extend the existing authorities, but the new authorities it does provide would be for 4 years (fiscal year 1970 through fiscal year 1973). The administration bill would extend the allied health authorities for 1 year—through June 30, 1971. Our reasons for requesting this 1-year extension have already been expressed.

#### APPROPRIATION AUTHORIZATIONS

The administration bill in each instance authorizes appropriations of "such sums as necessary" for the effectuation of its purposes. We strongly urge this authority as the most desirable in health manpower legislation to prevent unrealistic expectations, on the one hand, and to permit us to secure funds enabling us to move as rapidly as the economy will allow toward the achievement of essential national manpower goals and objectives, on the other.

#### HEALTH PROFESSIONS EDUCATIONAL ASSISTANCE AMENDMENT

The bills we have been considering today are primarily directed toward training allied health professions personnel. However, one provision of S. 3586 relates to the Health Professions Educational Assistance Act.

Title I of that bill would amend section 771 of the Public Health Service Act, the authority for institutional (formula) grants to schools of medicine, dentistry, osteopathy, pharmacy, optometry, veterinary, medicine, and podiatry, to authorize special assistance to new schools of these health professions.

The amendment would (1) establish the eligibility of new schools in each of the seven disciplines for the \$25,000 base grants; (2) exempt such schools from those portions of the formula that distributes the remainder of appropriations on the basis of relative enrollments and relative numbers of graduates; (3) authorize the Secretary to prescribe criteria: (a) for enrollment increases to be met by such new schools, and (b) for determining the amounts of each such grant in

excess of the \$25,000 base grant; and (4) exempt new schools from the statutory expansion of enrollment requirements in the existing legislation.

The amendment would become effective July 1, 1970, with respect to appropriations under section 770 of the act, which authorizations are due to expire June 30, 1971.

Under amendments to the Health Professions Educational Assistance Act which went into effect July 1, 1969, new schools of the seven health professions are eligible to apply under the special project authority of section 772 for assistance in planning, developing, or establishing their new programs of education.

Construction aid for new health professions schools has been authorized under Part B of the Title VII of the Public Health Service Act for a number of years.

Section 131 of the Health Manpower Act of 1968, Public Law 90-490, requires the Secretary to prepare and submit to the President and the Congress, prior to July 1, 1970, a report on the administration of the Health Professions Educational Assistance Act, an appraisal of the programs it authorizes in the light of their adequacies to meet the long-term needs for health professionals together with his recommendations as a result of this appraisal.

The Health Professions Educational Assistance Authority is due to expire June 30, 1971. In appraising these programs and the current legislative authorities and developing our recommendations, you may be sure that serious consideration is being given to appropriate means of providing assistance in the planning and establishment of vitally needed new schools.

In view of the recency of the new authority for project grant assistance to new schools and of the imminence of our appraisal of the health professions programs and our legislative recommendations for modifications of the Health Professions Educational Assistance authorities, we would recommend against enactment of this amendment at this time.

In summary, we are in accord with many of the objectives of S. 2753 and S. 3586. For the reasons stated above, and because we believe that S. 3718 provides a stronger, and more flexible approach to the attainment of these objectives, we urge prompt and favorable consideration of the administration bill, S. 3718, in lieu of S. 2753 and S. 3586.

I thank you for your patience in listening to such a host of numbers in trying to explain where we are going.

The CHAIRMAN. Thank you, Dr. Egeberg. I am more in agreement with the length of the statement than I am with the conclusions of it.

Dr. EGERBERG. I have one question that Senator Eagleton wanted to ask and couldn't be here: "The 1968 amendment in the Health Manpower Act provided that the Secretary of HEW shall submit to the President and to the Congress no later than July 1, 1970, a report on the administration of the Health Professions Educational Assistance Act and an appraisal of the programs conducted under the act in terms of the adequacy to meet the long-term needs for health professional. The recommendation of the Secretary and his Advisory Council is also called for by the statute.

"Can you tell us the status of that report and when do you expect it to be completed and presented to the Congress?"

Dr. EGEBERG. I expect it to be completed on time. I am afraid I couldn't tell you the status.

Dr. ENDICOTT. It is being reviewed in what I would call a semifinal draft in the Secretary's office. I am hopeful that we will meet the June 30 deadline.

The CHAIRMAN. We are hopeful. It might help us on the legislation to get that.

Dr. Egeberg, these bills are pending. We are approaching the fifth month of this year. The Congress might get out by Labor Day. Because of the recent debates on Cambodia, however, it may be the rest of the year.

Since there is a possibility we might adjourn by Labor Day, I hope we can have greater cooperation in preparing the administrative reports on the bills that have been introduced where reports have been requested. It might be helpful. I offer the assistance of my staff here and the committee if it would be of any assistance to your staff to meet together and to discuss things while we are working on the report if you wanted that assistance.

Dr. EGEBERG. I thank you very much, Senator. We have been reorganizing and strengthening and we needed additional personnel. Our own group is working on legislation in our office in support of Assistant Secretary Black, and I think we will be glad to have any help and you will be hearing from us.

The CHAIRMAN. I have one great difference with you on this bill and that is the 1-year extension, Dr. Egeberg. We know that the schools like to plan ahead, and of course these authorizations don't mean the money. They know we have got to go through the Appropriations Committee year by year. However, as long as we have a basic law authorizing appropriations, the schools feel that they can be doing something and therefore plan ahead.

When you cut authorizations off at 1 year and there is no money promised for the future, it has a detrimental effect. Schools tell us it has a disastrous effect in their recruitment of personnel to train or to teach these people. You have this problem doubtless in your own Department when you are dealing with technical personnel who are in short supply and are in a position to demand large earnings out in the private sector of the economy. Many will sacrifice to serve with you or serve in their capacities for less pay because of the motivation. But when they see a dead end street after 1 year, that motivation just isn't there.

If they don't see a prospect of continuity, why should they give up what they are doing to go into what looks like a dead end street?

So, it seems to me that it is self-defeating to limit the authorization to 1 year. It seems to me to be detrimental to this overall objective of getting some health personnel to help in one of the greatest shortages in our society today.

Due to shortage of money two dental schools have closed their doors within the past year and a half; these have long furnished den-

tists for our health system in America. Three medical institutions are faced with closing their doors after great difficulty staying open in a time when we need scores of new medical schools to meet this great shortage of doctors in the country.

We are hopeful that training some of these allied health professionals—using that three words in lieu of all the dozens it would take to describe this 200 different categories—it seems to me the greatest hope for the immediate future is to train these people to take off of trained medical doctors and dentists some of the burdens of other acts they perform that do not require that much expertise.

If we don't turn out these people, then we are dooming ourselves to an even shorter supply of medical services that could be rendered for the people.

Dr. EGEBERG. We may well be suffering from a compulsive neurosis in trying to make several acts come out at the same time in a certain year. I think the arguments you have expressed are extremely important. They are valid and on this score I would certainly feel that your wish is more important than my compulsive neurosis.

The CHAIRMAN. You are very generous. I just hope the Congress will agree with me. My term here is short, too, indeed, Dr. Egeberg. I am hopeful to have your help to raise this from the 1 year.

I have listened with great interest to your message and to your statements on the student aides. You have mentioned the NDEA loans. I talked to students in my State. They expressed almost despair at the difficulty of getting loans. There are so many who want loans, desire loans; and they feel that there is a further impingement if the services aren't there to furnish the allied health professionals.

The average loan is \$500 for undergraduates. It can be up to \$1,000 a year. I think the average is about \$500.

In this field of allied where they are competing with students in all others types of work, I feel that we will not get enough loans made to students of this type. The aim of this student loan provision is to furnish more allied health professionals. Out of the 8 million students in America, I don't know how many would be eligible for NDEA loans if they applied. The number of loans made is a very, very small fraction of that total number of students. These students have to compete with too many others, it seems to me, to get the number of allied health professionals unless we set up this student loan fund.

Dr. EGEBERG. I have discussed this with Mr. David Bayer, who represents the Office of Education. I would like to pass the microphone over to him.

The CHAIRMAN. How many students do we have on NDEA loans at this time?

Mr. BAYER. I am not sure I can give you the specific number of students currently in the National Defense Student Loan program. It is somewhere in the vicinity of 450,000 this year, I believe. I think the colleges and universities themselves have indicated a strong feeling of opposition to the preponderance of many student loan programs because of the additional paperwork involved and I think as Dr. Egeberg indicated in his testimony that this is one of the major reasons

why the administration opposes a proliferation of programs, because the colleges and universities themselves find these difficult to work with.

The CHAIRMAN. As to this plan for the Higher Educational Opportunities Act, and being on the Education Subcommittee I have familiarity with that, that means the Federal Government is just pulling in its horns on what it does toward aiding students who go to college. There is going to be less aid for college students under that act. We have studied that over on the Education Subcommittee. This is a retreat from the present level of college aid. This is a retrenchment.

Of course, we do have different programs because of different needs. We have a work study program. How many students are going to school in the United States under the work study program at this time?

Mr. BAYER. I would have to supply that information.  
(The information subsequently supplied follows:)

#### STUDENTS UNDER COLLEGE WORK-STUDY PROGRAM

In the current fiscal year, 375,000 students are receiving assistance under the college work-study program.

The CHAIRMAN. Some of these students work part of the work study program and part in the NDEA loans also, don't they?

Mr. BAYER. Yes.

The CHAIRMAN. Then we have the opportunity grants. Could you tell us how many students are going to school under the opportunity grants?

Mr. BAYER. Offhand, sir, I would have to provide that.  
(The information subsequently supplied follows:)

#### STUDENTS UNDER EDUCATIONAL OPPORTUNITY GRANTS PROGRAM

In the current fiscal year, 280,600 students are receiving assistance under the Educational Opportunity Grants Program.

The CHAIRMAN. Many of those students have part opportunity grants and part work study, do they not?

Mr. BAYER. There is a packaging that is followed by most of the colleges and universities in providing a student with part loan, part grant, part work study. The estimated number of loans in fiscal 1970 under NDEA is 455,800. Under the work study program it is 375,000 this year and educational opportunity grants, about 280,600.

Again, there is a certain degree of overlap.

The CHAIRMAN. Do you know how many thousands are in the overlap there?

Mr. BAYER. Overall, under all programs sponsored by the Office of Education, there are about 1,700,000 different students, nonduplicated number of students receiving help this year.

The CHAIRMAN. How many of these are on guaranteed loans?

Mr. BAYER. The estimate for this year, in fiscal 1970, will be about 923,500 students, but some of those students also overlap other programs.

The CHAIRMAN. How many veterans are in college under the GI bill?

Mr. BAYER. All but about 18 percent, I believe, are in college.

The CHAIRMAN. Relatively 900,000; all but 18 percent of those are in college; so, close to 800,000, would you say?

Mr. BAYER. Yes; I have heard the figure of 18 percent used for the proprietary schools. Therefore, the balance I would assume would be colleges and universities.

The CHAIRMAN. If you talked to the students, of course, these figures are tremendously impressive and encouraging. I came to these committees 12 years ago and we didn't have any NDEA loans. They came with the National Defense Education Act of 1958. It later became the work study opportunity grants guaranteed loans, and then in 1966 the GI bill. All of these together adds up to something close to 3 million college students.

But what would you estimate the overlap to be over that 2½ million?

Mr. BAYER. I have no basis for estimating the overlap on those programs.

The CHAIRMAN. When we passed the NDEA act in 1958 it was our hope that by beginning that program we could double the number of college students in 10 years. There were then 2¾ million in college. Now we have what, about 8 million in college in America, senior and junior?

Mr. BAYER. Full and part time, yes.

The CHAIRMAN. Around 8 million. So, the Federal Government is roughly assisting almost as many students now through grants or work study or loans or guaranteed loans or the GI bill, almost as many as we had in college in 1958. I think this is one of the most notable accomplishments of the American Government for the past 12 years in any field—in all fields—of government. I think it is one of the greatest things our Government is doing.

We are not doing that much in medicine. This bill on allied health professions is a good bill. It ought to be twice as much. I am hopeful we can get help from the administration for this very modest bill.

Do any of you gentlemen have any supplemental statements you desire to add to Dr. Egeberg's statement?

Dr. Egeberg, your statement, as you said, is comprehensive covering the three different bills.

It is 11:32. We have a number of other witnesses. In the interest of time, if I have other questions to submit, I will submit them in writing.

Dr. EGEBERG. Thank you, sir.

The CHAIRMAN. Senator Javits would like to submit some questions in writing, too. One of these bills is his bill and one is the administration bill.

Dr. EGEBERG. Thank you very much.

The CHAIRMAN. Thank you for your contribution.

Our next witness is Dr. Joseph Hamburg, dean of the College of Allied Health Professions, University of Kentucky, Lexington, Ky., and president of the Association of Schools of Allied Health Professions.

If you have staff or assistants or officers of your national association with you, would you identify them, please.

**STATEMENT OF DR. JOSEPH HAMBURG, DEAN, COLLEGE OF ALLIED HEALTH PROFESSIONS, UNIVERSITY OF KENTUCKY, LEXINGTON, KY., AND PRESIDENT, ASSOCIATION OF SCHOOLS OF ALLIED HEALTH PROFESSIONS; ACCOMPANIED BY ROBERT GERTZ, EXECUTIVE DIRECTOR, ASSOCIATION OF SCHOOLS OF ALLIED HEALTH PROFESSIONS, AND TONY ESSAYE, COUNSEL**

Dr. HAMBURG. I will be happy to, Senator.

With me today to join in this testimony are on my immediate right, Mr. Robert Gertz, who is our executive director of the Association of Schools of Allied Health Professions and on my left, Mr. Anthony Essaye, Association Counselor.

Mr. Chairman, I am pleased to have been invited to testify before this subcommittee with respect to Senate bill 3586 and the subject of allied health education.

What I would like to concentrate on in my brief remarks are the main elements that emerge from the responses to this questionnaire and their relationship to S. 3586.

The main point identified in this information is the need for educational facilities and faculty to prepare allied health personnel. It is the view of our members that although qualified students are available in sufficient numbers, they simply do not have the facilities in which to prepare them.

In making the above point, I do not wish to imply that programs directed toward identifying sources of students and assisting students while they receive education and training in allied health are not also of value. We would support the provisions of S. 3586 directed to that end, such as the work study, scholarship, and loan programs for students. We also support and agree with the provision in S. 3586 which would delineate special project grants as a separately funded program and which would broaden the purposes for which these funds could be used.

As you know, the funding level under the Allied Health Professions Personnel Training Act for construction of teaching facilities and for basic improvement grants, under which faculty salaries can be provided, has been minimal.

The provision in S. 3586 to continue and to expand these programs is heartily supported by the association. We must emphasize, however, that full funding as proposed in this bill is essential if our country is to come anywhere near meeting its potential need for well-trained, allied health personnel.

Our member institutions have reported to us that expansion of enrollment in all of their curriculums is dependent on an availability of Federal funds to provide facilities to enable this. Our members have attempted to seek funds from sources other than Federal agencies, with very limited success.

Inadequate funding of these programs under the Allied Health Professions Personnel Training Act has postponed full-fledged recruitment in many areas. Moreover, a number of our members have actually had to cut back on existing programs over the last few years,

in light of the cost increases that are inherent today in our educational institutions and their inability to secure Federal funds to offset these costs.

Some statistics in this regard may be helpful. The 23 universities and colleges, providing the funding information, summarized in the addendum to my statement, reported that since 1966 when the Allied Health Professions Personnel Training Act was enacted they has sought Federal grants totaling \$21 million. Of the amounts actually sought, as of this date only \$8.9 million (42 percent of the funding applied for) has been funded.

Moreover, these institutions—which represent only a relatively small number of the total allied health related programs existing throughout the country—report that their basic funding needs for allied health training for fiscal year 1971 total approximately \$29 million.

Of this amount, \$19 million would be for construction of new facilities, \$4.5 million for educational improvement, \$2 million for traineeships, and \$3.5 million for developmental grants. These institutions believe that approximately 30 percent of these needs can be satisfied from State and local funding sources, however, the remaining 70 percent—\$20.5 million—would have to come from the Federal Government.

I think it seems clear that the level of funding which these institutions have received thus far—and I am sure it is representative of the experience of all allied health training institutions over the past few years—is totally inadequate.

At the same time, the need for health personnel continues to grow enormously. In 1900, there was approximately one supportive health person for every physician. It is estimated that today that ratio is 13 to 1. Similarly, if this Nation is to come anywhere near fulfilling its commitment to provide comprehensive health care for all citizens, it is expected that this ratio will rise to 20–25 to 1 by 1975.

Today, our association is very concerned that the allied health movement will lose its momentum and consequently its potential for providing comprehensive health care if adequate funding is not soon made available in support of these educational endeavors. The hopes and aspirations of allied health educational institutions were raised by the enactment of the allied health legislation in 1966. Obviously, there has been great disappointment since that time in the minimal funding that this legislation has actually received. S. 3586 offers us renewed hope that adequate funding will be available.

The only area of concern with respect to S. 3586 voiced by our membership was with the broadening of the definition of eligible institutions to read “public or nonprofit agencies, institutions and organizations” rather than “public or nonprofit training centers for allied health professions.”

It was their hope that this broadened eligibility should not be allowed to dilute the quality of allied health education. In this regard, they urged that provision be made in the bill that to be eligible for funding, an agency, institution or organization must meet generally recognized educational standards.

Before concluding my remarks, I would like to respond to the request of Senator Cranston who asked us to comment on the need of health professionals to have a bit more understanding and empathy for and toward the sick. I think we can categorically state we are in complete agreement. Many of us both in health practice and education deplore this lack of empathy on the part of our health care personnel.

I believe that there are things, however, that we can do to make certain or to correct the attitudinal effects and to make these students a little more socially sensitive to their patient's needs.

I think that, first of all, we can be more careful in our selection of applicants to help insure that the potential student for the health care profession has the qualities we seek. Second, I believe that we can teach both by lecture in the classroom and directly by example in the areas of patient care these very attitudes which we seek from our students.

I have a definition, I suppose my own, of professionalism as it relates to the health professions. Professionalism demands not only a skilled performance on the part of the health professional, but also that one's own personal needs, ambitions and problems are held subordinate to the health care needs of the patient.

In summary, Senator, our association is strongly supportive of S. 3586 and we wish to commend you, Senator Yarborough, for your continued attention to the vital need in America for a steady growth in allied health personnel.

The CHAIRMAN. Thank you, Dr. Hamburg, for coming to the session and presenting the facts in a few pages. I order printed at this point in the record your addendum that you filed supplementing and showing your questionnaire to the member schools and the institutional members and council chairmen and so forth concerning these needs.

(The information referred to follows:)

# ASSOCIATION OF SCHOOLS OF ALLIED HEALTH PROFESSIONS

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## ADDENDUM

Addendum to Statement of Joseph Hamburg, M.D., President of the Association of Schools of Allied Health Professions, before the Subcommittee on Health of the Senate Committee on Labor and Public Welfare, May 19, 1970.

In order to provide the Subcommittee with some first-hand information, the Association prepared a questionnaire concerning the experience of its Institutional and Provisional Institutional membership schools and a small group of other individuals:

Total Questionnaires	<u>31</u>
Institutional Member Schools	25
Provisional Institutional Member Schools	2
Council Chairmen	4

Of the 31 questionnaires which were distributed, 25 were returned and the results which are reported here are based on these responses. However, the fiscal exhibits are based on 23 responses because the others could not be clarified in time for this presentation. Although this sample cannot be considered to represent the entire allied health field, it does represent a group of institutions whose primary focus of attention is the education of allied health personnel in four-year colleges and universities.

## EXPERIENCE WITH PRESENT GRANTS

The first question on the questionnaire was directed to the experience of the respondents with grants since the enactment of the Allied Health Professions Training Act of 1966. The following data represents 23 replies which were received. The total applications are accounted for in the following three categories: (a) some applications were still pending when the questionnaire was completed; (b) some applications were approved by the U.S. Department of Health, Education, and Welfare (DHEW), but because of shortage of federal funds some of these could only be partially

funded; and (c) some applications were disapproved by DHEW.

Type of Grant	Applied for (Inc. Pending)	Pending	Approved		Not Approved
			Funded	Not Funded	
Total	\$21,220,000	\$2,575,000	\$8,791,000	\$6,715,000	\$3,139,000
Construction	4,838,000	- 0 -	1,791,000	3,047,000	- 0 -
Educational Improvement	6,985,000	491,000	4,562,000	1,410,000	522,000
Basic Improvement	6,985,000	491,000	4,562,000	1,410,000	522,000
Special Improvement	- 0 -	- 0 -	- 0 -	- 0 -	- 0 -
Traineeships	4,884,000	1,219,000	2,207,000	473,000	985,000
Developmental	4,513,000	865,000	231,000	1,785,000	1,632,000

The reasons for disapproval included the failure of the proposal to meet specified criteria with regard to the level of the program, or the failure of the program to denote a "new" health profession. Three of the respondents did not know why their requests were not approved.

#### CONSTRUCTION

Construction grants were sought by only two of the 23 institutions, and only one of the two applications (\$1.8 million) was funded. Moreover, that grant was one of only six construction grants which have been approved in the entire country under this Act. Although the needs for construction have been great, few schools have submitted applications because of the widespread knowledge of the extreme shortage of funds. Construction remains a primary problem for these schools -- this is fortified by the responses to a later query regarding needs, where these same 23 respondents indicated a need for \$19.0 million for construction. Of all the needs reported by the respondents, 66 percent was for construction and renovation of physical plant. The present

facilities are inadequate, and this deficit has caused a "status quo" philosophy to surround the programs. One institution is operating in a building which is 110 years old, and which is not amendable to the installation of needed laboratories. Their present equipment includes four printing presses which are no longer used in therapy programs, which should be removed and replaced with equipment more suitable to present needs. However, there is no money available for any of these changes.

#### EDUCATIONAL IMPROVEMENTS

Basic Improvements. The Basic Improvement Grants are for the purpose of strengthening and improving the professional and technical components of allied health educational programs. In all, the 23 respondents indicated that they had applied for \$7.0 million in Basic Improvement Grants. Of this amount, \$6.0 million (86 percent) was deemed to be worthy of approval by the U. S. Department of Health, Education, and Welfare. However, because of inadequate federal appropriations, these approvals were only partially funded, and the funding represents only 65 percent of the total applications. Requests for only \$0.5 million (7 percent of the total applications) were denied because the proposals were unacceptable to the U.S. Department of Health, Education, and Welfare. Almost three times that amount (\$1.4 million) was denied to the schools because of inadequate appropriations although the proposals were approved and partially funded under the Act.

Special Improvements. Under present legislation, the Special Improvement Grants were to be funded from excess funds unused for Basic Improvement Grants. However, since there were insufficient funds for the Basic Improvement Grants, no funds were available for Special Improvement Grants.

#### TRAINEESHIPS

The 23 respondents reported that their institutions had applied for \$4.9 million for traineeships. Of this amount, \$2.7 was deemed worthy of approval by the U. S.

Department of Health, Education, and Welfare, but only \$2.2 was funded because of inadequate appropriation of funds. The funded approvals (\$2.2 million) represent less than half of the amounts applied for (\$4.9 million).

#### DEVELOPMENTAL GRANTS

Applications for Developmental Grants by these 23 institutions totaled \$4.5 million, of which \$2.0 million (45 percent) was approved. However, of the approved grants, only about \$200 thousand was funded while \$1.8 million was not, and application for another \$1.6 million was not approved. The amounts approved under this provision of the Act represent only 5 percent of the applications.

#### LIMITATIONS IMPOSED BY INADEQUATE FUNDING

The respondents to the questionnaire indicated a number of problems caused or accentuated by the inadequacies of present facilities and the inability to expand. These are examined under facilities, programs, faculty and students.

#### FACILITIES

The problems regarding construction have been alluded to. Because of the inflexibility of building walls, and allocation of funds to very few institutions, significant expansion of existing facilities is virtually impossible. A considerable number of programs in senior colleges and universities are located in older buildings on older campuses, and are unsuited to efficient renovation for classrooms and laboratories. Eight of the 25 respondents reported that their facilities were inadequate. One school at a state university is conducting classes in vacated motel rooms. Another school at a private university is in a building 110 years old, as was

previously mentioned. The needs for facilities represent about 66 percent of the total needs expressed in the 23 responses.

#### PROGRAMS

Programs, likewise, are affected by financial restrictions. Respondents were requested to indicate what programs, if any, were curtailed due to the lack of federal funds. Nineteen institutions reported that no programs were curtailed. Six institutions, however, reported reductions or discontinuance of the programs listed below:

	<u>Number of Programs Affected</u>
Cytotechnology	3
Medical Dietetics	2
Occupational Therapy	2
Physical Therapy	2
Medical Technology	1
Optometric Technology	1
Orthotic and Prosthetic Technology	1
Physicians Assistant	1
Respiratory Therapy	1

Significant reductions were reported by two of the six institutions: one reported that six programs were affected, the other that four programs were affected. These two institutions are located in the Midwest (Ohio and Indiana).

#### FACULTY

Another significant factor with regard to education is the faculty which is needed to conduct the educational programs. Ten (10) of the 25 respondents reported that they were having difficulty in recruitment and retention of faculty, and three of them have had to reduce faculty because of lack of funds. Such reductions in faculty are, in turn, reflected in fewer students which can be accepted. One

respondent put it very graphically -- funds are so restricted that the only place to save money is to reduce faculty. A \$10,000 reduction in funds represents one faculty member; and such a loss, especially in areas requiring laboratory work, means that 20 students would be turned away.

#### STUDENTS

Eight (8) of the 25 respondents reported that lack of funds meant a reduction in the number of students for them. Two private institutions, on the other hand, reported that the high cost of tuition and necessary expenses at their institutions discouraged students. A survey by one private institution indicated that less than one-half of the students who are accepted for admission to allied health training actually enroll for study in the program. The survey concluded that the chief barrier was financial in nature.

#### NEEDS

In order to get an indication of needs as viewed by the respondents, they were asked to rate (a) new facilities, (b) increased or better paid faculty, and (c) more and better qualified students, in order of priority for their institutions. Following are their reported needs in descending order of importance:

	<u>Number of Responses by Priority of Need</u>		
	<u>First</u>	<u>Second</u>	<u>Third</u>
Total Reporting	<u>25</u>	<u>25</u>	<u>25</u>
New Facilities	16	3	5
Increased/better paid faculty	6	15	1
More and better qualified students	3	5	9
None stated	--	2	10

Twenty-three (23) of the 25 respondents indicated their basic funding needs (in dollars), for allied health training during the next fiscal year:

Total	<u>\$28,973,000</u>
Construction	19,036,000
Educational Improvement	4,361,000
Basic Improvement	3,696,000
Special Improvement	665,000
Traineeships	2,115,000
Developmental	3,461,000

The results in these two tables demonstrate very clearly that the greatest need is for construction: 66 percent of the total needs were specified to be in that category. Furthermore, the 23 respondents indicated that about 71 percent of the total (\$20.5 million) would be needed from federal funds. However, once again, it must be emphasized that these do not represent the total nationwide needs, but merely the needs of 23 senior colleges and universities.

#### LEGISLATIVE PROPOSALS

After considering past experience and present needs, the questionnaire asked the respondents to comment on the relative merits of the various legislative proposals as they saw them. The respondents were asked what effect they felt the administration proposal concerning funds for the fiscal year beginning July 1, 1970, would have on their college/university, and also what effect they felt this would have nationally. Twenty (20) of the 25 respondents indicated that funds were inadequate and they doubted that their college/university would receive adequate funding. They stated

that this would inhibit new development, and might possibly lead to reduction of educational programs due to faculty resignations, and to reduced student enrollment.

Comments were solicited concerning the Yarborough bill, S. 3586. Eighteen (18) of the 25 respondents supported the proposed funding; three (3) felt that the proposed funding was inadequate; and the remaining 4 institutions did not respond. A large majority of the respondents (20 of 25) expressed support for the idea of separate funds for Basic Improvement Grants and for Special Project Grants.

In response to the proposed change from "training centers for allied health professions," to "public and non-profit private agencies, institutions, and organizations," 17 of the 25 reporting institutions expressed concern that (a) standards might be lowered, (b) funds might be further diluted, and (c) the change would not be in the interest of the allied health professions. Four (4) of these seventeen (17) institutions also expressed a desire for further clarification of what is intended by "public and non-profit private agencies, institutions, and organizations."

The final inquiry was concerned with administration, management, and control of scholarship grants, work/study programs and student loans as proposed in the Yarborough bill. Sixteen (16) of the 25 respondents reported favorably on the scholarship grants; five (5) made no response to this item. The remaining four (4) respondents expressed a desire for further definition of "exceptional financial needs" and expressed concern over the writing of the regulations implementing the legislation. While 15 of the 25 respondents favored the work/study programs, six (6) of the respondents were concerned with the definitions, the regulations and implementation; and four (4) institutions failed to respond to this item. Seventeen (17) of the 25 respondents were in favor of the provisions for student loans.

The CHAIRMAN. I share with you this concern over the virtual abandonment of this program to have only 1 year extension of it. We hope that the crisis in medical treatment in this country might be alleviated by training more allied health professionals.

Your paper points out that the ratio has increased from 1900 from one health professional for each physician to 13 to 1 today. The estimate is that by 1975 this ratio should grow to 20 to 25 allied health professionals for one physician. We must grow if we are to get more medical people with the small number of medical doctors and the small number we foresee by 1975.

Let me ask you about the experience of your association. What is your experience with reference to 1-year extension? Do you think you could encourage the people to come to teach in these schools if the authorization were for only a 1-year extension?

Dr. HAMBURG. I think we would put the majority of our programs in allied health at great risk if there wasn't some assurance on the part of the universities and their boards of directors and trustees that there would be a continuation of support.

Many of our universities and colleges are taking very careful looks at some of the things they have termed "soft money." At one time such things as basic improvement grants were considered hard money, guarantees; formula grants were coming in each year. When the basic improvement grant for those provisions under the Allied Health Training Act were reduced in a time of need from 80 percent last year to approximately 65 percent this year, we express grave concern for the future support of these programs.

The CHAIRMAN. You say that your information is that you do have adequate numbers of qualified students if the programs were available?

Dr. HAMBURG. Yes, sir. Most of the reporting schools and colleges in this questionnaire felt that the availability of qualified students was of secondary importance. The primary concerns were to find adequate facilities in which to train them and qualified people to prepare them.

The CHAIRMAN. You have pointed out that in view of the cost increases in educational institutions today, the inability to secure Federal funds, that the number of the member schools have had to actually cut back on their recruitment programs at a time when the articles in the medical journals by health experts and medical experts and scientific experts and the newspapers all show this is the great hope for increasing the medical care for the American people.

I think the cutbacks are just shortsighted and inexcusable. I hope we can extend this act beyond this brief 1 year period.

Senator JAVITS?

Senator JAVITS. Thank you, Mr. Chairman. Mr. Chairman, I regret other duties have prevented me from being here until now. I ask unanimous consent that the complete text of my prepared statement be put in at the opening of the hearings.

The CHAIRMAN. Without objection.

Senator JAVITS. I congratulate the Chair for having commenced hearings on allied health profession legislation. I am pleased these hearings include two bills I have sponsored, one with Senator Prouty, S. 2753 and one with Senators Prouty, Murphy, Dominick, and

Saxbe, all the minority members of the Health Subcommittee, S. 3718.

I would also like to express appreciation to the Chair that the Chair's bill, S. 3586 incorporates the basic features of my own bill S. 2753. And I ask unanimous consent that certain articles from the Journal of the American Medical Association and of the National Academy of Science on allied health personnel be made part of my remarks.

The CHAIRMAN. It is so ordered.

Senator JAVITS. I have one question of the witness.

It has been a historic situation in this committee, Mr. Chairman, that the degree of consideration given to the legislative ideas of the minority has never been discriminated against or prejudiced. Senator Hill carried that out. Senator Yarborough has most effectively and magnificently adhered to that tradition.

The CHAIRMAN. We want to congratulate you Senator Javits, for the great ideas that you have advanced and that you have written into practically every bill coming out of this committee in the field of education and health. You have had a very substantial input as part of your expertise and dedication to service to people. I don't think we would have had this great growth of beneficial education and health legislation for the past 12½ years without your knowledge and understanding and your drive to put these laws through.

Senator JAVITS. I consider this extremely important, in respect to expanding allied health personnel and would like to ask you, sir, would you feel that the problem of licensure as well as State and local laws, regulations, customs and practices as they surround health personnel will require a very thorough review?

I realize practically, they are all on the State level but nonetheless, if we are going to get into this field, we have to deal with roadblocks wherever they may be, and wherever they interfere materially with the realization of the full potential in the development of these fields.

Dr. HAMBURG. I would agree with the Senator, that there will be a need for very careful scrutiny and review of the existing health practices acts in the several States at the appropriate time. I don't believe this is crucial at the moment. We are certainly on a collision course, however, in the next 2 or 3 years if we are not able to enlarge and expand some of the existing duties of our present professionals or to introduce new health professions into this team.

Senator JAVITS. I agree with you about the timing. It is much more crucial and immediate, that we expand these professions: Hence, the various ideas that we have proposed including the use of medical corpsmen from the armed services, et cetera.

However, would you not agree, that it would be very useful if this report could come as early as possible to pinpoint the troubles. Because in our country, happily for us, notwithstanding our present problems, when you pinpoint troubles a good deal is thus already done about them.

For if we had a landmark report which identified the problems, we would make major progress and breakthroughs by merely identifying problem areas in licensing, certification, et cetera?

Dr. HAMBURG. Yes, sir.

Senator JAVITS. I hope very much we will consider this very carefully. I have no feeling who does it, whether it is by a council, committee or Dr. Egeberg himself. But I would appreciate very much your feeling on that score. Because we in our study have felt very keenly that no matter how hard you struggle, and how many people you train, the question is will they be able, will they be permitted to perform the things for which they are trained or are they going to have to be hospital clods because there is no room for them in the professional capacity for which they are trained?

Dr. HAMBURG. I think situations like that are deplorable.

Senator JAVITS. Thank you, Mr. Chairman.

The CHAIRMAN. Thank you, Senator Javits.

Thank you very much, Dr. Hamburg, your general counsel and executive director of the association. I commend you on forming this association. I think it is needed in this growing importance of allied health professions and in the growing need of them in the country. You have made a substantial contribution here this morning in the hearing.

Senator JAVITS. I would like to join the Chairman. If we can encourage you, it is a lot better for us if there is some consolidation among the people with a common interest.

Dr. HAMBURG. Those are the kindest words we have heard today.

The CHAIRMAN. I think the growth of your organization will give drive to this point Senator Javits has raised about proper recognition of the health professionals.

The next witness is Dr. Stuart Hamilton, President, Hartford Hospital, Hartford, Conn., and also Chairman of the Council of Teaching Hospitals, Association of American Medical Colleges.

**STATEMENT OF DR. STUART HAMILTON, PRESIDENT, HARTFORD HOSPITAL, HARTFORD, CONN., AND CHAIRMAN, COUNCIL OF TEACHING HOSPITALS, ASSOCIATION OF AMERICAN MEDICAL COLLEGES, ACCOMPANIED BY JOHN M. DANIELSON, DIRECTOR, COUNCIL OF TEACHING HOSPITALS**

Dr. HAMILTON. I am Dr. Stuart Hamilton, Secretary-Treasurer of the Association of American Medical Colleges, Chairman of its Council of Teaching Hospitals and President and Executive Director of Hartford Hospital, Hartford, Conn.

With me is Mr. John M. Danielson, the Director of the Council of Teaching Hospitals. The association represents all the Nation's 105 medical schools, 368 of our leading teaching hospitals, and 34 academic societies from both the basic science and clinical disciplines. Because of this broad representation, I believe we can speak effectively for the academic medical center which includes the medical school, the faculty and the teaching hospital.

It is a pleasure to appear before you today and present our comments on S. 3586 "the Health Training Improvement Act of 1970" introduced by yourself, Mr. Chairman. While we address ourselves primarily to title II of your bill as it relates to the training of personnel in the allied health professions, the Association of American Medical Colleges expresses its gratitude for your forethought in the

recognition within title I of S. 3586 of the tremendous need for financial assistance for our new and developing schools of medicine. This title provides for their eligibility to receive institutional grants under section 771 of the Public Health Service Act.

We are concerned, however, that the legislation provides no additional authorization of funds for this purpose, but rather indicates this amendment would be effective only with respect to existing sums available under this section from appropriations under section 770 of this act for the fiscal year ending after June 30, 1970.

Authorization for additional funds will be necessary if the fiscal needs of our on-going medical schools, which are endeavoring to meet the requirements for additional physician output under the limits of current appropriations, are to be met.

This is certainly one of the great struggles of the on-going medical schools today. Since these additional fund requirements have not been considered in the formulation of existing budgets there will be need to increase these appropriations for this purpose.

Consideration will also have to be given to increasing the current appropriation authorization to meet the full needs in this area. Inasmuch as the provisions of the Public Health Service Act relating to health manpower production are due to expire soon, it would appear that your committee will be considering the extension and expansion of this legislation and at that time authorization in a sufficient amount might be provided to include these new schools.

The Association of American Medical Colleges is strongly supportive, Mr. Chairman, of the provisions contained within title II of the proposed legislation. Because of the service activities of our member hospitals, as well as the educational programs that are conducted in the institutions that comprise the Council of Teaching Hospitals, we are acutely aware of the vast personnel shortages which exist in the allied health professions. We acknowledge with very grave concern one of the conclusions of the Report of the National Advisory Commission on Health Manpower published in November 1967, which states that:

We stress our conviction that ancillary health manpower will be indispensable in meeting the projected demands for health care, and we support the measures undertaken to increase their numbers.

We are particularly gratified to note, Mr. Chairman, that the proposal contained in section 202 of S. 3586 amends section 792 of the Public Health Service Act, which currently limits grants to improve the quality of training centers for allied health professions to only junior colleges, colleges, or universities. We applaud this section of your proposal which would provide a separate authorization for special project grants and expand coverage to allow the awarding of such grants to nonprofit organizations, including but not limited to, junior colleges, colleges and universities, which provide training in the allied health professions.

As we understand this section of the legislation, a nonprofit organization, such as a teaching hospital, which claims that it can provide sound training in a scarce discipline in the allied health professions field and the Department of Health, Education, and Welfare is satisfied that it can, would be eligible for Federal assistance.

We believe this to be particularly important, because of the 368 institutions that comprise the Council of Teaching Hospitals, 217 of these institutions conduct education programs in radiologic technology and 205 conduct programs in medical technology either in combination with a junior college, college or university or on a free-standing basis.

There are many other allied health profession training programs which are provided in the teaching hospital. Among these include such fields as occupational therapy, physical therapy, inhalation therapy and cytotechnology. The latter largely supported by Federal grants in the past.

We believe this to be an extremely important provision, Mr. Chairman, primarily because, as you know, our large major teaching hospitals are in an era of innovative experimentation in the expanding field of education for the allied health professionals. We are pleased to observe the activities which our Nation's academic institutions, including junior colleges, colleges and universities, are undertaking in assuming increasing responsibility for classroom, nonclinical education opportunities in these critical areas of health manpower shortage.

We do believe, however, that until such time as these institutions are able to assume greater proportions of this responsibility, it will be necessary for teaching hospitals to sustain and strengthen their efforts in this area.

In any case, I would say that the teaching laboratory where these people learn and in our institution in Hartford, for instance, there are outside physicians, undergraduate and graduate, some 500 paramedical personnel in various educational programs.

It is for reasons such as this, Mr. Chairman, we support section 202 of S. 3586 and would urge for committee consideration the inclusion of specific language that would identify "teaching hospitals" as eligible for special project grants.

As I mentioned previously those of us who are engaged in education of allied health professionals, irrespective of the educational base, are most conscious of the need to provide greater flexibility in these programs. We recognize the need to encourage participation of those individuals who are economically or culturally deprived.

Additionally, we hope to appropriately utilize the training and experience in health and related fields of the returning veterans of the Armed Forces. Therefore, we strongly support section 202 of S. 3586 which authorizes special project grants to public or non-profit agencies, institutions, and organizations that undertake activities in these areas.

We heartily endorse section 203 of S. 3586 which provides expanded educational opportunities by allowing nonprofit and public "agencies, institutions, and organizations" to be awarded traineeships for advanced training of allied health professions personnel. These are the teachers who we so desperately need. We believe this language will permit teaching hospitals to participate directly in this program.

We are pleased to note, Mr. Chairman, that this legislation, through section 204, provides for experimentation in that it relates

to development of new methods. It would not only extend section 794 of the Public Health Service Act for 5 years with increased authorizations, but it would also permit expansion of the fields for which these grants could be made.

We believe experimentation is essential.

The proposal under consideration would permit grants not only to public or nonprofit agencies, institutions and organizations for projects to develop, demonstrate, or evaluate curriculum and methods for training of health technologists, as now stated; but would provide for grants to study and develop mechanisms for determining equivalency and proficiency of acquired skills to develop, providing for upward mobility which is so critical and so essential in our field—it provides for experimentation with and demonstration of new teaching methods and curriculums relating to the allied health professions and to develop new methods of recruitment retaining or retention of allied health personnel.

We do not ignore, Mr. Chairman, the other constructive proposals that are contained in the proposed Health Training Improvement Act of 1970, but we believe that the areas of the proposal that we have commented on are of most immediate interest to the Association of American Medical Colleges and its Council of Teaching Hospitals.

Thank you. I will be glad to answer any question you may have. I would like, if I may, to comment on Senator Cranston's and Senator Javits' questions.

Someone who is a director of a hospital I sympathize completely with Senator Cranston's remarks in which he speaks of concern for the patient on the part of the person who is taking care of that patient.

I feel that among the answers here are extremely careful selection of these people and we believe that by careful selection we can pick those who most likely have a sympathetic interest in patients.

Next is the importance of training, not only in the classroom, but training where the patient is, and not only by word, but by deed, have these students receive their bedside training in institutions where this spirit exists in order that they may be inculcated by it.

I think the third thing which is important is rechecking the student frequently during the training and after the training encouraging him or her when he or she does well, correcting him otherwise.

And the fourth is soliciting comments from the patients themselves, and following up on the comments in my experience has been that at least as much can be done by passing along favorable comments of patients as can be done by correcting where the comments are unfavorable.

With regard to Senator Javits' questions concerning licensure, I agree completely. It seems to me that we are in danger if we are not careful of each one of our allied health professions taking its own cookie cutter and cutting its own cookie out of the sheet of dough. I am concerned if we do that there may be a good bit of dough left over that won't be needed in cookies.

Thank you very much. I will be glad to answer any questions.

The CHAIRMAN. I have followed your statement carefully. I note what you say about the expansion of not merely the 5-year extension,

but the greater flexibility provided for and the different types of institutions that would be added to accredited institutions for purposes of this training, and also grants to study and develop mechanisms. We can broaden this considerably.

Of course, there is great need for allied health professionals. Do you think a 1-year extension would have detrimental effects on your recruitment programs both for teachers and for trainees?

Dr. HAMILTON. There is no question but what it would be. One must have continuity if one is to develop a significant and ongoing program.

The CHAIRMAN. It does seem to me that one health program that expires next year is no excuse for killing this one off at that time because, after all, it is so difficult to get money now for these things. I think it would be better to have a little overlap, not frighten somebody with the immensity of all of them at one time.

Dr. HAMILTON. It would seem to me speaking as an individual, Senator, that an institution would be reluctant to try to start a program unless there were assurance that it would go on beyond 1 year because 1 year hardly gives you time to get it cranked up.

The CHAIRMAN. We are attempting to stimulate other institutions to adopt these programs. I don't think we can do it with a 1-year extension. I think that looks more like a phaseout than an extension.

Thank you very much for your contribution here.

Our next witness is Mrs. Mary Nell Spraberry, chairman, Government Liaison Committee, American Society of Medical Technologists, University of Alabama, Birmingham, Ala.

**STATEMENT OF MRS. MARY NELL SPRABERRY, CHAIRMAN, GOVERNMENT LIAISON COMMITTEE, AMERICAN SOCIETY OF MEDICAL TECHNOLOGISTS, UNIVERSITY OF ALABAMA, BIRMINGHAM, ALA.**

Mrs. SPRABERRY. I am Mary Nell Spraberry and I serve as associate chief technologist of the University of Alabama hospitals and also as assistant professor in medical technology, at the University of Alabama in Birmingham.

I am testifying today on behalf of the American Society of Medical Technologists which was organized in 1932 to promote higher standards in clinical laboratory methods and research.

Membership is based on a baccalaureate or higher degree in biology, chemistry, or science related to medical technology. The 16,000 members of the society strive individually and collectively to assure patients and their physicians as well as other persons concerned with health and health research the highest quality laboratory service that modern science affords. We are grateful for the opportunity to present our support and recommendations for the Health Training Improvement Act of 1970, S. 3586.

Demands for the health services provided by the allied health professions have resulted in critical shortages in these fields. The effectiveness and efficiency in providing these services depend on the quality of education as well as on increased numbers.

The Public Health Service estimates a current deficit of 50,000 workers in the allied health professions that have as a minimum educational requirement the baccalaureate degree. By 1975 this deficit is expected to increase to 78,000.

In the field of medical technology the shortage of qualified personnel is even more acute. The Bureau of Labor Statistics of the Department of Labor has projected the need for an increase of 88 percent over the existing work force of medical technologists by 1975.

I am citing these shortages figures as evidence of the need for the enactment of S. 3586. Equally important is full funding of the legislation. We are very disappointed in the levels of funding that are requested for the allied health manpower program in the 1971 budget for the Public Health Service.

Our suggestions on the proposed Health Training Improvement Act of 1970 are pertinent not only to the quality of medical care given to the American people, but also to the future of the individual who seeks an education in one of the allied health professions.

First, we support high quality education for those entering the allied health professions. Any lowering of standards will have a deleterious effect on the quality of medical care.

In addition we believe in the concept of upward mobility for persons in the health professions. Educational programs should provide for advancement from entry level occupations to professional levels that require additional knowledge and the ability on the part of the incumbent to make value judgments.

Training outside high quality educational programs leads to frustration on the part of the individual as he attempts to move up the career ladder and results in poor utilization of health manpower resources which is costly to society as well as the individual.

Existing Federal and State legislation limits the employability and upward progression of individuals trained in substandard programs.

I emphasize the importance of the quality of training because there is an apparent weakening of existing law in the allied health professions training program in the case of the project grant language of S. 3586. Under existing law only training centers as defined in the act, are eligible to receive project grants.

A training center is defined as an accredited junior college, college or university that provides training for not less than 20 students.

S. 3586, however, extends the eligibility for project grants to public or nonprofit private agencies, institutions, and organizations. Thus Federal funds could be awarded in project grants to support training in unaccredited programs.

The elimination of the requirement for a minimum of 20 students would permit the use of Federal funds in accredited training programs for three or four students. We do not believe that such a training program can effectively provide the faculty resources for such a small number of students.

As we understand S. 3586 the Secretary of Health, Education, and Welfare could award projects grants to unaccredited educational programs. Perhaps he would not even though he had the authority. We wonder, however, if it would not be better for the Congress to

limit the authority of the Department to the support of educational programs of excellence. We strongly urge that as a minimum project grant support be restricted to educational programs with at least 20 students. This is the requirement under existing law.

We would also suggest a provision for continuing education in addition to programs for training and retraining of allied health personnel.

The contributions of research and automation in clinical laboratories, including the present interest in multiphasic screening programs or laboratory profiles, are changing the patterns of laboratory work to such a degree that it is necessary for the medical technologist to participate in continuing education programs to keep abreast of these rapid advancements.

I would also like to emphasize the importance of the provisions of S. 3586 for student loans and scholarships. Such financial assistance is now available to students in medicine, dentistry, nursing, pharmacy, podiatry, optometry, veterinary medicine, and osteopathy. It is no less important to students of the allied health professions.

In testifying before the Committee on Ways and Means of the U.S. House of Representatives, on November 6, 1969, by Daniel W. Peetengill, vice president of Aetna Life and Casualty stated "while financing health care is a serious problem, the fundamental problem facing the Nation today is the inaccessibility of quality health care for much of the population and the unacceptability of some of the care that is available."

Dr. Roger O. Egeberg, Assistant Secretary of Health and Scientific Affairs, emphasized this view when he said it would be a mistake to introduce any unitary national system for health care payments before the Nation had reformed its system of health care. The extra burden of demand would swamp an already overtaxed system of medical care.

The reformation of the present system must include a greater use of allied health professions. The estimate that has been stated many times is that it would take 10 years to produce the number of physicians needed to meet today's medical needs, not the needs 10 years from now.

Therefore any new system must include greater utilization of all the allied health professionals.

In the case of medical technology, one of the allied health professions that could assist in alleviating the present critical shortage situation in the field of health services, there are a sufficient number of programs for those entering this field.

The Journal of Medical Education of the American Medical Association of November 24, 1969, reports a total of 787 accredited programs for the training of medical technologists.

These programs have the capacity for 8,221 students, yet only 5,055 were enrolled in 1968-69. These programs are filled to about 60 percent of their full capacity.

Thus it is apparent that financial assistance for students must share equal priority with new construction and institutional support in formula and project grants in the interest of high quality educational programs.

At the present time the financial aid in the form of scholarships in the allied health professions give assistance to about 1 percent of the students who qualify by virtue of financial need as well as ability. Students need assistance not only to enter these programs, but to remain in them.

Mr. Chairman, I want to thank you again for this opportunity to present the views of the American Society of Medical Technologists.

The CHAIRMAN. Thank you very much for this contribution here, Mrs. Spraberry. On page 5, you say there are a total of 787 accredited programs. Do you mean 787 different disciplines or do you mean there are that many programs accredited in that many different universities?

Mrs. SPRABERRY. That many programs in medical technology alone.

The CHAIRMAN. You mean that many different professionals.

Mrs. SPRABERRY. Different schools.

The CHAIRMAN. You are not referring to that many different disciplines, are you?

Mrs. SPRABERRY. No, sir. One discipline.

The CHAIRMAN. There are 787 schools of medical technology. You have only 5,055 students enrolled?

Mrs. SPRABERRY. Right.

The CHAIRMAN. According to my arithmetic, that is approximately 6.5 students per program?

Mrs. SPRABERRY. Some of the programs will have only one student and this is one of the major problems.

The CHAIRMAN. We have a limit here under the existing Federal law. You must have 20 students in the program for it to be accredited. If your national average is only 6.6 students per program, how are we going to get money in there if we limit this and apply it only to programs where they have 20 students?

Mrs. SPRABERRY. I would like to respond to that by first mentioning something that Dr. Hamilton stated in relation to teaching hospitals. Most of these schools are in teaching hospitals affiliated with training centers. These students can receive assistance through the training center. I think it is a matter of understanding how these programs actually work.

The 787 schools are located in teaching hospitals that are affiliated with university centers or junior colleges.

The CHAIRMAN. Of course you have only 105 medical schools in the United States. So you would have to go beyond medical schools to have the 787 different places where they are accredited, wouldn't you?

Mrs. SPRABERRY. The 20 students does not refer to students enrolled in the clinical year but to the total number of students in the training center, not the total number in one particular class.

It is a matter of faculty resources that one must consider.

The CHAIRMAN. If you have 787 accredited programs how many schools would that be? That would not be 787 different medical schools and accredited training centers?

Mrs. SPRABERRY. That is 787 schools of medical technology.

The CHAIRMAN. And you now have that many accredited and 5,055 students enrolled. That still gives you an average of only 6.5 students now enrolled.

Mrs. SPRABERRY. This enrollment in the 787 is only the clinical year, the fourth year of training. This is the problem that you will have to understand. There are 3 years prior to this.

The CHAIRMAN. I am wondering with the 20 students limit how any school is getting any money now, with the average of 6.5?

Mrs. SPRABERRY. We are talking about 20 students over a 4-year program, not 20 students in 1 year. Twenty students enrolled in the training center.

The CHAIRMAN. During any 4-year period. It seems to me that your own figures negate your opposition to the reduction. Perhaps we should have some limit here rather than one. You point out one, two or three could receive a grant. Perhaps we should have some different minimal number. It seems to me that the statistics you give us would show that we need to revise the 20-student formula.

Mrs. SPRABERRY. I think I am not getting my point across to you.

The CHAIRMAN. I am getting your point that if you had 20 students attending in 4 years that would apply, you would have a 6.5 average per year.

That is normally the way we count enrollment in American educational institutions.

Mrs. SPRABERRY. The 20 students of a training center would not refer to the students just enrolled in medical technology. The 20 students would refer to students enrolled in allied health professions which include a variety of other disciplines.

The CHAIRMAN. You're referring here only to medical technology requiring a bachelor's degree.

Mrs. SPRABERRY. That is right.

The CHAIRMAN. Yes, that clarifies it. Thank you. But you do oppose extending this to teaching hospitals?

Mrs. SPRABERRY. No, I think students enrolled in teaching hospitals could be eligible for scholarship and loans, because they are still under the university or the college training program.

The CHAIRMAN. You do not oppose then the extension of the law to teaching hospitals?

Mrs. SPRABERRY. Not as long as these teaching hospitals are affiliated with educational universities.

The CHAIRMAN. I take it that there are 787 combination either medical schools or teaching hospitals that are affiliated with a medical school or with another school that is authorized to teach, a college or junior college, that is authorized to teach allied health personnel?

Is that the distinction you would draw, whether this hospital was allied with a teaching institution per se?

Mrs. SPRABERRY. That is right. Some of these 787 schools are not affiliated with educational institutions. Some of these accept one student or only enough students to fulfill their own employment needs.

The CHAIRMAN. I invite you to file a supplemental showing how many of these are medical schools, how many are hospitals and allied with junior colleges and give us a breakdown of the 787 that you considered in connection with your recommendation that this law not be extended as it is now drawn to apply only to a hospital where they do teach these courses, but a hospital not affiliated with some educational institution.

Mrs. SPRABERRY. I will be glad to.

The CHAIRMAN. I would like to have a complete breakdown of that. (The document referred may be found in the files of the subcommittee.)

The CHAIRMAN. Thank you very much. That completes our hearing for today. The hearing is recessed until 10 o'clock tomorrow morning. Thanks to all of you for your patience and your contributions here.

(Whereupon, at 12:30 p.m. the subcommittee recessed, to reconvene at 10 a.m., Wednesday, May 20, 1970.)

## HEALTH TRAINING IMPROVEMENT ACT OF 1970

WEDNESDAY, MAY 20, 1970

U.S. SENATE,  
SUBCOMMITTEE ON HEALTH  
OF THE COMMITTEE ON LABOR AND PUBLIC WELFARE,  
*Washington, D.C.*

The subcommittee reconvened at 10:20 a.m., pursuant to recess, in room 4232, New Senate Office Building, Senator Ralph W. Yarborough (chairman of the subcommittee) presiding.

Present: Senators Yarborough (presiding) and Dominick.

Staff members present: Robert O. Harris, staff director; and John S. Forsythe, counsel; James Babin, professional staff member; and Jay B. Cutler, minority counsel to the subcommittee.

The CHAIRMAN. The Subcommittee on Health of the Senate will come to order. Hearings will be resumed on the three bills dealing with the general subject of training personnel in the allied health professions.

Hearings are resuming following the first day of hearings yesterday. The first witness listed for today is Dr. Abraham Bergman, director of outpatient services, Children's Orthopedic Hospital and Medical Center, Seattle, Wash.

Dr. Connelly is accompanying Dr. Bergman. Dr. Connelly is chairman of the committee on manpower of the American Academy of Pediatrics of Boston, Mass.

Good morning, gentlemen. You may proceed in your own way.

**STATEMENT OF DR. ABRAHAM B. BERGMAN, DIRECTOR OF OUTPATIENT SERVICES, CHILDREN'S ORTHOPEDIC HOSPITAL AND MEDICAL CENTER, SEATTLE, WASH.; ACCOMPANIED BY DR. JOHN P. CONNELLY, CHAIRMAN, COMMITTEE ON MANPOWER, AMERICAN ACADEMY OF PEDIATRICS, BUNKER HILL HEALTH CENTER, BOSTON, MASS.**

Dr. BERGMAN. Thank you, Mr. Chairman and Senator Dominick. I have a written statement for the record that I would like to insert in the record, but if I may, I would like to just briefly summarize it, sir, and make a few informal comments.

The CHAIRMAN. Fine. Your entire remarks will be printed, with the exhibit you have attached, in the record at this point.

(The documents referred to follow :)

TESTIMONY OF ABRAHAM B. BERGMAN, M.D., and JOHN P. CONNELLY, M.D.,  
REPRESENTING THE AMERICAN ACADEMY OF PEDIATRICS on the ALLIED HEALTH  
PROFESSIONS ACT BEFORE THE SUBCOMMITTEE ON HEALTH OF THE SENATE  
COMMITTEE ON LABOR AND PUBLIC WELFARE - May 20, 1970.

Mr. Chairman:

I am Abraham B. Bergman, a physician specializing in the care of children. I am Director of Outpatient Services at Children's Orthopedic Hospital and Medical Center in Seattle, and Associate Professor of Pediatrics and Preventive Medicine of the University of Washington. Dr. Connelly is Medical Director of the Bunker Hill Health Center of the Massachusetts General Hospital of Boston and Harvard Medical School. He serves as Chairman of the Committee on Manpower of the American Academy of Pediatrics.

Mr. Chairman, we appear before this Committee today to request that explicit authority be placed in the Allied Health Professions Act, to fund the training of physician assistants such as pediatric nurse-practitioners.

I don't have to inform the members of this Committee about the crisis in health manpower. As you know, the problem is particularly acute in the area of child health with an increasing childhood population and a declining number of physicians to care for them. This is happening at the same time that there are large groups of underprivileged children in the United States who are getting no medical care at all. Given the legitimate expectations for medical care among the American people, the manpower situation is bound to get worse before it gets better. A great number of American families are not now able to obtain pediatric care for their children, even if they possess the economic means. I wish to emphasize that this is a problem of affluent suburbia as well as the urban ghetto. Action is needed on the part of the federal government instead of rhetoric. I am extremely disappointed in the apparent paralysis which has overcome the Department of Health, Education and Welfare in attempting to respond to the manpower crisis. Physicians are needed, but that alone will not solve the problem. Physician services must be augmented and multiplied by re-allocation of tasks which do not require the unique talents of a medical doctor. The greatest impact on the problem at the present time can be made by training and utilization of physician assistants. The Allied Health Professions Act provides the framework through which this can be accomplished.

#### Response of Pediatricians

Pediatricians have become dramatically aware that with existing patterns of utilization the supply of pediatricians would be insufficient to meet the demands for services. As a result, the American Academy of Pediatrics, through its Committee on Pediatric Manpower, has sponsored a systematic examination of its own patterns of practice. This study resulted in the recommendation and adoption of guidelines by the Academy for three new levels of pediatric workers below the level of the physician. Even before the formal announcement of these guidelines, a number of programs began to experiment with new pediatric manpower. These included the Massachusetts General Hospital, the University of Colorado Medical Center, the University of Rochester, and the University of Washington.

### Allied Health Workers in Pediatric Practice

In the past the Academy has concerned itself with education of physicians. It has now stated its position concerning the development of programs to train personnel other than physicians. It believes that such personnel, working as members of a health team headed by a physician, can provide better child health care to more children than the physician working alone. It has been common practice for many years for physicians to personally train the assistants who work in their offices. Such assisting personnel became experienced in conducting many of the common and repetitive office tasks. They have often become trusted associates and considered necessary for the successful operation of the physician's office.

There is no doubt that this division of responsibilities has resulted in superior infant and child health supervision and care. But there is also no doubt that highly trained physicians have had to spend a great deal of time in matters related to child health supervision and management which can be more appropriately handled by other members of the health care team.

The lack of sufficient physicians to provide child care required that methods of providing care be reviewed. The Academy felt that registered nurses were often inappropriately used in present pediatric office practice and that many tasks now performed by the pediatric office nurse could be performed by other health personnel. Therefore, the American Academy of Pediatrics, through its Council on Pediatric Practice and its Committee on Pediatric Manpower conducted a survey of the office practices of Fellows in the American Academy of Pediatrics, which indicated that a high proportion of practicing Academy Fellows were performing patient care tasks which they felt could and should be delegated to other health personnel. Furthermore, the survey revealed that a high proportion of pediatric office nurses were performing technical and clerical tasks that could be shared with assistants. It also documented the fact that the great majority of Academy members are interested in developing alternative methods of meeting patient care needs by realignment of office assistants and nurse associates as a means of improving the present delivery methods. On the basis of the information gathered in this survey, the Academy took steps to develop programs to train child health personnel.

The Academy further stated its official position that a physician may delegate the responsibility of providing appropriate portions of health examinations and health care for infants and children to a properly trained individual working under his supervision.

#### Classifications:

The following classifications of additional pediatric health personnel are recommended:

1. Pediatric Nurse Associates are colleagues or companion practitioners with training sufficient to have the ability to share in the personal care of patients.
2. Pediatric Assistants are persons with formal training who, under supervision,

carry out the delegated tasks and skills in which they are trained and certified. This will include some personal care. The licensed practical nurse with special pediatric training is included in this category.

3. Pediatric Aides are defined as persons having some on-the-job training, who, under supervision, carry out defined routine tasks of an unskilled or semiskilled nature.

#### Present Status of Training Programs

Since the publication of the Academy's position on allied health manpower and the promulgation of the guidelines, approximately twenty training programs have come to our attention. (An accumulative list of these programs is appended to this testimony for the record.)

A number of additional programs are in the process of being developed as Continuing Education Courses for Pediatric Nurse Associates, Pediatric Assistant courses at the junior college level, and several other experiments to train Pediatric Aides.

#### Problems in Obtaining Funds

Mr. Chairman, attempting to obtain funding for these programs from the Department of Health, Education and Welfare has been a discouraging business. First of all, the Department has never established a working policy on the whole question of physician assistants, despite the fact that Secretaries Wilbur Cohen and Robert Finch and Assistant Secretaries, Philip Lee and Roger Egeberg, all have attested to the importance of physician assistants as a means of solving the health manpower shortage. Dr. Kenneth Endicott, Director of the Bureau of Health Professions Education and Manpower Training, has frankly stated that his Bureau does not have the capacity to fund physician assistant programs. The previous Allied Health Professions Bill has been interpreted by the Department to provide support for only existing allied health professions but not new ones. Some department officials have admitted that this was obviously not the intent of Congress in passing the law, but stated that they had to follow their Department's legal interpretation. Therefore, it is imperative that this new law specifically state that physician assistant programs are covered in language clear enough that any lawyer can understand.

#### Conclusion

The members of this Committee might be interested to know that on the certificate of the American Academy of Pediatrics which hangs on my office wall, is a statement that the Academy was "founded to foster and stimulate interest in pediatrics and in all aspects of the work for the welfare of children." I believe we are unique among physician's organizations in taking upon ourselves the obligation to work for the health and welfare of all children in the United States, not just those under our direct care. As evidence of our involvement as an organization, the Academy of Pediatrics has worked in partnership with the federal government in

organizing and operating the health consultation services for Project Head Start. We urgently request therefore that you enable us with the means to provide more and better health services for the children of the United States.

Thank you for the privilege of appearing before this distinguished committee.

ABB:r  
May 7, 1970

Appendixes to testimony submitted for the hearing record:

- I. Accumulated listing of programs for the training of allied health workers in pediatrics.
- II. Quotation from speech of Dr. Paul J. Sanazaro, concerning allied health workers in pediatrics.
- III. Letter from Dr. Robert Frazier, Executive Director of American Academy of Pediatrics to Dr. Kenneth Endicott of N.I.H. regarding funding difficulties for pediatric nurse-practitioner programs.
- IV. Chronology of attempts by University of Washington (Dr. Bergman) to obtain funding for pediatric nurse-practitioner program.

## APPENDIX I

AMERICAN ACADEMY OF PEDIATRICS  
Evanston, Illinois

## Committee on Pediatric Manpower

Programs for the Training of Allied Health Workers in Pediatrics  
(An Accumulative Listing)

<u>AAP File</u>	<u>Institution</u>	<u>Program Director</u>	<u>Program Title</u>
I-2/70	University of California School of Public Health, Earl Warren Hall Berkeley, California 94720 also University of California, School of Medicine, Davis; State of California, Dept. of Public Health; Highland Hospital, Oakland.	Constance E. Roth Project Coordinator Division of Public Health Nursing	Family Health Practitioner
II-2/70	Foothill College District 12345 El Monte Road Los Altos Hills, California 94022	Dr. Nathan H. Boortz Director of Technical Education	Pediatric Assisting
III-2/70	University of Colorado School of Medicine 4200 East Ninth Avenue Denver, Colorado 80220	Henry K. Silver, M. D., Professor Department of Pediatrics	Child Health Associate
IV-2/70	University of Colorado School of Medicine 4200 East Ninth Avenue Denver, Colorado 80220	Henry K. Silver, M. D., Professor Department of Pediatrics  Elda R. Popiel, R.N. Professor, School of Nursing	Pediatric Nurse Practitioner
V-2/70	University of Maine Continuing Education Division Office 96 Falmouth Street Portland, Maine 04103	George W. Hallett, Jr., M. D., Chief of Pediatrics Maine Medical Center Portland, Maine 04103	Pediatric Nurse Associate

## Listing for Training Programs, Allied Health Workers

<u>AAP File</u>	<u>Institution</u>	<u>Program Director</u>	<u>Program Title</u>
VI-1/70	Massachusetts General Hospital Dept. of Pediatrics Boston, Massachusetts	John P. Connelly, M. D.	Pediatric Nurse Practitioner
VII-1/70	Albert Einstein College of Medicine 1300 Morris Park Avenue Bronx, New York 10461	Bertrand M. Bell, M. D. Director, Ambulatory Care Service	Nurse Physician Surrogate
VIII-2/70	Duke University Medical Center Durham, North Carolina	D. Robert Howard, M. D. Dept. of Community Health Sciences	Physician's Assistant
IX-2/70	Bowman Gray School of Medicine Division of Allied Health Programs Winston-Salem, N. C. 27103	Katherine H. Anderson, M. D. Pediatric Assistant Program	Pediatric Assistant
X-3/70	Good Samaritan Hospital Cincinnati, Ohio 45220	Donald J. Frank, M. D.	Pediatric Nurse Associate
XI-2/70	University of Texas Galveston, Texas 77550	Robert W. Ewer, M. D. Dept. of Medicine	Clinical Associate (Pediatrics)
XII-2/70	University of Washington Seattle, Wash. 98105 School of Medicine Dept. of Preventive Medicine	Richard A. Smith, M. D. Associate Professor	"MEDEX"
XIII-2/70	Marshfield Clinic Marshfield, Wisconsin 54449	Francis N. Lohrenz, M. D. Chairman, Physician Assistant Committee	Physician Assistant: Pediatrics

## Listing for Training Programs, Allied Health Workers

<u>AAP File</u>	<u>Institution</u>	<u>Program Director</u>	<u>Program Title</u>
XIV- 3/70	Harbor General Hospital UCLA School of Medicine 1000 W. Carson St. Torrance, Calif. 90509	Joseph W. St. Geme, Jr., M.D. Chief of Pediatrics	Nursing Pediatrist
XV- 3/70	Alderson-Broaddus College and Broaddus Hospital Philippi, West Virginia 26416	Hu C. Myers, M.D.	Physician's Assistant
XVI - 3/70	University of Rochester School of Medicine and Dentistry 260 Crittenden Blvd. Rochester, New York	Robert A. Hoekelman, M.D. Assistant Professor of Pediatrics	Pediatric Nurse Practitioner
XVII - 3/70	Wilford Hall USAF Medical Center Lackland AFB San Antonio, Texas 78236	Howard H. Johnson, Colonel USAF, MC Chairman Dept. of Pediatrics Wilford Hall	Pediatric Nurse Practitioner
XVIII - 3/18/70	St. Christopher's Hospital for Children Children and Youth Program Philadelphia, Pa.	Evelyn B. Wilson, M.D. Comprehensive Group Health Services 2539 Germantown Avenue Philadelphia, Pa 19133	In-Service Education For Ambulatory Pediatric Nurse
XIX - 4/2/70	Presbyterian-St. Luke's Hospital 1753 W. Congress Parkway Chicago, Illinois 60612	Albert L. Pisani, M.D. Chief Section of Ambulatory Pediatric Services  Iris R. Shannon, R.N. Director of Community Nursing	Nurse Associate
AAP-XX 4/70	University of Colorado School of Medicine 4200 E. Ninth Ave. Denver, Colo 80220	William K. Frankenburg, M.D. Asst. Professor Dept. of Pediatrics	Screening Aide

## APPENDIX II

Quotation from a speech presented by Paul J. Sanazaro, M.D., Director, National Center for Health Service Research and Development, at the "Conference on Physician's Support Personnel," held by the American Medical Association at the Palmer House in Chicago, Illinois, March 19, 1970.

"In the view of the National Center for Health Services Research and Development, the Pediatric Nurse Associate is the most advanced of the innovative approaches to expanding the volume of physician's services for greater numbers of people. On the basis of present evidence, each PNA is estimated to represent a fifty to seventy-five per cent extension of the pediatrician. Working under continuing supervision and direction, PNA's have satisfactorily performed from fifty to seventy-five per cent of the medical tasks traditionally performed by pediatricians. Depending upon the setting, they are paid from twenty to forty per cent more than a registered nurse of equivalent experience.

A total of twelve PNA programs either exist or are in development. So far, the largely experimental efforts have produced a total of about two-hundred PNA's. Evaluative studies of this new occupational type have in general established its capability for productivity, effectiveness and public acceptance of its practitioners. Guidelines for the training and utilization of PNA's have been established by the American Academy of Pediatrics. The Academy's Division of Allied Health Manpower is providing strong support and leadership in the development of these programs. PNA trainees have been recruited from the ranks of registered nurses.

Like physicians, these are already in short supply. However the emphasis is on training inactive nurses or those already employed by pediatricians. This minimizes the drain on the active pool. The number of inactive but eligible registered nurses is at least 500,000.

In the foreseeable future it is predicted that 3,000 PNA's could be employed each year. Their occupational persistence will be limited because they are women. Therefore, some proportion of the trainees, perhaps twenty to thirty per cent each year, would represent a replacement requirement. However, this is another question which needs to be answered empirically.

If funds become available to train up to 15,000 PNA's by 1975, an estimated eight to twelve thousand will be employed by that time. This would represent a ratio of roughly one PNA for every two pediatricians in the United States. Large scale production of PNA's is now feasible and desirable, but with more modest targets than these figures. The National Center proposes a careful prospective evaluation on the basis of physician satisfaction, patient acceptance, occupational persistence of trainees, and conventional measures of educational attainment. A National protocol will be used for follow-up utilization and economic studies."

## PRESIDENT

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February 6, 1970

## APPENDIX III

## DISTRICT CHAIRMEN

MERRITT B. LOW, M.D.  
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SAN FRANCISCO, CALIF.  
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Kenneth M. Endicott, M.D., Director  
Bureau of Health Professions  
Education and Manpower Training  
Room 5C-02 NIH Building 31  
9000 Rockville Pike  
Bethesda, Maryland 20014

Dear Doctor Endicott:

The American Academy of Pediatrics is deeply concerned about pediatric manpower shortages in the United States. It conducted a major survey of its membership in 1967 and has since been instrumental in helping to promote and develop courses to train registered nurses as pediatric nurse practitioners. The redistribution of medical and nursing time following such training has allowed a better quality of care to be rendered to more children. It also allows clerks and aides to carry out the former activities of the nurse and therefore does not drain off other segments of the active nurse manpower pool. At least four such courses are actively producing pediatric nurse practitioners. At least one other course can be activated immediately and we have on hand numerous requests for assistance to activate courses of this type from almost every state in the country.

For this reason the Academy was profoundly distressed to learn from those responsible for the established courses that no funding mechanisms existed in the federal government to allow them to continue and that the chances of developing such training in other areas of the country were rather slim. All of the courses now in existence have been initiated either with the help of private foundations or with the help of federal funds for temporary "developmental" and "demonstration" purposes. About half the nurses

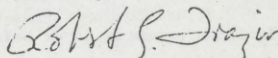
trained have come from agencies serving poverty groups and half have come from the offices of practicing pediatricians, many with heavy Medicaid loads. The training is expensive and variable because it involves a large increment of on-the-job medical preceptorship. Although fees from participants and their employers can be expected to defray a portion of the training costs, they cannot possibly be expected to defray the total costs of training.

The Academy believes that the training and utilization of pediatric nurse practitioners has gone beyond the developmental and demonstration phase. It is prepared to lend its weight to the promotion, establishment and accreditation of such courses as a practical, immediately applicable means of improving the health care of American children by meeting some of the pressing pediatric manpower shortages. It has established a formal mechanism through which it can work together with the American Nurses' Association toward this end. It would be tragic if, under these circumstances, the present nucleus of training centers were forced to discontinue their operations.

The Academy recognizes that federal policies and funding mechanisms on a large scale may take time to develop. It is anxious to assist you and others in the federal government in these developments. Until policies to assist the continuing education of pediatric nurse practitioners can be firmly established and implemented, the Academy urgently requests that some mechanism be found to allow established pediatric nurse practitioner training programs to continue their critically important operations.

Thank you for your attention to this matter.

Sincerely,



Robert G. Frazier, M.D.  
Executive Director

RGF:ibb

cc: Joseph English, M.D.  
Paul J. Sanazaro, M.D.  
Douglas A. Fenderson, M.D.

UNIVERSITY OF WASHINGTON  
SEATTLE, WASHINGTON 98105

CHRONOLOGY OF ATTEMPTS BY THE UNIVERSITY OF WASHINGTON TO OBTAIN FUNDING  
FOR A PROGRAM TO TRAIN PEDIATRIC NURSE-PRACTITIONERS

Abraham B. Bergman, M.D.  
May 1970

December, 1965.

Informal conversations between Dr. Ralph Wedgwood, Chairman of Pediatric Department and Surgeon General, William Stewart. Result: Encouragement to apply to the Public Health Service for grant funding.

January 28, 1966.

Letters to Regional Office of HEW in San Francisco; Children's Bureau Regional Office in San Francisco, and Washington State Health Department on whether federal government "willing and able" to fund training programs for physician's assistants and particularly pediatric assistants. Reply from Children's Bureau: "Good idea, extremely timely. Children's Bureau has no money for such training." Four other agencies recommended. No reply from Regional Health Director.

Late winter, 1966.

Visit by Dr. Abraham B. Bergman, to Washington, D. C. Meeting with David B. Hoover, Manpower Resources Unit, Division of Community Health Services, Public Health Service and Robert Hermann, Division of Adult Vocational Research, Office of Education, Department of H.E.W. Extreme interest evidenced. Plans discussed for contract. P.H.S. has no money, but Office of Education does. P.H.S. and Office of Education apparently never before worked on joint funding of a program.

Virtually a year's negotiation took place. Eventually, Dave Hoover left, the office was reorganized, and nothing happened.

May, 1967.

Dr. Bergman met with Dr. Joseph Kadish of the Division of Allied Health Manpower. Expressed interest, but stated that Allied Health Manpower could only fund training programs for existing health professions and not new ones.

Meeting with Dr. George Silver, Deputy Assistant Secretary for Health and Scientific Affairs, he stated, "you should certainly be able to get the training program funded in the Department of H.E.W."

May, 1967.

Meeting with nameless official in the Bureau of Health Manpower who stated, "if Phil Lee and George Silver think there is money here to fund your program, let them come down and give it to you themselves."

May, 1967.

Meeting with Dr. Leonard Fenninger, Director of Bureau of Health Manpower. Great philosophical discussion about need for innovation in health manpower. No concrete recommendation on how to proceed. "We're short of money."

July, 1967.

Grant of \$110,000.00 to the University of Washington received from the John and Mary R. Markle Foundation for "Studies on the nature of pediatric practice and the provision of health care for children." Personnel hired for task and function analyses, consumer acceptance studies, and curriculum development of pediatric assistant program.

1968.

Because of continued pessimism of the Bureau of Health Manpower, attention turned to the Division of Community Health Services. Meeting with Dr. Gilbert Barnhart. Advised of a new grant program called "Health Services Research Center." Advised that Pediatric Assistant Program should be a part of that grant application. Approximately six months spent on grant development. Focus of Health Services Research Center, University of Washington, "health manpower innovations." Grant disapproved. (Subsequently grant application has been modified and resubmitted. Pediatric Nurse-Practitioner Program not included as part of Health Services Research Center grant.)

October, 1968.

Telephone conversations with Dr. Frank McKee, Director of Division of Physician Manpower. Good idea, but no money. Telephone conversation with Richard M. Magraw, Deputy Assistant Secretary of H.E.W. for Health Manpower. "Wish I could help you. Keep up the good work."

October 23, 1968.

Letter from Richard Magraw. "I suppose that this obtaining money from federal sources should not be so tedious a process, but I think most of us have found it to be more burdensome and time consuming than we anticipated."

Early winter, 1968.

Conversation with George Silver in Seattle. "There is no reason why the Department of H.E.W. can't fund your program."

Winter, 1968.

Visit with Dr. Robert L. Manning, Chief of Research Grants Office, Division of Physician Manpower, Bureau of Health Manpower. Felt the proposal had merit. Statement that Division of Physician Manpower had very little money of its own to fund such programs.

Spring, 1969.

Conversations between Dr. Robert Day, Director, Division of Health Services, University of Washington and Mr. G. Fiedler, Director, Health Manpower Utilization Program, National Center for Health Services Research and Development. National Center extremely interested in contracting with University of Washington for pediatric nurse-practitioner training program. We will be out "soon" to draw up the contract.

June, 1969.

The deal's off. Sorry.

June, 1969.

Applications for funding to the Carnegie and Commonwealth Foundations and Association for Aid to Crippled Children. Polite turn-downs at all three.

August, 1969.

Letter to Miss Jessie Scott, Director, Division of Nursing, Bureau of Health Manpower. No reply.

August 12, 1969.

Letter to Dr. Nancy Maki, Department of Health Care Services, Community Health Services. Receipt of letter acknowledged. "Our office is very much interested in the exploration of innovative ways of extending professional and sub-professional health services." Suggested we contact state and regional health directors. No further word received.

October, 1969.

Meeting in Seattle with Dr. Genrose Copley, Division of Physician Manpower. "Good idea, but we still have no money."

October, 1969.

Phone contact with Miss Ida Brugnetti, National Center for Health Services Research and Development. Much interest. Quite sure we can contract. Please come to Washington to discuss.

December, 1969.

Meeting with Miss Ida Brugnetti and Dr. Bergman in Washington along with Dr. Douglas Fenderson. No problem, will contract. "You can start in April." "Sole-source contract" assured because of previous Markle grant, which provided for development work of training program.

January 20, 1970.

Phone call from Dr. Bergman to Miss Brugnetti inquiring about status of contract. The deal is off. Dr. Robert Huntley, Associate Director of the National Center decided that "sole-source contract" could not be let. "Why don't you submit a research grant?" Later, discussion on same day with Dr. Fenderson. He said, "we will put the contract out to bid." They never did.

February, 1970.

Call to Dr. Douglas Fenderson. "What's going on?" "Nothing new." "We are stymied."

March 10, 1970.

Conversation with Dr. Robert Huntley in Washington, D. C. "There was a misunderstanding. We could have gone along with a "sole-source contract." "Sorry."

March 10, 1970.

Meeting with Dr. Kenneth Endicott, Director, Bureau of Health Professions Education and Manpower Training, National Institutes of Health. The Department of H.E.W. has yet to come forth with a policy on the whole matter of physician assistants. There is no money at N.I.H. for support of pediatric nurse-practitioner programs. The Department of H.E.W. has interpreted the Allied Health Professions Act to support only existing health professions though this was not the intent of Congress. At least, this was how the Department lawyers interpreted the Act.

March 11, 1970.

Meeting with Dr. Jesse Steinfield, Surgeon General. Meeting interrupted by call to Secretary Finch's office. Follow-up letter to Dr. Steinfield one week later. No reply.

March 23, 1970.

Call from Dr. Douglas Fenderson to Dr. Robert W. Day. Second application for Health Services Research Center not approved. Council however, recommends that pediatric nurse-practitioner program be included.

March 25, 1970.

Call from Dr. Douglas Fenderson. "It's all set! Would you rather begin in July or September? It's O.K. to start recruiting staff and processing applications for training program." I said, "can I see it in writing?" "Not yet." "We will be out on April 9th to make the final arrangements."

April 9, 1970.

Meeting with Dr. Robert Eichorn and Dr. Douglas Fenderson of National Center for Health Services Research and Development in Seattle. The pediatric nurse-practitioner program must be tied to a larger health services demonstration project and cannot be funded on its own. There are no guarantees for funding the larger project whatsoever.

April 23, 1970.

Dr. Bergman announces abandonment of attempts to launch a training program for pediatric nurse-practitioners. "Four years is too long. Perhaps someone else will have more success."

ABB:r

Dr. BERGMAN. Mr. Chairman, we appear before this committee to request that explicit authority be placed in the act to provide for the training of physicians' assistants. I don't have to inform you or Senator Dominick about the acute health manpower crisis. It seems to be a byword in our society today.

What is extremely frustrating is that, though everyone seems to talk about it, and it is in practically every newspaper and in lay magazines and on television, there seems to be very little action to try to do something about it.

The problems, it seems, are particularly acute in the area of child health, with an increasing childhood population and a declining number of physicians to care for them.

This is happening at the same time that there are large numbers of children in the United States that are not getting any medical care at all. Given the legitimate expectations for medical care among the American people, the manpower situation is going to get worse in this country before it gets better.

A great number of American families are not now able to obtain pediatric care for their children, even if they possess economic means. I want to emphasize that this is not a problem of the ghetto alone.

It is a problem of affluent suburban people. There are families in our community in Seattle who can afford physicians and simply are not able to get their care, except for emergencies, because there are not the doctors to help them.

Action is needed on the part of the Federal Government, instead of rhetoric. I am extremely disappointed in the apparent paralysis which has beset the Department of HEW, in attempting to respond to the manpower crisis.

Physicians are needed, but that alone won't solve the problem. Physicians' services must be augmented and multiplied by assigning tasks that do not require the unique talents of the medical doctor.

The greatest progress can be made by training and utilization of physicians' assistants. The act provides a framework through which this can be accomplished.

The American Academy of Pediatrics has looked at this situation and at the risk of boasting I think for a medical group we are unique in that we say we are interested in the health and welfare of all children in the United States, not just the ones particularly under our care.

We have polled our membership, and Dr. Connelly as chairman of the Committee on Manpower has polled all the pediatricians in the United States, and we stand as an organization and as individuals ready to utilize personnel in the office to take over some of the doctors' jobs.

We have gone on record as wanting to do this. Now, what is the problem? Obviously, part of the problem is funding and the problem in obtaining funds is that the Department of HEW, has never established a working policy on the whole question of physicians' assistants, despite the fact that speeches by Secretary Wilbur Cohen and Robert Finch and Assistant Secretary Phillip Lee and Roger Egeberg have all attested to the importance of physicians' assistants as a means of solving the health manpower problem.

But they don't do anything about it. They talk about it and give great speeches around the country, but we just don't see anything done.

We have gone to people in HEW, we have gone to Dr. Kenneth Endicott, who has done a magnificent job, as the Senators know, as the Director of the National Cancer Institute, and he tells us he can't do anything about it.

One of the things he says is a problem in the Allied Health Professions Act. I have read that act carefully previously and I have read the hearings on it, and nowhere can I find that Congress excluded new types of health professionals in that act.

A few years ago when it was passed, I believe the intent of Congress in passing that law was to use allied health professionals in a broad sense in trying to create new types of personnel to meet manpower needs in the United States.

However, the Department up there, or down there, has interpreted this law to mean that only existing health professionals shall get aid, or training programs for existing health professions.

Almost all of the officials I talk to down there say they know that was not Congress' intent, but the lawyers in HEW say that is the way it has to be, and so that is the way they are doing it.

What we have now is a situation where programs of training, for example, physicians nurse practitioners, or pediatric nurse practitioners—these are individuals who are nurses, who have assumed, who have special training and can assume much of the responsibility the physician does.

We have these training programs. Dr. Connelly heads one in Boston and can't get any money for it. There is money, there has been money for developing the programs, in experimenting, but now this is an established procedure.

The Academy of Pediatrics has put its stamp of approval on it, it is OK with AMA, and with practically everybody, but we come down here to Washington and say, "Well, the experiment is past, but we don't have any money to continue training, even though everybody say you need these types of people."

In the State of Texas, there are two programs that are trying to get going. In the State of Colorado, in Denver, there is a pioneers program there that is quite busy utilizing pediatric assistants all over, and they have done a magnificent job.

They have been in operation about 4 years. But it is the matter of trying to get funding, which is almost impossible. The tragedy of some of these existing programs which have already demonstrated that they are effective have had to retrench or go out of business.

I think that the only way to deal with it is, this time, in a renewal of the allied health professions act, to make it explicit that the will of Congress is that it is to meet the health needs of the people, and we have to try new methods of doing it. We are clearly not getting the job done with existing types of personnel and existing systems, as everybody knows and let's just say take a little bit of the fright out of the people in the administration, and we are going to have to try new things and I think Congress has to express its will in this fashion.

Thank you, Mr. Chairman.

The CHAIRMAN. Thank you, Dr. Bergman.

I agree with you that was not the intent of this original act of 1967. I was here, the ranking majority member with Senator Lister Hill, at the time of the passage of that act; and if there is any doubt, though, in this new act that we plan to pass this year, we will make it crystal clear that it does not only apply to old programs or the health professionals that we had last year on this year, but new fields that might be developed next year or 5 years from now.

I have glanced through your statement that you have so ably condensed here, and I commend you for it, particularly this chronology at the back page where you relate your attempt to obtain funding for one program to train pediatric nurses practitioners.

You start about December of 1965 with the HEW Regional Office in San Francisco in January 1966, in Washington late winter of 1966, and you narrate year after year how you worked through 1966, 1967, 1968, 1969, and 1970 in attempting to get funding.

Now I think this should be called to the attention of the Appropriations Committee as well as this committee. We have difficulty getting basic laws that are long enough in time to provide tenure and have enough money authorized.

But when you go to the Appropriations Committee, and I have served on that committee, too, it is more difficult to get the money even than to pass the basic law authorization.

I recommend that we present the data to them, and your entire statement will be printed, and I think it has been helpful here.

Dr. Connelly, did you have anything supplemental to add?

Dr. CONNELLY. I have nothing to add except to say that the program I run at the Massachusetts General Hospital, or which is run there, for pediatric practical nurses which has been in existence, now, since 1962 as a demonstration program, will be unable to be continued unless funds are made available for the next class, which should start in September.

I can repeat the chronology—I hesitate to start on a saga such as Dr. Bergman has gone through in order to try to keep these programs alive, which everybody says is needed.

I would also hope that the pediatric assistants and the pediatric aid programs which are defined by the American Academy would be included in the next Allied Health Personnel Act so the tasks which nurses are to be relieved of, which are of a technical, clerical, secretarial nature, can be picked up by a second group and these moneys would have to be made available to the junior colleges.

I know that in the State of Texas and in the State of Colorado and in fact, California, Massachusetts, and many other States, these funds are available, and even if they were included in this act, we could not start to do anything about the problem until 1972.

It is reaching a significant proportion. To direct a health center in the urban area of Boston, which is a typical area in the sense that the practitioners who were retiring, and there is a ratio of physicians to population that would be again unacceptable almost anywhere in the country.

We have to find some other ways to help these people through these

means, and one of these certainly is through the Allied Health Personnel Act.

The CHAIRMAN. Gentlemen, I have served on this health subcommittee for 12 years and 4 months. I desired to express my appreciation to you and your profession for your contributions made to the knowledge of the health needs of the United States, over and beyond the call of duty to you as professionals.

The Select Committee in the Senate on Nutrition and Human Needs grew out of this committee's work. Our Subcommittee on Employment, Manpower and Poverty held hearings under the leadership of the late Senator Robert Kennedy and former Senator Joe Clark, and I think Senator Murphy participated.

I also think Senator Dominick participated in some of those health hearings with me. Out of that grew the conflict in jurisdiction with another committee and out of that grew this select committee on which I served.

I know that pediatrics testimony has been some of the most compelling that we have had on the instances of hunger among children and pregnant mothers and babies, and your testimony on the malnutrition of the mother and the child in the first 4 or 5 years of life would lead to mental retardation was important.

What you have offered before different committees in the last few years, I feel, is going to have a profound effect in the future on the mental-physical health of the American people.

In the interest of time, I will not go further, but just illustrate that in this 12 $\frac{1}{3}$  years, you have done much to enlighten the Congress.

I think we in the Congress are ahead of the executive branch and have been for years here on the health needs of the American people.

We pass these laws, and they fight us on the appropriations. Assistant Secretary Egeberg was here yesterday appealing that this be extended only 1 year instead of the 5 years which are in our bill, and he was pleading for little and for less.

When it comes to getting the money, even after we pass the laws, we have a far more difficult task there in the Appropriations Committee.

It is difficult to get the money appropriated because they see other priorities. I think we need a reorientation of priorities.

Thank you very much for your contribution. Senator Dominick.

Senator DOMINICK. Dr. Bergman, as you well know, one of the most busted forms of government is the Federal Government at the present, and there is a constant fight for who is going to get the funds.

I notice from your prepared testimony and the attached appendix that almost every one of the American Academy of Pediatrics programs is associated with a university.

Is that correct?

Dr. CONNELLY. I would say yes.

Senator DOMINICK. In most of those cases, isn't it true that the universities are largely supported by the State governments?

Dr. BERGMAN. Speaking about the medical schools, a State medical school such as ours in the University of Washington, the majority of funding does not come from the State government.

Senator DOMINICK. Where does it come from?

Dr. BERGMAN. The Federal Government.

Dr. CONNELLY. I might comment, if I may, Senator, comment on the program I run at the Massachusetts hospitals which is a private, nonprofit organization connected with Harvard Medical School.

The medical school gives us no funds. We run in a partnership and it gives funds for the professors to train medical students, but it gives no other funds. If we take nurses and train them, we take them out of our own capital funds.

Dr. BERGMAN. It comes from the sick patients.

Senator DOMINICK. You mean that your funding, Doctor, is almost totally from fees charged to patients?

Dr. CONNELLY. Initially, it came out of capital funds. This was 1962 through 1966. We then applied for a children's bureau grant for research. We are doing this as an inservice program, which is a common phenomenon in hospitals and raises the cost of hospital care fantastically.

Our hospital has a 73-percent turnover of nurses every year. That means every 3 out of 4 nurses who come in have to be retrained to adapt to our tight situation, and it is an educational cost which is transferred on to the sick patient, or else they are not going to get any.

Senator DOMINICK. The point I am making is really quite simple. I am sure that each hospital and each educational institution has a different variety of funds, a large part of which comes from the Federal Government through various programs of one kind or another.

The remainder comes from private funds and State funds.

I acknowledge and agree with you that we have a need for more paramedical personnel. The question is, Why should it be up to the Federal Government to provide the funds for training them?

Dr. BERGMAN. Senator, the issue of inflation, which I think hurts all of us, and hurts poor people very much, is obviously extremely important.

Everybody who comes up before you, has a worthwhile cause. Everybody pleads their case, and obviously you have to look upon priorities, and so does the administration.

But it is a curious thing to me how the administration uses the inflation issue in the area of education and the area, for instance, of training more physicians or nurses when the American people, the health costs of the American people are going up, and part of the inflation is the inflation in the health industry.

This is then going to—no matter how much damage goes on on television and all the rhetorical things about it, and moaning and wringing of hands, the inflation in the health industry is going to continue, because the inflation in the health industry is mainly that in manpower.

It is a different kind of industry than, say, the aircraft industry or others, because two-thirds of the cost in the health industry are personnel costs.

What we are trying to do is lower these, and then it seems to me—I am not an economist, I am a pediatric doctor—but it would seem to me that if you further reduce the supply of personnel to take care of people, the price is going to continue to go up.

Senator DOMINICK. I would agree with that, but that was not my question. My question is why do you insist that the Federal Govern-

ment must be the banker? Why can't State governments and private enterprise finance increased paramedical personnel needs?

Dr. CONNELLY. May I agree with you, Senator, there is nothing wrong with trying to get these, but could I give you an example of a program we are now trying to get off the ground without Federal funds?

We would ask the pedestrists if they are going to gain from taking a nurse practitioner into their office, why shouldn't they take—pay the cost of the tuition?

That is a perfectly legitimate request on the part of the people who are training.

Now what our problem is if the Indian Service comes to us, if the migration—the people who take care of the health needs of the migratory patients—or the city health departments or who are broke, or the people who serve the indigent who have no money for training, then where do we get the money to train them?

That is the problem, at least as far as we are concerned. I think pediatricians ought to pay their own way if they stand to gain in any fiscal way from an additional person on their staff, or working with them.

Dr. BERGMAN. Senator, I would like to respond, also. Obviously, State and local governments could conceivably contribute but, you know, in our State it seems to us that—then it seems to me, and this is a very personal opinion, that local government is having an increasingly hard time in financing its services, county government is, State government is, partly because the greatest portion of the tax dollar comes back here to Washington.

If the greatest part of the tax dollars stayed in the States, Senator—and by the way, I am down in my State legislature regularly trying to tell them this is also a State problem so I don't think it is only a Federal problem but because the greatest portion of the tax dollar comes to Washington, D.C., this is why we spend the time coming back here to talk to you.

Senator DOMINICK. Do you have the support of the American Association of Nurses and on this proposal?

Dr. CONNELLY. Yes. We are working with the American Nurses Association in a liaison committee in order to work out whatever differences there may be about what pediatricians need and what nurses want to do.

This liaison committee has met 3 or 4 times. We have had seminars. We—the American Academy sponsors a nurses meeting with their annual spring meeting, that is, twice a year, in which to discuss these things and air them publicly and I think it is fair to say that we collaborated.

Senator DOMINICK. Are the nurses in favor of your testimony today, or against it? Do they want to have these people, or don't they?

Dr. BERGMAN. We did not submit this to any particular professional group other than our own, Senator. I think your question, as you well know, implies something as to how this is going to fit into the existing professions.

I might say now very personally and not representing the American Academy of Pediatrics, which has to be diplomatic and I do not,

that we have a system of guilds in the health professions that have built up and we have featherbedding to an extent that has never been seen in trade unions, but the part that has happened in the allied health professions act is that every group mentioned has its lobby and stacks its own people here in the Department of HEW, that has been the problem.

They will give money to their group and not to any other. I am not saying this about the American Nurses Association or any specific group, but we see this, and I doubt that it is unique to the health professions, but every type you get more than five people in a new position, they try to keep everybody else out and raise their certification and make it tougher, and somehow or other, if we care about the health of the American people, we have got to do something about this bureaucracy situation, too.

Senator DOMINICK. That is a very frank answer, and that is exactly what I expected.

You are going to have a lot of trained paramedical people coming out of the service. Are you going to be able to use any of them?

Dr. BERGMAN. We are, and we at the University of Washington are very proud of the program we have utilizing discharged corpsmen, in whom the Federal Government has invested 7 to 10 years of training in these individuals, and these are extremely competent people, as anyone knows who has been in the service, and we are utilizing these people, and this is in cooperation with a medical school.

It is operated right by our State medical association, and we are putting these people out in rural areas as physicians assistants, and we look forward to expanding this even further.

There are other programs in the United States which are doing this. It is particularly useful for rural areas where the distribution problem is severe, and so far this program has been extremely successful.

However, this program is not eligible for funds under the Allied Health Professions Act. It would be under the act that is presently under consideration by this committee, but it is excluded under the current act.

Senator DOMINICK. Well, all those men are eligible for further training under the GI bill.

How many ex-service people do you know who have actually enlisted, if you want to put it that way, in the medical profession when they came out?

Dr. BERGMAN. Well there is a program, an older program at Duke that has been in operation about 4 years, and I believe, but I am not sure of the number of graduates of the program.

Our program is a little larger in Seattle, and we currently have 13 who are graduating, but the answers are not all in on this, as you well know, Senator, and the real test of this is going to be in 5 or 10 years, and as you even imply, how well are they going to be indoctrinated and inculcated into the system, and I don't know the answer to that.

But I do say that the situation in America now is so acute with the difficulty in physicians services that we have got to go around and try different ideas.

We can't sit and pontificate about answers and money and wring our hands about it. We have got to get out there and try different

systems and see how they work out and really promote this. I think that is a pretty small research and development cost.

But in the pediatric nurse partitioner program, I think that has been proved very successful in our town, where we tried doing this on a very small scale, we have got—not been able to get funding for our program, and had to abandon it.

We work in affluent suburbia first. We have experimented first with the rich people, and they are accepting it just fine.

Our best pediatricians who have the most wealthy patients in the community, they are using, and this is true all over the country with other pediatricians.

We are not putting these people in urban poverty areas yet. We suspect we will. We would like to very much, but we think if we start there, they will have the label of second class medical care, and we don't think this is second class medical care.

Senator DOMINICK. I am concerned about nurse cooperation in the allied health field. I notice from your appendix that only one program director, that at the University of Colorado, is from a school of nursing.

By the way, how are the Colorado programs doing?

Dr. BERGMAN. They are going extremely well, and our earlier comment should not be construed that we do not have the cooperation of nurses.

In our own school we have worked closely with the school of nursing and I think most others have worked closely with the schools of nursing.

Colorado has done more in this than anybody else, I think, and they are trying different types, different levels of care, people for short term training and then people for long term training.

We think they have just done an outstanding job. Incidentally, the Colorado Legislature is the only one that has passed a licensing law for these people, as far as I know.

Senator DOMINICK. I am glad to see our State is up in the forefront as it has been before.

Your previous statement about lack of HEW support was good, I thought, but perhaps a little overemphasized.

Where else are you getting support for paramedical training programs? From what I gather from your testimony, very few other groups are supporting you.

Dr. BERGMAN. That is correct, sir.

Senator DOMINICK. I have a couple of other questions. Is there any concern over malpractice instances if you use these type of people in your care?

Dr. BERGMAN. There is concern in the medical profession about malpractice instances, sir, and this is a very severe problem that we are trying to seek solutions to in our own State, and in trying to involve the public in an understanding of malpractice and of what is involved and the public's rates go up when malpractice rates goes up.

This is a consideration, but we feel that this is, as long as these people are working under the direction of the physicians, that it comes into line and that it has not been a problem to those physicians who have done this now for 5, 6 or 7 or 8 years.

First of all, I will knock on wood. In pediatrics, we seem to get along better with our patients. These assistants are involved mostly in things like well child care, and problems like this where there traditionally has not been an area of litigation.

Senator DOMINICK. Then your malpractice insurance premiums would not go up because of the use of pediatric assistants?

Dr. CONNELLY. As far as we know; no, Senator. The American Medical Association legal department has looked into this and published two scholarly articles on it in the September and October issues of the weekly journal.

The issue of malpractice, or the issue of suits or responsibility for the actions of an act working under the direction of a physician, will always be an issue, but the possibility for or potential for liability is reduced if they graduate from institutions, and if they are individually certified and they graduate from accredited schools.

The action of an act of a physician is covered in the malpractice instances. This has always been covered. He has had people working with him for years. It is the agents themselves who are not covered, and that becomes a great grey area, and we recommend that our nurses or other people who work in offices carry their own malpractice insurance.

At the present time, it is inexpensive but there is not enough experience in there yet.

You bring up obstacles to the implementation of this program, and in the survey done of all the pediatricians in the United States, the greatest obstacle was lack of trained workers.

The pediatricians said, 60 percent of them, that that was the greatest obstacle and the next obstacle was insurance coverage.

They just did not know until the AMA looked into this. Other obstacles that you may find of interest are worker turnover and worker supervision, doctor-patient relationships, and parental non-acceptance.

These are issues that come up in private practice, or any practice of pediatrics.

Senator DOMINICK. Should the HEW make a study and report on the licensing and certification requirements of the various State and local governments with respect to health assistants?

Dr. CONNELLY. Yes; and if I am not mistaken, they have a Mr. Wiley in the Secretary's office who is undertaking this at the present time. I have been in contact with him, and they are trying to get an examination of this question off the ground a little bit.

Senator DOMINICK. Would this take care of some of the guild problems you were talking about?

Dr. BERGMAN. Some of the problems I was talking about were more human nature, I suppose, sir.

I don't know what would help those.

Senator DOMINICK. Thank you very much.

The CHAIRMAN. Dr. Bergman, concerning these veterans who have served in the military service as paramedical personnel, relatively few of those are now participating in civilian medicine. Isn't that correct?

Dr. BERGMAN. Yes. It is a tremendous waste.

The CHAIRMAN. Are the licensure agents the main block there? What is the cause for the failure of utilization of that competence that has been acquired in military service?

Dr. BERGMAN. Our health industry, if I may call it that, first of all has not been tooled up to utilize them in training programs.

The funds, the GI bill might pay for the stipends of individuals, but they could not pay for the development costs of setting up schools and programs to train them, and this has not been really put forth to the American people yet in a way they would understand.

It is a matter of public acceptance. I think there are several barriers which are being broken. We have had no problem in the State of Washington in public acceptance. The consumer comes to the doctor's office and he wants to be made to feel better, and if you can make them feel better in a dignified fashion, that is what he is really concerned with, and we have had no trouble.

He is not looking at the string of degrees on the wall. So there are several deterrents, Mr. Chairman, and certainly the bill that is before this committee would help take care of a lot of them.

The CHAIRMAN. I think that is a very interesting answer you gave. The civilian sector is not tooled up to accommodate itself to the training they received in military service.

Dr. BERGMAN. That is correct.

The CHAIRMAN. I have experience with that. I have a nephew in the Green Berets. They have a team of eight, and each one has a specialty in addition to his combat.

They picked him out and said he was the medic. After some time at Fort Bragg, he was operating on cadavers and dogs. But he was preparing so that if men had legs or feet blown off in the jungle or hand grenades tore their stomachs open, they could see him and he would sew them up in a hurry to save their lives.

Are the Veterans' Administration hospitals trying to utilize some of these personnel? They are having problems, too, using them; aren't they?

Dr. BERGMAN. I don't know how much they are trying to utilize these personnel, sir. I think that they can come back and be orderlies.

The CHAIRMAN. That is the problem.

Dr. BERGMAN. As far as I know, advantage is not taken of their tremendous training and experience that they have already had.

The CHAIRMAN. And they are unwilling to go down to the status of an orderly.

Dr. BERGMAN. Yes, sir.

The CHAIRMAN. I think we have failures in the VA to utilize their capabilities as well as failures in the civilian sector.

Dr. BERGMAN. If I may make a final comment, I want to say how much we appreciate what this committee and its chairman has done for health.

I might say, before coming here, we have been involved—we are teachers and we have been involved with some of our students and some of the student dissent problems.

Some of the students said, why go back there? Let's spend our time talking about foreign problems, and the point I tried to make is that

there are great—that the genesis of some of the problems we see overseas lies in some of our problems right here in America, and this committee, I think, through the years, and the activities of its distinguished chairman, Mr. Yarborough, will really go down in history as really making efforts to try to solve some of the problems in this country that are so severe and which really are going to help answer some of the questions and problems that the students have.

The CHAIRMAN. I am very grateful that the people have given me the privilege of serving on this committee over 12 years.

Year before last, I was at the White House when President Johnson was signing one of the health bills. He turned to me and said 80 percent of health laws that help people go through that committee of yours.

The Senator from Colorado has been on there for years. It is a great experience to attempt to be of service to American people.

I am not speaking for him. We may not agree on certain expenditures.

The next witness is Dr. Lester Burket, dean of the Dental School, University of Pennsylvania, and on behalf of the Association of American Dental Schools and the American Dental Association.

He is accompanied by Mrs. Diane McCain, American Dental Hygienists Association and, Miss Muriel Burnett on behalf of the American Dental Assistants' Association.

Dr. Burket, will you identify your colleagues?

**STATEMENT OF DR. LESTER BURKET, DEAN, DENTAL SCHOOL, UNIVERSITY OF PENNSYLVANIA, ON BEHALF OF THE ASSOCIATION OF AMERICAN DENTAL SCHOOLS AND THE AMERICAN DENTAL ASSOCIATION, ACCOMPANIED BY MRS. DIANE MCCAIN, AMERICAN DENTAL HYGIENISTS ASSOCIATION; AND MISS MURIEL C. BURNETT, AMERICAN DENTAL ASSISTANTS ASSOCIATION**

Dr. BURKET. Yes, sir.

Mr. Chairman and members of the committee, my name is Dr. Lester W. Burket. I am dean of the University of Pennsylvania School of Dental Medicine and am representing the American Dental Association and the American Association of Dental Schools.

With me are Mrs. Diane McCain, representing the American Dental Hygienists Association and Miss Muriel C. Burnett, representing the American Dental Association.

This is the first time these organizations have appeared jointly before a congressional committee. We do so today not only to conserve the time of the committee but to indicate to you that we share an identical concern and commitment to the Allied Health Professions Personnel Training Act.

At the beginning we wish to express our gratification and that all of the bills before you are directed toward extensions and improvement of the present law.

If we are to narrow significantly the present gap between need for dental care and ready accessibility of such care then we must greatly

increase the number of dentists and allied personnel who just give that care. To do this requires intensified support from all sources of the training facilities needed to teach the necessary number of dentists, dental hygienists and dental assistants and dental laboratory technicians.

As this committee well knows, the drive to produce more dentists is complicated by the time lag, as much as 10 years in duration between the planning stage of a new dental school and the year it graduates its first class is not unusual.

A time lag of such duration does not occur with supportive personnel in the dental field. In addition there is increasing understanding within dentistry of the fact that the hygienist and the assistant can and should perform additional functions.

Concentration of programs within the purview of the Allied Health Professions Personnel Training Act, then is both professionally and pragmatically desirable.

Certainly as these hearings are making clear, the need is great. The following facts demonstrate this with respect to dentistry.

At the present time there are some 18,000 full time or full time equivalent dental hygienists in practice. Since there are presently some 96,000 dentists engaged in chairside care, this gives a ratio of one hygienist for every five or six dentists. At a minimum the ratio ought to be one hygienist for every two dentists.

Given the increase in number of chairside practitioners this means that by 1980 we will need 56,000 hygienists.

It is estimated that some 8,000 of the hygienists currently in practice will still be pursuing a career in 1980. Thus 48,000 new hygienists must be graduated in the present decade. The current graduation rate however will give us only 23,000. The net deficit then is approximately 25,000.

The numerical shortage of trained dental assistants is even more severe. Presently there are some 103,000 dental assistants in practice, giving a ratio of approximately 1.1 dental assistants for every dentist.

It is agreed by those expert in the field that a minimally desirable ratio is two assistants for every dentist. By 1980 then we will need some 220,000 dental assistants. It is expected that some 55,000 dental assistants in today's work force will still be active in 1980; thus we need to graduate 165,000 during the coming 10 years.

Current graduating classes will give us 28,000 of this number leaving a deficit of 137,000.

Available figures for dental laboratory technicians indicate similar problems. We should today be graduating at least 700 technicians annually in order to meet the known needs we will be facing in 1980; in fact we are graduating barely half that number.

The financing required in the very near future if we are to have any hope of meeting the stated goals is obviously considerable. Dental hygienists can serve as an example of this.

In order to reach the desired ratio of hygienists to dentists by 1980 we should be graduating some 2,500 more hygienists a year than we are presently. This is the equivalent of 63 new, 2-year dental hygiene schools with 40 students in each class.

One time construction costs for 63 schools, excluding capital purchases, would range from \$37 to \$42 million. Annual operating costs would be some \$200,000 per school or \$12.6 million as an annual total for all 63 schools.

What we are citing, of course, are figures, total figures to which private sources, tuition payments and non-Federal public sources will contribute. Nonetheless we believe these illustrations indicate graphically the dimensions of the need to which the Health Professions Personnel Training Act must address itself.

Administration of the act, thus far, has not indicated an understanding on the part of the administrators of the seriousness of the situation.

Though the executive branch of the Federal Government has been most vocal about the need for redressing shortages in the auxiliary fields, its actions have lagged far behind its words, its appropriations have lagged far behind the present authorizations.

Appropriations for basic improvement grants, as an example, have been again barely half of the authorizations; those for construction have been little more than one-tenth of the authorizations.

As a result in fiscal 1969 of the 102 accredited dental hygiene schools then in existence 62 were eligible for basic improvement grants and received on the average \$18,200 each and parallel figures for dental assisting are 20 of 100 schools with an average grant of \$13,750 and for dental laboratory technology, 12 of 23 schools received some \$11,000 each.

Such figures fall far short of what we believe the level of Federal participation should be.

Despite this paucity of funding, the dental auxiliary fields have managed to show significant growth, and I call to your attention the appendix to our statement.

(The information referred to follows:)

#### APPENDIX

##### I. INCREASE IN NUMBERS OF GRADUATES DURING PAST DECADE

	1960	1969
Dental hygienists.....	1,219	2,269
Dental assistants.....	658	2,704
Dental laboratory technicians.....	95	360

##### II. AVERAGE AMOUNTS RECEIVED UNDER BASIC INSTITUTIONAL GRANTS

	Fiscal 1967			Fiscal 1968			Fiscal 1969		
	Total schools	Number receiving grants	Average grant	Total schools	Number receiving grants	Average grant	Total schools	Number receiving grants	Average grant
Hygiene.....	81	51	\$9,300	101	53	\$22,260	102	62	\$18,200
Assistant.....	100	17	7,150	171	18	16,630	179	20	13,740
Laboratory technician....	15	4	7,110	19	10	14,250	23	12	11,140

## III. GRADUATION INCREASES NECESSARY TO MEET FUTURE NEED

[Present ratios: 100 dentists to every 17 hygienists and 101 assistants. Desired ratios: 100 dentists to every 40 hygienists and 200 assistants.]

1. Hygienists:	Total
(a) Hygienists needed by 1980.....	56,000
(b) Current hygienists expected to be still active in 1980.....	8,000
(c) Number of hygienists who must be graduated in next 10 years.....	48,000
(d) Expectable graduates based on current rates.....	23,000
(e) Deficit.....	25,000
2. Assistants:	
(a) Assistants needed by 1980.....	220,000
(b) Current assistants expected to be still active in 1980.....	55,000
(c) Number of assistants who must be graduated in next 10 years.....	165,000
(d) Expectable graduates based on current rates.....	28,000
(e) Deficit.....	137,000
3. Technicians:	
(a) Technicians needed by 1980.....	50,000
(b) Current technicians expected to be still active in 1980.....	21,500
(c) Number of technicians who must be graduated in next 10 years.....	28,500
(d) Expectable graduates based on current rates.....	5,000
(e) Deficit.....	23,500

Dr. BURKET. Considerable credit for this, we believe, should be given to the universities, medical centers, non-Federal public authorities, and private health organizations.

More realistic Federal support is however essential if growth is to accelerate, much less continue. In addition to the contribution Federal support can make directly, experience with the Health Professions Educational Assistance Act clearly demonstrates that the very presence of a realistic level of Federal funds stimulates the States and private institutions to find ways to increase their participation.

It is we believe time for the executive branch of the Federal Government to align its actions more closely with its exhortations. Renewal and extension of the law you are considering is an appropriate place to begin.

As we have noted, all of the bills before you offer extension and improvement of this law. They do differ, however, in a number of important ways. Our organizations would like if we may to suggest some guidelines that the committee may wish to consider when making its final choice as to the nature of the bill it will report.

The first guideline has to do with length of extension. Our organizations believe the law should be extended for 5 years, as provided in S. 3586.

A 1-year extension we understand is preferred by some on the grounds that it would bring this law into timing with the Health Manpower Act and thus permit an overall review and revision of all health field legislation at the same time.

The motivation is understandable, but surely this possibility is not foreclosed by reason of a longer extension, and there is ample precedent throughout Federal legislative history for the revision of a law, where appropriate, prior to its expiration date.

On the more positive side, a 5-year extension gives forthright notice to all non-Federal agencies involved that the Federal Government appreciates fully the necessity for this program and is committed to it on a long-term basis. Such notice is always welcome.

It is especially important we think in this instance since the experience under the law thus far may well have given rise to doubt in some minds as to the dependability of the Federal intent.

A second guideline we would suggest is that the bill reported by the committee should contain specific funding levels for the various programs authorized.

It is this committee that has the membership and staff expertise in the area. It is this committee that holds hearings and receives testimony from outside experts.

The legislation it takes to the floor should be as precise as possible but not only to guide and inform the Senate but as a whole but also the Appropriations Committee that must subsequently vote funds to implement the programs. Dollar authorizations serve this purpose and ought to be included. In addition realistic dollar amounts again underscore the fact that Congress understands the dimensions and urgency of the problem.

The bills before you are similar in detaching basic improvement grant funds from other grant funds included in the law that are intended for specialized purposes. We agree with this and with the proposal that potential beneficiaries of special grants be broadened beyond just training centers.

The bills differ, however, in that one would place all special project funds into a single section. This has the virtue of simplicity but also the failing of obscuring the distinct nature of and vital need for these varied activities.

We would suggest that the committee separate these special purposes by category as is done in S. 3586, thus helping to assure that each will receive the attention it deserves during the appropriations process.

We believe further that S. 3586 should be amended to require now that special project support be limited to educational programs that are approved by recognized accrediting agencies.

Two of the bills before you propose beginning some new programs not now in the law, such as scholarship grants, capital contributions loans and a revolving loan fund.

We urge the enactment of these programs and their establishment will provide a steady, stable source of financial support enabling talented young people of modest means to pursue careers in these health auxiliary fields where their ability and energy is so badly needed.

The most unsatisfactory situation being presently experienced by professional health school students with respect to the Office of Education is guaranteed loan funds makes us most dubious of suggestions that the students in the allied health field should also be forced to seek help solely from that source.

There is an obvious, distinct, high-priority need for financial help to students in this area. We do not believe that the availability of such help should be tied to the unavoidable fluctuations of the national money market.

As a last comment on the Allied Health Professions Personnel Training Act, our organizations should like to make special note of the traineeship provisions of the law.

In many ways, continued and expanded support of this activity is the most critical aspect of the entire legislation. The production of more teachers and administrators is an essential key to a more generous supply of health care personnel.

Finally, before concluding our testimony the American Dental Association and the American Association of Dental Schools would like briefly to comment on the section of S. 3586 that would amend the Health Professions Educational Assistance Act.

We would agree that the question of funding support of new schools during their preoperative phase needs sympathetic attention.

We would, then however, be concerned over any action that would tend to reduce the present level of operating grants, already too low, for existing, operative health professions schools.

Since general revision of the Health Professions Educational Assistance Act will be the subject of legislative attention in the near future, we would suggest that unless separate funding is provided this provision of S. 3586 be considered at a later date.

Mr. Chairman, this concludes our testimony. We appreciate this opportunity to appear and would be glad now to answer any questions.

The CHAIRMAN. Thank you for this very helpful testimony, Dr. Burket, and you pose a problem there in separating this money in the bill into specific categories.

I do favor categorical grants, because we have found in HEW in both education and health, if we put lump sums in that we like to beg for, programs will be shunted aside and they will spend this on pet programs.

To split the money for these authorizations would be difficult. I realize your great need in the dental professions.

I helped pass the bill for funding for dental schools.

Is it correct that two dental schools have closed their doors in the past few months?

Dr. BURKET. One has, and others are concerned about their status. Our health manpower in dentists is already acute, and while these new schools in the development phase will help us to handle this shortage, but not completely eliminate it, the need for the assistants to make the productivity of the dentist greater are needed.

In reference to the amount of money spent, these are rather modest amounts needed for the establishment of a new dental school as the Senator from Colorado knows.

The CHAIRMAN. If you have a man in practice in a one-man office, how much is his productivity increased by one assistant?

Dr. BURKET. It is estimated it is increased 60 percent, with one really efficient chair side assistant.

Miss BURNETT. I would say the productivity would increase 50 percent. I work in a one-man dental office and my employer is pushing for legislation in New York State to accept extended responsibilities for the dental assistant.

He feels that production is increased in the dental practice if we are granted this permission.

Dr. BURKET. I might say, Mr. Chairman, that many States are now, by rules and regulations, or by the changes in their practice acts, are making it possible for dentists to assign procedures which do not require the full skill and judgment of the dentist.

For example, in my own State of Pennsylvania we have a very broad delegation of responsibility to recognized auxiliaries to carry out a variety of procedures, which would increase even further the dentists productivity in terms of units of health service rendered.

The CHAIRMAN. Virtually every practicing dentist has a dental assistant, doesn't he?

Dr. BURKET. If he can find one, he does.

The CHAIRMAN. But you have only one dental hygienist to every five or six dentists.

Dr. BURKET. That is correct.

The CHAIRMAN. What does the dental hygienist do that the assistant dental hygienist can't do?

Mrs. McCAIN. The dental hygienist differs in that she must be licensed to perform specific oral procedures. In the case of the dental hygienist there procedures are directed toward the prevention of oral disease. Clinical hygienists include removing deposits and stains from the teeth for the prevention of disease, applying substances to the teeth for prevention of dental decay, preparing clinical and laboratory diagnoses tests for interpretation by the dentist, charting existing conditions of the teeth and supportive structures, exposing and processing dental X-ray films and maintaining patient records.

The dental hygienist works with the dentist in planning for and providing oral health services appropriate for individuals and groups.

The CHAIRMAN. Thank you very much.

Senator Dominick?

Senator DOMINICK. Doctor, on page 3 you refer to the need for 65 new 2-year dental hygienist schools. Is this because of the necessity for licensing of dental hygienists in the respective States that you have to have specific schools for dental hygienists?

Dr. BURKET. No, sir; it is the need for supplying us with more trained hygienists. We have relatively little problem with the migration of hygienists from one State to another.

Maybe Mrs. McCain can tell us if there is a State without a hygienist school. I think we have pretty good coverage.

Mrs. McCAIN. It has improved. Currently there are 102 dental hygiene programs which are in operation in 40 States, the District of Columbia, and Puerto Rico.

Now there are 29 additional programs that have been proposed and of these 15 are projected to begin operations this fall. Two of the 15 are in an additional two States.

Senator DOMINICK. Why do we need special schools for this? Why can't this be incorporated in a community college program?

Mrs. McCAIN. They are. Of the 102 programs in operation, 53 are located in the junior and community colleges, and also the technical institutes—

Senator DOMINICK. To what extent is the association of dental hygienists promoting this?

Mrs. McCAIN. We are participating with a great deal of interest in promoting the community college junior college setting.

Senator DOMINICK. I wish you would go to work in my State, because as far I know they don't have any in the community colleges, maybe in the junior colleges. Why don't they start training guys and girls for this.

Mrs. McCAIN. One factor which is the biggest problem right now in proposing and implementing new dental hygiene programs is the lack of teaching personnel, the lack of directors for these programs and the lack of faculty.

This is our greatest need in dental hygiene education.

Senator DOMINICK. Could you please repeat that.

Mrs. McCAIN. This is our greatest need in dental hygiene education.

Senator DOMINICK. More teaching personnel. We don't get at this in this particular bill.

Mrs. McCAIN. Through the traineeships and also through funds which are provided through the basic improvement grant section, the on-going support is very definitely needed for our programs to expand what they have.

Dr. BURKET. Sir, if I might say so, the community college, I think, is a vrey fine situation for these auxiliary training programs, provided they have associate clinical facilities. I have visited some of these programs in community colleges for accreditation purposes, and they have been excellent. In fact, they are superior to those associated with dental schools.

On the other hand we find considerable variability in these, programs more so than in dental schools. But we have an accreditation procedure which assures the graduates of these auxiliary training programs, or dentists that the graduates have a minimum skill level and understanding so that they can render the service to the public without any danger or hazard to the public.

Senator DOMINICK. A dental assistant, as I understand it, does not have to be as highly trained as a hygienist, at least initially.

Dr. BURKET. That is correct.

Miss BURNETT. That is correct.

Senator DOMINICK. Then dental assistant programs could be started in some places where dental hygienist programs couldn't.

Miss BURNETT. Community colleges are supporting our programs. We have 38 States with dental assistant schools and one in Puerto Rico.

Senator DOMINICK. Will you come into our State and get others started?

Miss BURNETT. We will try.

Dr. BURKET. They have to have the cooperation of the professionals in the State.

Senator DOMINICK. I don't think that is the problem. I think they have not gotten around to it.

Miss BURNETT. We do have a school in Colorado, the Emily Griffith Opportunity School.

Senator DOMINICK. That has been going for years. I am talking about the community colleges system.

Miss BURNETT. We will see what we can do for you.

Senator DOMINICK. OK.

Does the hygienist association or the dental assistants have any scholarship funds for loans to people trying to get trained?

Miss BURNETT. Yes, we do.

Mrs. McCAIN. We have a program we administer and annually.

The American Fund for Dental Education gives us input for our scholarship programs.

Senator DOMINICK. Are these grants or loans?

Mrs. McCAIN. These are scholarships.

Senator DOMINICK. A scholarship can be either a grant or a loan.

Mrs. McCAIN. No, we don't have any loan program or grant. Our dental hygiene students are, of course, eligible for the guaranteed student loan program and the National Defense Education Act, but we do not have statistics on how many receive support through these channels, only to say that it is minimal.

Senator DOMINICK. How about the dental association?

Dr. BURKET. We also have individual funds at all the dental schools. In the institutions with which I am connected, we put out about \$630,000 in student aid last year.

A little over half of that was pure scholarship funds. Some was from the Federal sources, and the majority of it came from our own university, which is a private institution, although it bears the name commonwealth.

Mrs. BURNETT. The dental assistance program does have a scholarship fund. The money is given by the Weber Manufacturing Co.

Some funds are donated by the Coal Laboratories in Chicago. We have our own scholarship funds, and the moneys are donated by component societies within our association.

We do have a teacher scholarship fund. Some of this money is granted to us through the W. K. Kellogg Foundation.

Senator DOMINICK. So your money for providing this assistance largely comes through private organizations?

Miss BURNETT. Yes.

Senator DOMINICK. Do you grant loans?

Miss BURNETT. No, we do not.

Senator DOMINICK. Has anybody experimented with this?

Miss BURNETT. Yes.

Dr. BURKET. In dental education it is we have a rather extensive loan program. Some funds are available through the university and others from other sources. In fact, in order to gain the need in dentistry today, we have to tap all sources.

Some of our students have a need of from \$4,000 to \$5,000 in additional funds, because they have gone through 4 years of college before they come up to us.

So any benefits they may have accrued from prior military service have been expended by this time, and usually they have a larger family than they had before.

They are a real problem to us. However, through funds that have been made available through the Federal Government and also from our local dental society, no student has had to withdraw because of lack of funds in the 20 years I have been dean of the University of Pennsylvania.

Senator DOMINICK. Doctor, from the bills I pay for dentistry I don't think the dentists themselves are too badly off. Has anybody tried to raise money for assistant training programs from dentists?

Dr. BURKET. You are speaking to one who visited a lot of dentists 5 years ago in trying to raise money to rehabilitate and equip our new clinic, which we did without any Federal funds whatsoever.

To try to lift about \$1.6 million out of dentists' pockets is a difficult problem. We run into all sorts of health problems and additional responsibilities that we were not aware of that the dentists had. But I think dentists are becoming far better educated to the need for sup-

porting their dental schools, and all dental schools now have what they call annual giving of funds, which are generously supported by the alumni.

However, they are not in support of student loans for this for the most part.

Senator DOMINICK. I just bring it up because I have had very good friends in the dental profession. I will give you one example. I took 23 cards for the St. Lukes Hospital extension in Denver. Out of those 23 cards, I got \$28 from the dentists I approached.

I got \$100 out of a Mom and Dad grocery store. I got mad and walked in and said, will you contribute? They said, sure. This experience indicated to me that I had not been aggressive enough with the dentists and I just wonder if you are making any real hard push to try to get the funds for this type of work.

Dr. BURKET. Sir, we are beginning with the undergraduate dental education program, and we are indoctrinating our students with behavioral sciences, and with their responsibility to society, and I trust that this will be a significant change in the young graduating class going out.

We find that he is much more community conscious, and we hope that he will be more community responsible in matters such as you just quoted.

Senator DOMINICK. I want to say for the record, Mr. Chairman, that my name is on one of these bills which has such funds as may be necessary. You know my feeling about specific authorizations.

The CHAIRMAN. I welcome you to the open ended authorization club, Senator.

Senator DOMINICK. I want to tell you, you will never get that bill past me. I was encouraged to see Dr. Burket say that we needed very definitely specific authorizations.

That is all I have, Mr. Chairman.

The CHAIRMAN. Mrs. McCain, how many years of postsecondary education is required for dental hygiene?

Mrs. McCAIN. For the performance of the basic clinical hygiene service, 2 years are required.

The CHAIRMAN. How many years of postsecondary school education are required for the dental assistant?

Miss BURNETT. A dental assistant may be educated by the man by whom she is employed. She may attend a 1-year school or 2-year school.

The CHAIRMAN. What do you call young ladies who go into dental schools and get a degree but not as a dentist?

Mrs. McCAIN. I can clarify that for you, Senator.

The CHAIRMAN. It is some kind of assistant.

Mrs. McCAIN. Yes. The baccalaureate program—I have this broken down. The baccalaureate program for the dental hygienist, there are two different types of baccalaureate programs, but both of them do prepare the hygienist for practice in one of the several specific areas of dental hygiene.

The first is public health. The second is educational institutions and which would be teaching dental hygienists, or hospitals, which would include more in addition to the basic dental hygienist uses.

The CHAIRMAN. I attended a graduation exercise in this field. Some were dentists in the class, but very few. I thought they were dental hygienists. There are hygienists of certain specified types?

Mrs. McCAIN. Yes.

The CHAIRMAN. Thank you, Doctor, and you two ladies for giving us information about your respective specialties. Our next witness is Mr. Nicholas Pohlit, executive director, National Environmental Health Association, Denver, Colo.

**STATEMENT OF NICHOLAS POHLIT, EXECUTIVE DIRECTOR, NATIONAL ENVIRONMENTAL HEALTH ASSOCIATION, DENVER, COLO.**

Mr. POHLIT. Thank you, Mr. Chairman.

The CHAIRMAN. We are glad to have you present your testimony today, Mr. Pohlit.

Mr. POHLIT. Thank you, Mr. Chairman.

Mr. Chairman, and Senator Dominick, as executive director of the National Environmental Health Association and managing editor of the Journal of Environmental Health, I am delighted to have this opportunity to speak in behalf of the Health Training Improvement Act of 1970.

I know that you are probably tired and hungry also, and so I will try to summarize my remarks.

The CHAIRMAN. That would be helpful to us. We have a number of other witnesses on the list.

Mr. POHLIT. I will try to speed things up for you.

The National Environmental Health Association is composed of professional, trained, environmental control personnel and has been in existence since 1937. It is the largest environmental health association in the country today.

What I would like to talk to you primarily about, Mr. Chairman, is the undergraduate area. This seems to be one of the biggest problems in the Nation today, and these are the people who are being recruited in the public health field to manage the environmental health programs.

These are the people who should have a specialty in the environmental corps area, even we start talking about an academic training. We have approximately 33 schools in the country today, and I can foresee that within the next 2 or 3 years we will probably double that figure.

What has really happened, though, in this Allied Health Professions Personnel Training Act since it has been in existence is that the schools have not been receiving their share of the funds, as I would see it from a biased standpoint.

It so happens that during the past fiscal year approximately \$193,000 was given to these schools; that is, 19 of them really applied for it. When you average it out, it will come out to approximately \$10,000 per school, which you know is just enough for janitorial help, and this is about it.

So we are trying to lick the problem of the environment, and this is almost impossible at the pace we are going in.

So I am saying here today that whatever can be done to enlarge on the type of appropriation that we are talking about here would be most appreciated by all of the taxpayers in the country.

Let me give you an example. I just happened to be up in Fairbanks, Alaska, last week, to attend an arctic conference up there and so I had an opportunity of being taken around by the director of environmental health of the city of Fairbanks, and I know the way this city is being planned, it is like many, many others throughout the Nation.

It reminds me when I was in Adams County, Colo., where there just was not any good management whatsoever. This is the same thing that is happening in Alaska, one of our newest States, so I can see what type of dilemma we are facing today.

If we don't have trained people, we are lost, lost completely. It reminds me of the medical doctors, and the dentists and many, many others, but they seem to be getting more than their share of what is really intended for them.

It is just like in the Federal Government here where we have top people, but in the health field it is all run by the medical practitioners.

What happens when we ask for any type of funding whatsoever for our schools, we are laughed at generally. This I must say has been happening during the past 13 years since I have been on this job.

To go a little bit further, I do want to point out that we have been in existence over 30 years now, and education has been one of our prime roles.

We do have sample curriculums and guidelines for establishing a program in the undergraduate area. We have established the National Accreditation Council to approve programs and to maintain surveillance and of accepted programs, and it is our speculation that we need at least 50,000 environmentalists by 1975. At the moment, we are only producing 150 well-trained environmentalists from these schools today.

To meet our needs of 1,500 graduates per year from environmental health programs, it will take approximately four and a half million dollars per year, plus an increase in facilities for another 33 schools which is estimated conservatively at \$33 million just for physical facilities.

Staffing these new schools is placed at a cost of \$75,000 per year for each school, and I must say, if you don't have a teaching staff there is no point of sending the students to the schools.

For five professional teaching specialists at each, if stipends of \$1,000 were provided for 25 percent of the students enrolled, and there were a total enrollment in the programs of 6,600 students in classes, the need for support money would amount to \$1,650,000 annually.

To proceed on a little further, I happened to be in Mississippi a year or so ago. I was able to recruit a Negro as director of environmental health. This is one of the most deprived areas in the country.

When I tried to recruit such an individual, it was almost impossible. I telephoned Dr. Ben Friedman, who is director of training with the Louisiana State Department of Public Health, and I asked him

whether he had any Negroes who were quite competent in the field, and he said, "No, we just don't train the Negroes."

This is the typical type of response that I received all over the Nation. But if we are to alleviate the conditions which we have in the rural areas of the South, along with the ghettos we need this type of trained person who can really get the job done and who knows how to work with this group.

Money is needed for these schools and I would like to mention to you just in what way it would be used.

That would be for classroom and laboratory facilities for field training, and for faculty, for student recruitment and for adequate living and tuition money for those students who need it.

Funds must be obtained to produce literature, audiovisual aids, manpower to recruit students from high schools and junior colleges. Of course, it is the same song and dance that you hear constantly but it is very, very important.

Again, when you realize the many, many areas that we are involved in, such as solid wastes, air, water, wastes, housing, urban environment, food and noise, recreation, occupational health, pesticides, insect control, and I could go, on and on, but these are just merely a few examples.

We do have a career ladder for these people going from the 2-year program, the associate degree program, through the doctoral program, and I think we could be well on our way, but we do need financial support from the Federal Government, which has been impossible to get up to this point to any degree.

I would appreciate any questions that you may have in reference to what is happening in our Nation, because I do feel I am current with what is happening, since I am traveling constantly.

I want to again thank you very much for the opportunity to appear before you.

(The prepared statement of Mr. Pohlit follows:)

PREPARED STATEMENT OF NICHOLAS POHLIT, EXECUTIVE DIRECTOR, NATIONAL ENVIRONMENTAL HEALTH ASSOCIATION, DENVER, COLO.

In order to accomplish the goals set by President Nixon and the citizens of this country for a clean, healthful living environment, it is mandatory that we enlarge our manpower pool of professionally trained environmentalists who are knowledgeable in all facets of environmental needs. These people should not be merely biologists, zoologists, chemists, physicists, and engineers. They must be total-environment oriented.

Therefore, they must be trained in special undergraduate schools of environmental health which include courses in relating the natural and biological sciences with the social sciences and human inhabitation of the planet earth.

Environmental quality management, as well as any other effective program of quality management or quality control, requires a body of qualified individuals to plan, administer, and implement the program and to continuously evaluate the effectiveness of the program.

The present body of environmental health specialists has developed from the need for effective environmental quality management. Sanitarians and engineers have become key professionals in this program, with valuable assistance from the various laboratory disciplines, health educators, public health physicians, social and political scientists, to name a few.

One of the major problems associated with the lack of recognized, structured educational programs is almost total lack of recruitment into the field

of environmental health. Good environmental quality management cannot be achieved without a continuous input of new, qualified personnel to expand activities and to replace those who have retired or left the field. Few of those now working in environmental health entered college with any thought of a career in that field. Many were not aware of careers in the field until their senior year or even after graduation. The lack of formal education has deferred environmental control and has held it to emergency type programming, mainly because of lack of qualified personnel.

In an undergraduate course in Environmental Health, the basic public health training and indoctrination can be accomplished, with more specialized training relegated to the graduate program. Students majoring in environmental health during undergraduate education are more interested and conscientious students and better workers after graduation since they don't just stumble into an available job.

Persons receiving an undergraduate degree in environmental health can begin work immediately without the period of orientation and indoctrination required of graduates from other disciplines. In fact, employees with this type of training are perhaps better indoctrinated than those receiving orientation from the wide variety of programs offered by local health departments.

In addition, an undergraduate program in environmental health feeds the graduate school. Ninety percent of those who earn a bachelor's degree in environmental health stay in the field and about 40 percent subsequently earn a master of science, master of Public Health, or Doctor of Public Health degree.

There is urgent and ever-increasing need for professional environmentalists. In most public health or environmental health agencies in this country, a bachelor's degree is required before a person is employed. At present, the supply of qualified persons does not meet the demand, but the supply could be increased measurably if undergraduate education was encouraged, fostered, and supported.

Precedent has been established for undergraduate support of other allied health professions such as nurses, dental hygienists, occupational and physical therapists which are eligible for scholarship grants from federal funds. We believe consisted undergraduate education in environmental health should be encouraged by providing funds for expanding and improving present curricula and creating new curricula through the Allied Health Professions Personnel Training Act.

Today, our problems are more complex than they were 20, 30 or 40 years ago. Then, control of communicable diseases was the main target of public health personnel, along with surveillance of food, milk, water, and the like. Today the problems of air pollution, solid wastes, housing, industrial hygiene, injury control, chemical and radiological contaminants, physical stresses such as noise, and emotional stresses of urban living and crowding may be more hazardous to the health and well being of the nation. Specialists, as well as ecologists are needed to handle these problems. In addition, regional planners and urban redevelopers must call upon the expertise of these new disciplines to minimize future environmental problems.

The National Environmental Health Association and its individual members have worked throughout the last 30 years to develop professional environmentalists and have been instrumental in establishing educational standards for undergraduate curricula in environmental health. Today we have a sample curriculum and guidelines for establishing such a program in undergraduate education. We have also established the National Accreditation Council to approve such programs and to maintain surveillance of accepted programs. There are 33 existing schools of environmental health leading to a bachelor's degree which are producing 150 environmentalists annually. The need is for ten times this number, and with a forecast of 50,000 environmentalists needed by 1975 every possible effort should be made to assist schools that have an undergraduate curriculum in the field of Environmental Health.

To meet the need of 1500 graduates per year from environmental health programs, it will take \$4½ million per year, plus an increase in facilities for another 33 schools which is estimated conservatively at \$33 million just for physical facilities. Staffing these new schools is placed at a cost of \$75,000 per year for each school, for five professional teaching specialists at each. If stipends of \$1000 were provided for 25 percent of the students enrolled, and there were a total enrollment in environmental health programs of 6600

students (in four classes), the need for support money would amount to \$1,650,000, annually. This means we must get from somewhere, \$6½ million annually, plus at least \$33 million for new construction!

Since the April 22, 1970 Environmental Teach-ins, The National Environmental Health Association has received many inquiries from colleges and universities for information on programs in environmental health and for our suggested curriculum. More and more students from high schools and colleges are requesting information on careers in environmental control. Industry is being forced to employ environmental control personnel—manufacturing plants, power plants, mining companies, food service, and many other areas—and they will be attracting some existing environmentalists with higher salaries than they are getting in the public sector. On the other hand, many university graduates of today are ignoring industry with its acknowledged high salaries and are looking for careers with personal, rather than financial, satisfaction.

The Health Training Improvement Act of 1970 (S. 3586) amends the Allied Health Professions Personnel Training Act of 1966 to establish the eligibility of new schools of medicine, dentistry, osteopathy, pharmacy, optometry, veterinary medicine and podiatry, for grants under existing programs. Schools of environmental health, however, have not received adequate funding. In the last fiscal year approximately \$193,000 was divided among 19 schools for improving programs in environmental health. With an average of \$10,158 going to each school, this might pay for one instructor, or a small amount of laboratory materials, but was rarely enough for any expansion or improvement, much less enough to recruit new students to the field.

We have the potential for a sufficient manpower pool since there are many, especially in the underprivileged groups, who want an education, and because of their background would be desirable workers in environmental health. Thousands of young persons in the ghettos and rural south know what the problems are. Who would be better, if trained, to cope with those problems. In order to develop this potential, we must have adequate funds for living, proper food and clothes, to create an environment for them whereby they can learn, graduate from high school, go to college of known quality and become valuable to the work force of America.

Money is needed for schools of undergraduate training in environmental health. Funds must be obtained for classroom and laboratory facilities, for field training, for faculty, and for student recruitment, and for adequate living and tuition money for those students who need it. Funds must be obtained to produce literature, audio-visual aids, and manpower to recruit students from high schools and junior colleges into undergraduate programs in environmental health.

Environmental health personnel are involved in the *total* health of man, not just the medical, nursing or engineering aspects, but all of these together and all other health phases in the environment. They protect man's health through control of such environmental factors as food, milk, air, water, radiation, metropolitan planning, accident prevention, pesticide control, hospital sanitation, communicable disease control, insect and rodent control, safe housing, industrial hygiene, sewage and waste disposal. In all of these areas, it is essential that the environmentalist have the necessary educational background to recognize the multiplicity of the problem. This is obtained only through the undergraduate program in *environmental health*.

The National Environmental Health Association, urges the federal government to cooperate to the end of developing new professional environmentalists by including "environmentalists and other environmental health personnel" inserted after—"allied health professions" in the first paragraph of the bill. It is also suggested that this be repeated in each place appropriate throughout the bill, such as Section 795 (a) and (a) (1), Section 796 (a) etc.; thereby, making our colleges and universities that have a curriculum in Environmental health at the Undergraduate area eligible for improvement grants.

We must take time to define the word, "environment." Actually it includes everything outside the human body that affects/directly or indirectly in any way. The environment, then, consists of a complex mixture of human and other living things, water, air, waste, food, chemicals, machines, buildings, sounds, and intangible stresses of all kinds. The concept of relationships or mutual influences that exist between the various known factors in the environment is

important to environment health. Each component of the environmental structure must be considered a keystone to which all other parts are related in some way.

The United States government has been floundering in the environment as much as anyone engaged in environmental programs. Within the past six years, we have seen four major reorganizations with regard to public health, environmental control, and consumer protection. There was a big reshuffle in October, 1968 which has not settled down yet. With all this concentration on who is going to do what, there really hasn't been much accomplished. The National Environmental Health Association believes that the federal government (including the administration, congress, and the legislative branch) should come up with some immediate answers regarding responsibility for total environmental control and action, and get on with the job of cleaning up, and maintaining a clean and healthy environment.

There will have to be some pretty sound plans made—plans that include looking toward the future so that what is done today will be a stepping stone or building block for tomorrow.

Population control has raised its head as a new concern in the United States. This was when we had more space than anyone thought we would ever need—more land for development, more land for agriculture, more land for recreation, more land for . . . But time is running out, land and resources are running out. Population is growing and predictions are that we will be stacked on top of each other all over the land within the foreseeable future. I don't think anyone really believes this will happen—but it could.

Control of population requires awareness of every individual as to what could really happen. Creating such an awareness must fall into the hands of persons most knowledgeable of environmental limits, and at the same time persons qualified to deal with people in the field of human relations. New concepts have to be built, new values set, perhaps a new moral fiber developed. Man's knowledge, attitudes, and behavior substantially determine his environment, his health, and ultimately his chances to exist on earth.

Presently, environmentalists are not directing their efforts to changing people. Rather they are attempting to bring about ecological changes by changing the environment. Often this change is temporary, ineffectual, costly and limited in its influence on the total environment. Professional environmental behavioral scientists must move effectively to control environmental deficiencies at their source by controlling attitudes and behavior patterns of people. We must develop the manpower to meet this challenge and we must do it now, through recognition of these professionals by the United States government in the Health Training Improvement Act of 1970, and allocation of funds to schools of environmental health to create new undergraduate programs and to measurably improve those now existing.

The nation's total health outlook must take in all the health professions, and those professions must cooperate in order to provide what Congress has declared our national purpose, "promoting and assuring the highest level of health attainable for every person, in an environment which contributes positively to individual and family living." Training for this national goal must start with environmental health in which the total health picture can be evaluated and solutions made by relating the natural and biological aspects to the social and human inhabitation aspects. Environmentalists and environmental health must be specifically stated in the Health Training Improvement Act of 1970.



*the*  
**ENVIRONMENTALIST**

(199)

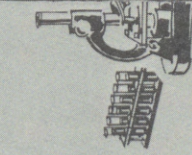
# WHO QUALIFIES?

The student whose field of interest is:

*entomology*

*biology*

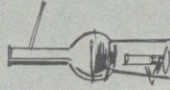
*ecology*



*chemistry*

*microbiology*

*community health*



and who aspires to working alongside...

*physicians*

*public health nurses*

*public health engineers*

*housing specialists*

*nutritionists*

*health educators*

*epidemiologists*

*community planners*

*A New Career with a bright tomorrow...*

## THE ENVIRONMENTALIST

### THE NEED IS GREAT

Today's students are the work force of tomorrow. They will have to solve environmental problems of an increasingly populated world in order to maintain livable conditions. Environmentalists in practice today are "first generation," and those who begin such a career in the future will be responsible for providing new skills to cope with new and growing environmental problems.

The need is for positive, effective, direct action, not only toward minimization of environmental hazards but also toward developing positive attitudes among people who are in reality factors of the environment.

Present practicing professional environmentalists now number some 25,000; whereas, projected needs run into the 75,000's in the next few years, and even more in the 1980's.

Controllable environmental hazards continue unabated because there are not enough persons with skills necessary to take action against them, and authorities agree that if we fail to act soon on what we know, we will no longer be able to control our ecological fate.

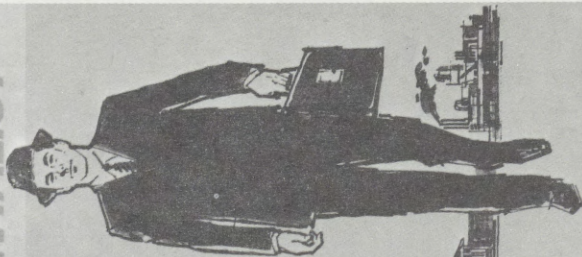
Quality professional environmental health personnel are a must to such a control program. The profession invites college and young career people to join the crusade for a livable environment. Become a professional environmentalist.

### THE JOB...

to keep our nation healthy,  
working in all areas where people

LIVE... WORK... PLAY...

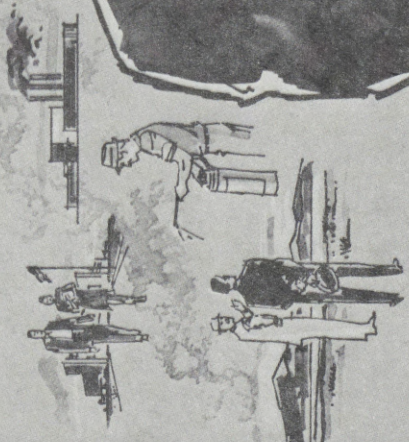
to make a healthier community.



# THE SCOPE OF ENVIRONMENTAL HEALTH

## Healthful Environment

Home - Industry - Schools / Preventive  
Medicine / Accident Prevention /  
Toxic Substances / Insect Control /  
Healthful Housing / Air, Water and  
Solid Wastes



## Food

Food Service Consultation /  
Microbiological Control of Food /  
Processing / Pesticides and Toxicity /  
Dairy Products Production Management





## Recreation

Swimming Pools / Parks / Recreation  
Areas / Mobile Home Parks

## Water Resources Control

Water Supply Development /  
Laboratory Control Methods /  
Epidemiology of Water Borne  
Diseases / Water System Hydraulics /  
Waste Water Treatment

# EMPLOYMENT OPPORTUNITIES

## TODAY

Second largest group of public health workers / Majority of states have professional and academic standards / Utilization by industry and institutions

## TOMORROW

National Environmental Health Association goals are: A professional Environmentalist for every 10,000 citizens / Adoption by all states of professional and academic standards / Expanded utilization by industry and institutions

## ADVANTAGES

Good starting salaries / Increases and promotions as the result of advanced training in technological areas and/or management / Many fringe benefits — vacation, sick leave, hospitalization, retirement program / Association with all segments of the population

## International Health

World Health Organization / Agency for International Development / Peace Corps

## Official Government Agencies

U. S. Public Health Service / U. S. Food and Drug Administration / Federal and State Institutions / Housing Authorities / State Health Departments / State Agriculture Departments / Local Health Departments

## Private Industry

Hospitals and Institutions / Food Processors / Technical Sales / Industrial Plants / Insect and Vector Control Industries / Professional Trade Associations

## Universities and Colleges

Faculty Members of Universities and Colleges including: Schools of Public Health / Teaching and Research Opportunities / Director of Environmental Health Program

# EDUCATIONAL REQUIREMENTS

Preiding

Bachelor of Science in Environmental Health

Academic

Bachelor of Science in any of the basic sciences

Recommenad subjects

Communications — English, Writing, Public Speaking, Graphics / Basic Social Sciences / Basic Biological Sciences / Basic Physical Sciences

Specialized

Microbiology with support from Chemistry and Physics / Chemistry, strong Microbiology support, basic Physics / Physics, strong Chemistry support, basic Microbiology

Additional Assurances

Scholarships are available at many schools. For information send attached post card at rear of this folder.

## TYPICAL CURRICULUM

These recommendations are designed to indicate areas of emphasis. Local institutions may offer additional courses within these areas. It is recognized that there may be local differences in the way in which these areas can be resolved by detailed identification of subject matter.

### BACHELOR OF SCIENCE IN ENVIRONMENTAL HEALTH

- (1) **COMMUNICATIONS**  
English Composition<sup>1</sup> Oral Communications<sup>1</sup>  
Technical Writing<sup>2</sup> Graphics<sup>2</sup>
- (2) **HUMANITIES**  
Western Literature<sup>3</sup> Foreign Language<sup>4</sup> Art<sup>1</sup>
- (3) **SOCIAL SCIENCES**  
Psychology<sup>5</sup> Economics<sup>5</sup> Sociology<sup>5</sup>  
Government<sup>6</sup> Anthropology<sup>6</sup> History<sup>6</sup> History<sup>6</sup>
- (4) **MATHEMATICS**  
Algebra & Trigonometry<sup>7</sup> Biostatistics<sup>8</sup>  
D. Calculus<sup>7</sup> E. Calculus<sup>7</sup>
- (5) **CHEMISTRY** Analytic<sup>9</sup> Organic<sup>9</sup> Biological<sup>9</sup>  
Biochemistry<sup>9</sup>
- (6) **PHYSICS**  
Mechanical<sup>10</sup> Strength<sup>10</sup> recommended: Local Option<sup>10</sup>  
Sociological<sup>10</sup> Electrical<sup>10</sup> Magnetism<sup>10</sup> Light<sup>10</sup>
- (7) **BOTANY**  
Introduction<sup>11</sup>
- (8) **ENTOMOLOGY**  
Introduction<sup>11</sup> Pest Control<sup>11</sup> (or) General<sup>11</sup> Classification<sup>11</sup>  
Medical<sup>11</sup>
- (9) **MICROBIOLOGY (BACTERIOLOGY)**  
Introduction<sup>12</sup> Pathology<sup>12</sup> Pathology<sup>12</sup>  
Immunization<sup>12</sup> Quarantine<sup>12</sup> Virology<sup>12</sup> Physiology<sup>12</sup>
- (10) **ZOOLOGY** Vertebrate<sup>13</sup> Physiology (or) Introduction<sup>13</sup> Physiology<sup>13</sup> general<sup>13</sup> Parasitology<sup>13</sup>
- (11) **SPECIALIZED (CORE) COURSES**  
Epidemiology<sup>14</sup> Administration<sup>14</sup> Env. Health Sciences<sup>14</sup>  
Food Technology<sup>14</sup> Public Health Engineering<sup>14</sup>  
Food Microbiology<sup>14</sup> Plant Pathology<sup>14</sup>

Courses printed in black are required. Numbers following denote necessary credits.

Courses printed in blue are desirable. Numbers following denote suggested credits.

In-service training programs are offered by State and local health departments of the U. S. Public Health Service while person is specializing or gaining an advanced degree.

## SALARY SCALES

Salaries have been growing in recent years in response to the growing demand for good talent.

Beginning jobs usually range from \$7,200 to more than \$9,000 per year. Probably \$600 a month is close to average of state, county and city positions available.

After a few years experience, officers find salaries are substantially higher. On the average, several years experience commands about \$1,000 a year more than the beginner working for the same agency.

As the person reaches the advanced grades, salaries become quite substantial, rising as high as \$25,000 per year.

Transportation or gasoline allowances are frequently given while some positions provide an automobile.

The usual benefits of civil service careers apply to most governmental positions.

In addition, there are intangible rewards such as the respect attached to these positions and the great satisfaction that comes with knowing one's job is essential to the health and well-being of the community one serves.

The CHAIRMAN. Thank you very much, Mr. Pohlit. I know of your good work over the years and the good work your organization does, and I am impressed very much in hearing your condensation.

I have read this and two things I will comment on briefly: In one, you point out that once a person receives a degree in the environmental health field, 90 percent of them stay in the field and 40 percent of those—this is a remarkable percent of those—40 percent subsequently go to school and earn a master of science or doctor of public health degree.

You point out that 30 years ago the problems in the public health field were communicable diseases, and today they have to deal with problems of air pollution, industrial hygiene, physical stresses such as noise, emotional stresses of urban living and crowding, which may be more hazardous to the well-being of the Nation than some of the conventional illnesses.

In the interests of time, I will forego further questions. I want to commend you on the good work your organization is doing and the broadening concept of the name of your organization and how you are recognizing your role, concept and duties, and obligations to your profession.

Senator Dominick?

Senator DOMINICK. Thank you, Mr. Chairman.

Mr. Pohlit, it is good to see you here again.

I am glad that Colorado is so well represented here this morning. I would like to ask you a couple of questions concerning your statement.

You have a statement on page 6 saying that money is needed for schools in the undergraduate training in environmental health.

Is not environmental health as such a part of almost all university curricula? That is, as far as undergraduate programs are concerned?

Mr. POHLIT. No. Most of the universities have very, very little in the environmental health area. In fact it is really very disgusting, Senator Dominick, from what I have seen.

Senator DOMINICK. Shouldn't we work on that instead of building new schools?

Mr. POHLIT. Yes. I only mentioned here, and I may have been mistaken, but it is that they hardly have a spot on the campus where they can house the teaching staff in good classroom facilities for such a program.

About the only one that is of any value in the country today is at East Tennessee State University in Johnson City, Tenn., and also at Fair State College at Big Rapids, Mich.

These are pretty well taken care of. But other than this, they have cubbyholes. You know how most of the universities and colleges are run. It is very, very rough to get to the top and really get some type of a budget item on the allocation of space for such a new area as we are talking about here today when you contrast it with say math, or sociology, or chemistry, or what not.

Senator DOMINICK. You are talking about a doctorate degree, or an undergraduate degree? Do we need this degree of training with

all of the people who will be involved in environmental health? Aren't there needs for less ambitious programs to train assistants?

Mr. POHLIT. I am so glad you asked that question because just yesterday I had the privilege of meeting with the leadership at Metropolitan State College in downtown Denver, and we were discussing 2-year programs which they are incorporating right now.

Let me just point out that next week, the 27th, 28th, and 29th of May, we will be meeting in Atlanta, Ga., with some of our top people all over the Nation to incorporate this program. So we are looking for the aid, the technician, lay people and what not.

Although we say we are a professional organization, we are bringing the public into this organization to make it worth while, instead of having tunnel vision as you see in so many professional groups.

Within the next week we will have 2,500 letters going out to all the medical doctors in the State of Colorado inviting them to be a part of this.

Because as you know most of them are in curative medicine and not preventive medicine. We have these all over the Nation, and we go in and try to cure them of whatever they may be coming down with.

Senator DOMINICK. Thank you. Then you are going ahead on programming to try to get aids and assistants in?

Mr. POHLIT. Yes, it is well underway. I am working with all the college systems.

Senator DOMINICK. I understand from my brief conversation with you before your formal testimony that although Congress had indicated that environmental health personnel were eligible under the bills that we have before us, the bills have not in fact been so interpreted down town.

In that correct?

Mr. POHLIT. This is so true, Senator Dominick. I have had a very rough time promoting this area. In fact our lipservice that we normally get, and I hate to put it this way, but I don't know of any better words, is that, "Gee, we just have so many, many other people to think about and so we can't do you much good."

In fact, you should even see, for example, brochures, or motion pictures, on any of these things that I am mentioning as far as audiovisual thinking.

We are never part of that, and it is nauseating to see this happening in the Federal Government.

Senator DOMINICK. In our education acts we have had provisions to provide technical assistance in education, which included a lot of audiovisual equipment. We had testimony before the education subcommittee indicating that so much money was going into this area that education was not able to use the money profitably.

Tell me, is technical equipment being used in connection with environmental health?

Mr. POHLIT. It has not been up to now.

Senator DOMINICK. Is that the fault of the college administrator?

Mr. POHLIT. It could be. But let me point out that at 8 o'clock I met with Roger Egeberg, and we had quite a conversation, and he mentioned that he is going to work out and see if he can't get an

appointment with myself and Dr. Allen, who is Commissioner of Education, to see if we can't work out something here.

Senator DOMINICK. I think that would be helpful. A lot of these things are between Health and Education and an awfully lot of the people get bogged down on one road, when if they took the other branch of it they might find more help available.

Mr. POHLIT. I would like to make a comment along the lines you are talking about, Senator, and that is that our key is education.

In fact it makes me again laugh at times to see such large appropriations going into air pollution or solid wastes, and really it is not taking care of the problem, because what we need is skilled people.

In fact, it is like something you are familiar with, and that is, I happen to be a board member of the Metropolitan Sewage Disposal District in Denver, and have been for 10 years.

One of the directors of the State agency applied for the job as manager of this unit. I said "If you had done your job in the first place, we would not have had need for this kind of unit here."

Then so it goes throughout the Nation. We need skilled people, and you can't get this through the academic programs we have in the States today.

The CHAIRMAN. That illustrates an old legislative adage, that it was easier to get money for concrete than it was for people.

Senator DOMINICK. It still is.

Thank you very much.

The CHAIRMAN. Thank you for this very able presentation and contribution here.

The CHAIRMAN. The next witness is Mr. Richard Olden, chairman of the committee on legislation of the American Society of Radiologic Technologists of Johns Hopkins Hospital, Baltimore, Md. Do you have somebody with you?

Mr. OLDEN. The gentleman on my left is Mr. George Mead, who is our legislative representative in Washington for the national society.

The CHAIRMAN. Proceed in your own way, Mr. Olden.

**STATEMENT OF RICHARD OLDEN, CHAIRMAN, COMMITTEE ON LEGISLATION, THE AMERICAN SOCIETY OF RADIOLOGIC TECHNOLOGISTS, JOHNS HOPKINS HOSPITAL, BALTIMORE, MD., ACCOMPANIED BY GEORGE G. MEAD, LEGISLATIVE REPRESENTATIVE**

Mr. OLDEN. As you know my name is Richard Olden. I am the administrator and director of the school of radiologic technology of the department of radiology, the Johns Hopkins Hospital.

I am here this morning on behalf of the American Society of Radiologic Technologists, a professional society of approximately 11,000 members.

I am chairman of the society's committee on legislation and a member of the board of directors. I am also a past president of the society, having held that office in 1953-54.

The U.S. Public Health Service has defined radiologic technology as the science and art of applying ionizing radiation to human beings for diagnostic or therapeutic purposes.

Persons employed in this profession practice radiologic technology under the direct supervision of a licensed practitioner of the healing arts, usually a radiologist.

Within the field of radiologic technology there are several sub fields or specialties as follows: X-ray technology, radiatiton therapy technology, and nuclear medicine technology.

Each of these subfields requires special training in addition to, or an area of concentration within a basic 2 year radiologic technology curriculum.

The membership of the American Society of Radiologic Technologists is comprised of registered radiologic technologists. This means that each member is registered by the American Registry of Radiologic Technologists—a technologist certification board, founded and jointly sponsored by the American Society of Radiologic Technologists and the American College of Radiology.

The American Society of Radiologic Technologists is not only supportive of measures designed to improve education and training in its area of allied health, but is directly involved through its representatives serving on a joint review committee of the council on medical education of the Armed Medical Association in the process and training program inspection.

In addition, like most professional societies, the American Society of Radiologic Technologists is deeply involved in efforts to upgrade educational quality and enhance educational opportunity for prospective radiologic technologists.

Mr. Chairman, I am here this morning to reiterate the position of the society in support of the Allied Health Professions Assistance Act, and to declare our unwavering enthusiasm for the proposed amendments to the act which are currently before this subcommittee.

It is a well-known fact that a shortage of allied health personnel exists in our country and that in some areas this shortage has reached the crisis point in terms for providing adequate health care to large segments of our population.

This situation is unfortunately no less true in radiologic technology than in other areas of allied health. Perhaps it is even more fortunate that we cannot point to radiologic technology as an exception to this rule because we know that a dearth of qualified personnel in allied health is often filled by unqualified personnel and ionizing radiation in the hands of unqualified personnel may become an extremely lethal substance.

We know the direct causal relationship between ionizing radiation and severe somatic damage, such as cancers and leukemia. We know of the even more severe prospect of ionizing radiation causing genetic damage to humans which may not become evident for several generations of progeny until damage turns up as serious physical and mental deficiencies.

Therefore, Mr. Chairman, we feel the public has a much greater stake in elimination of unqualified users of ionizing radiation in medicine than it does in many other problem areas within our health care system.

However, Mr. Chairman, I would be remiss if I left the committee with the impression that the shortage of qualified radiologic technol-

ogists may be alleviated by Federal aid to education or, indeed, by the resources of our educational system.

Simultaneously we will have to overcome other obstacles which contribute to this shortage. I would like to briefly describe what we consider to be our two greatest companion problems to educational improvement.

The rate of increased use of radiation in medicine in recent years is not unlike the advent of the automobile. Once they caught on, X-ray machines appeared everywhere and just as the roadways of our Nation were not ready for automobile traffic, medicine is still trying to catch up with and control the use of radiation-producing devices.

There are approximately 200,000 medical and dental X-ray machines currently in use, and the Public Health Service estimates that approximately one-half of our population undergoes diagnostic X-ray processes each year.

The operation of these machines is attributed principally to approximately 117,000 individuals practicing X-ray technology.

Only 60,000 persons so engaged are registered radiologic technologists, and of registered technologists it is estimated that only 40,000 are active. In other words, only about 40 percent of active technologists are registered.

It may be seen, therefore, that a shortage of qualified personnel is due in large part to the proliferation of equipment which has become available to the healing arts during recent years. However, the shortage of radiologic technologists is also due in part to the rather high educational demands placed upon prospective technologists—at least 2 years of didactic and clinical training after high school graduation—and the rather low return offered in terms of job opportunity—a position in a hospital or clinic which initially pays \$500 per month on a national average.

Thus we must take steps to improve the economic incentives for entering the field of radiologic technology.

This situation is compounded by the fact that employment in the field is not dependent upon completion of all, or any training in radiologic technology.

I am referring to the approximately 57,000 persons employed in radiologic technology who have not demonstrated qualifications to be so employed.

The American people have never had a look at this group, Mr. Chairman, either statistically or in terms of average educational and experience profile.

However I am pleased or perhaps chagrined to be able to offer as an example a very recent study conducted by the North Dakota Department of Public Health which points to the rather discouraging conditions in one of our less populous States. I offer the following extracts from the study:

An average of 8,529 patients is radiographed per week in the healing arts specialties in North Dakota (current population 625,000) for a total of 443,508 patients radiographed per year.

Hospitals and multiple specialty clinics account for 81 percent of the radiographs taken.

An average of 881 patients receives a fluoroscopic examination each week for a total of 45,812 examinations per year.

Of this fluoroscopic workload, 88 percent are conducted in hospitals and multiple speciality clinics.

Major deficiencies resulting in an unnecessary genetically significant dose were found to exist in facilities that expose 195,676 persons annually.

Forty-nine percent of the individuals operating X-ray equipment in North Dakota are not registered with the American Registry of Radiologic Technologists.

Of nonregistered technicians, 95 percent are employed by hospitals and multiple specialty clinics.

Of nonregistered technicians, 76 percent had less than a year of X-ray training and 74 percent indicated that aspects of X-ray protection were not included in their training.

The proceedings of the national conference on X-ray technician training which was sponsored by the Bureau of Radiological Health of the Public Health Service in September 1966 at College Park, Md., referred numerous times to the text of the report of the need for a profile study of ionizing radiation workers similar to the North Dakota study.

It is suggested and highly recommended that it would be most valuable to all concerned if a similar study could be sponsored and conducted with Federal financial support.

It may be seen, Mr. Chairman, that our concern for the education and employment of radiologic technologists involves not only a supply/demand consideration but much more importantly a concern for the safety and well-being of current and future generations of Americans who may suffer due to unqualified operation of medical X-ray equipment.

This is why the American Society of Radiologic Technologists is dedicated, above all else, to the formulation of national minimum standards for training and employing operators of medical X-ray equipment.

Our enthusiasm for the proposed extension of and amendments to the Allied Health Professions Act is not directed to any one of the three bills before the committee. I understand these to be slightly different in approach to or level of authorization and to have minor differences in approach to improvements in the substantive provisions of the act.

With regard to funding I am sure the committee will understand when I report a recognized need for more funds to develop and improve education and training in radiologic technology.

With regard to the substantive provisions I am sure the committee will benefit more from the testimony of witnesses who have had direct experience with the workability of the current provisions of the act.

However, our enthusiasm does center on one particular proposal which I understand to be common to each of the three bills.

The prospect of eliminating the limitation of grant eligibility to junior colleges, colleges, and universities is most encouraging to radiologic technology. Please do not interpret this to mean that we prefer radiologic technologists to be trained elsewhere than on college and university campuses.

On the contrary the American Society of Radiologic Technologists has made a concerted effort in recent years to encourage institutions of higher education and especially community colleges, to establish and operate schools of radiologic technology.

We have further encouraged many of our well-established and fully accredited hospital programs to seek to transfer the didactic portions of their training programs to community colleges in their community. Such a transfer does, we believe, enhance student recruitment as well as upgrade curricular resources.

In the meantime however we must live with the realities of our situation. More than 90 percent of our schools are still hospital based. Presently, there are approximately 180 professional schools affiliated with either a technical institute or junior or community college, senior college, or university.

In addition there are over 1,000 2-year American Medical Association approved schools which are hospital based programs, and Mr. Chairman, they are not supplying enough technologists. They graduate approximately 6,000 technologists a year, a truly unimpressive yield. They attract approximately 10,000 enrollees per year, an equally unimpressive statistic. And, of course, as I indicated in earlier portions of my statement, our national problem in this field is compounded by the fact that the many products of attrition from these schools are being permitted to enter the practice of radiologic technology.

We are also concerned with developing, demonstrating, establishing, and evaluation of special programs and adapting existing programs for the training, retraining, and utilization of returning veterans and those persons wishing to reenter the profession of radiologic technology. We must also develop and implement improved means of recruiting and retention of our allied health manpower.

In the accomplishment of these endeavors the allied health professions need the financial assistance of the U.S. Government which can only be provided by enactment of the proposed amendments to the Allied Health Professions Act by the Congress of the United States.

Mr. Chairman, my testimony has been designed to convince the committee that we need radiologic technologists and that among the several ways we may accomplish this one of the more immediately attainable means is to increase Federal aid to the task of educating radiologic technologists and to increase aid to the prospective technologist.

In order to do this with any degree of effectiveness we must extend grant eligibility to nonprofit private institutions other than institutions of higher education. If I leave the committee with no other impression than the necessity for this amendment then I have accomplished my task.

Thank you.

The CHAIRMAN. Mr. Olden, I have read through all of your statement and I am tremendously impressed by this and concerned by it. I share the general public thought that you have a trained person, behind an X-ray machine.

It is disconcerting that someone can stand back of that machine and that it can become a substance that causes genetic defects that may not show up.

How many States have licensure laws?

Mr. OLDEN. There are three currently.

Senator YARBOROUGH. Only three States?

Mr. OLDEN. Plus the Commonwealth of Puerto Rico.

The CHAIRMAN. The States have all kinds of licensure laws on nurses. You have pointed out multiple points here, and I want to thank you for this contribution.

I am glad that this act I have introduced does broaden the opportunity for education. I think that one detriment to the licensure act is the low pay as you pointed out. I never dreamed the radiologists are not really technologists, with the kind of training you are talking about.

They are just back of the machine, shooting a picture, and they are shooting the person at the time. That low pay, of \$500 a month to start, is, of course, small compared to, say, a registered nurse or other people in the health field. It is amazing to read that they are that poorly paid.

I thank you for this information. I don't want to cut you off but it is after 12 o'clock.

I have another meeting waiting and I do not have a colleague to assist me here, but I have read every word of your statement and I thank you for this contribution.

I encourage you, and I hope your society will be able to influence State legislation. Do you have chapters in the different States?

Mr. OLDEN. Yes, sir, but as a national society we are pursuing Federal minimum standards.

The CHAIRMAN. To bridge the gap of 47 States without standards?

Mr. OLDEN. That is right.

The CHAIRMAN. So you need Federal standards to bridge the gaps. What States have licensure laws?

Mr. OLDEN. New York, California. New Jersey, and the Commonwealth of Puerto Rico.

The CHAIRMAN. Thank you very much for your contribution. We have one other set of witnesses, Mr. Royce Noland of the American Physical Therapy Association and Miss Margaret Moore of the University of North Carolina School of Medicine.

The CHAIRMAN. If you could condense your statements, it would be helpful. They are already condensed already, but I am in an embarrassing position.

**STATEMENT OF ROYCE NOLAND, AMERICAN PHYSICAL THERAPY ASSOCIATION, ACCOMPANIED BY MISS MARGARET MOORE, SCHOOL OF MEDICINE, CHAPEL HILL, N.C.**

Mr. NOLAN. Thank you, Mr. Chairman.

If the two statements can be entered, our comments can be exceedingly brief.

(The prepared statement of Mr. Noland follows:)

## PREPARED STATEMENT OF ROYCE P. NOLAND

The American Physical Therapy Association represents over 14,000 qualified physical therapists in the United States. This constitutes well over 80 percent of the physical therapists in the country. There are 51 schools of physical therapy accredited by the Council on Medical Education of the American Medical Association in collaboration with the American Physical Therapy Association Licensing acts prevail in 49 states to govern qualifications and standards and scope of practice.

The American Physical Therapy Association has been an active participant in advocating legislation and consulting on regulations for the purpose of advancing the availability of quality health care through comprehensive health care programs. This includes participation in efforts to increase the numbers of appropriate health workers and to enhance the quality of the educational programs for physical therapists and their supportive personnel.

We would like to stipulate in advance of any other comment that this program has been most valuable to the profession of physical therapy and the educational facilities identified with physical therapy in fulfilling our mission of providing adequate health care for the public. The comments that follow represent our desire to see this worthwhile federal program enhanced.

We must relate that we feel this program is inadequately funded. In so doing we recognize that this is an ever present dilemma of the Congress—to adequately fund all of the important and worthwhile programs that exist.

In the atmosphere of inadequate funding, however, it is necessary that optimum utilization be gained from each dollar. It is to this end that we present the following general statements.

1. The scholarship and loan fund provision are a valuable and valid addition to the program, particularly the cancellation provision.

2. The provision of funds to establish new curriculums represents an advancement, especially since it is possible to gain those funds for graduate level programs.

3. The separation of project grants from basic improvement grants is a sound approach.

We are concerned that the scope of the program has been so expanded and that the funding is so inadequate that the spread of funds will be too thin to have real value. Specifically:

1. The definition of the educational institution is so broad that the determination of the most appropriate and vital programs may prove too difficult for those administering the grant funds.

2. The concept of continuing to fund "feeder" programs does not, to us, seem appropriate. Limitations of faculty and facilities at the existing professional schools makes the concept of funding "feeder" programs incongruous. In most instances, these "feeder" programs are not components of schools of physical therapy and are not, by contract or otherwise, affiliated with a school of physical therapy.

3. We would urge that the law incorporate inherent priorities with emphasis placed on educational institutions providing cumulations for teacher training.

4. We have difficulty rationalizing the concepts of differentiation between programs for different health professions of similar academic requirements in the amount of student allowances and institutional grants. For example we cannot justify grants for nursing students and curriculum being greater than those provided for physical therapy and other health professions.

There is much that we consider desirable among the modifications being recommended in the proposed legislation to continue the Allied Health Professions Training Act. We would urge that the Congress give utmost consideration to our proposals which we feel will enhance the quality of this important program.

Mr. NOLAND. May I note, first of all, that the APTA is very enthusiastic about the bill that you have prepared and we would like to recommend that this program be extended as you have provided in your bill, for a period of no less than three and hopefully the full 5 years.

The CHAIRMAN. I see by mentioning three you realize some problems we have on the House side. They apparently have more time for hearings than we have. They always want to cut them back to three.

Mr. NOLAND. I am sure that in the planning process that the concept of 1-year renewals is difficult for everyone involved.

The other point that I would like to emphasize is that we are pleased with the provision that establishes the loan fund. We especially like its cancellation feature because we feel it will attract people to teach or practice in the areas of greatest need.

I would defer to Miss Moore for two or three points and that would conclude our testimony.

The CHAIRMAN. I have read the representations that you make, and you have made very specific recommendations in your prepared statement.

They go, really, to the basic problems on this law that priorities be set up, and what you think about the weakness of the feeder program and the other points. I am calling this to the attention of the staff because there are specific recommendations here for improvement of the law that the American Physical Therapy Association considers improvements.

Miss Moore, would you proceed, please?

You have a very brief statement, but I see you have it boiled down to generalities, but to proposed provisions and additional needs. (The prepared statement of Miss Moore follows:)

PREPARED STATEMENT OF MARGARET L. MOORE, DIVISION OF PHYSICAL THERAPY, SCHOOL OF MEDICINE, UNIVERSITY OF NORTH CAROLINA, CHAPEL HILL, N.C.

As a member of the Council of Physical Therapy School Directors, Inc. and a member of the American Physical Therapy Association, I would like to speak in behalf of the proposed revisions to the Allied Health Professions Act.

I know that I express the appreciation of all educators for the assistance we have received from the law which was passed in 1966. It brought to us the first really flexible help that we have had to develop programs as we know local needs. We realize that funds are highly competitive. Funds which have come to the Allied Health Professions, while being most welcomed are small in comparison to funds received by nursing, medicine, dentistry, and other health professions. The other groups are larger, more organized as a single entity, and are said to be indispensable for life of the patient.

Those of us in the Allied Health Professions are large in numbers even though diversified in interests but our services bring meaning to the life which the old, the elderly, the handicapped, the infirm, and the retarded still have, perhaps, thanks to physicians and nurses. Without the physical therapists and the occupational therapists, the life which is saved has little meaning if it cannot be a functional purposeful life and this is the quality of life we attempt to bring to patients.

#### PROPOSED REVISIONS

1. We are basically in favor of most, if not all, of the provisions in the two primary proposals which have come before the Senate (S. 3586 and S. 2753). The continuation of the formula grants to schools is highly recommended by all educators as the best source of funding for the development of balanced educational programs and equal to all universities—the "haves" and the "have nots."

2. The addition, Project Grant Authority, would make it possible for many of us to develop new graduate level programs, new programs in institutions where none exists at the basic level, and special projects of cooperating joint efforts between institutions, states, and even regions of the country. The initiation of

graduate programs on campuses where basic programs already exist is particularly important for some of us who have tried for six years to secure the funds to develop programs for the preparation of faculty, supervisors, and specialists.

3. The assistance which is recommended for students is highly desirable both for scholarships and for loans. Students are not afraid of loans as long as they do not get too large. When a young woman graduates from a baccalaureate degree program with three or four thousand dollars outstanding, it is a good feeling to know that some of this can be cancelled if she works as a physical therapist within a supervised environment. In the past, without this provision our students have been lured away from physical therapy for opportunities in nursing, recreation, and special education where such opportunities already exist.

4. We heartily recommend the extension of this law for a three year period in order to make planning more meaningful, the administration of the law more practical from the government's and the local institution's point of view. The middle of May is here and awards for the next year cannot be announced because of the one year extension of this law last year. This type of year to year budgeting is difficult for all of us.

#### ADDITIONAL NEEDS

1. Additional needs could wisely be included in the proposals. First and foremost a law on paper does little good without the funds to back it up. These provisions only recommend the funds and the appropriations will have to come from elsewhere, but it still is a fact that good legislation with no funding is highly frustrating to those of us who are attempting to prepare more health manpower for the patients' needs. The priority system for federal funding is highly distorted in the view of many of us.

2. The greatest block in increasing enrollment in existing strong schools of physical therapy, and other Allied Health Professions is the lack of space. Funding for construction is the first order of priority for physical therapy educators. In the past, the funds here have been so meager or non-existent as to only add increasing trauma to already over-worked educators.

3. There is no coverage in this law for part-time students at the graduate level. There is a recommendation for the work-study program for the undergraduate but graduate students or candidates for graduate degrees need help in getting themselves ready for a full year of a leave of absence or for completing requirements once the leave is over and they have returned to employment. Graduate credit costs 45 to 75 dollars a point. Many of my friends and I have been attempting to complete degree requirements while full-time employed. Taking six to twelve hours of graduate level credit work on a twelve month period with costs as high as this is a continuing burden, and discourages others from attempting to get themselves ready for leaves of absence.

4. There are no administrative costs in these provisions for the scholarship and loan programs. The administration costs of these programs on campuses throughout this country are heavy burdens. Only the work-study program has administrative costs included.

5. The law makes no provisions for financial contributions to departments which teach and increase the graduate student load. The graduate student is eligible for traineeships but there is no contributing formula grant whereby the number of graduate students in the program gives any financial support for the development of highly costly graduate education programs. These costs are frequently poorly understood by state legislators and so often are the most limited in funding.

#### SUMMARY

The proposed revisions are so open ended that it is difficult to see who or what agency, institution or organization is not eligible for funding. The available funds will be stretched so thin that there is danger in too little to too many. The administration of such an open door policy will be a formidable task. Is such a broad support program really wise?

Basically we support the primary provisions of the two basic and primary Bills before the Senate and hope that they can be enacted and put into effect as soon as possible in order that planning may go forward, enrollments increased, and more and more graduates be made available for the delivery of health services in this country—the desire of all of us.

MISS MOORE. The entitlement that the schools got this year was 65 percent of what the law had authorized.

The new programs are not being funded. There are only 17 professions that are approved for funding under the law at present. If you expand this even more, the money would get thinner.

There is not an awfully lot you can do with \$9,000 which is what my allocation is this year. We are grateful for the funds we have received. We hope the formula grant will be maintained. It is the best boost in morale and help that our schools have had for a long time. You have five in your own state.

The project grant authority would be helpful in initiating new programs, but I would agree with the statement that Senator Dominick made previously that after a certain point of time in initiating new programs, the states and medical schools should assume responsibility for carrying on these.

There should be obligation for at least part of the funding from the institutions.

As far as students are concerned, we are asking for equal treatment for the allied health professions. Our students are at a disadvantage as compared to specialized education and nursing.

The opportunities should be equal. We lose students who have better opportunities for funding under other laws.

The greatest road block is the funding, and you have very little to do with that, I know.

Construction is important. Space is the greatest hindrance to increasing the enrollment. I wish it were not true, but I believe out of the 3 previous years in only one has there been construction money appropriated.

This hurts. This is the biggest road block to increasing manpower. The lack of administrative costs on the scholarship programs is a hardship on schools, and I am sure that schools would take them whether they had any administrative funding or not. We want to help students as much as we can, but the burden is pretty heavy these days.

THE CHAIRMAN. I know it. We have that in many programs where we have allocated a certain percentage of the grant for administration.

MISS MOORE. It is under the work study program, but not under the other two.

THE CHAIRMAN. It is under the NDEA.

MISS MOORE. But the student has to repay that money. There is no cancellation clause in the allied health program, and this is what I mean by equal treatment.

I am concerned about the feeder schools. We have been on record about that before. But we think basically your proposals are most worthy. We hope they are passed. We hope that they have adequate funding later on and we are grateful for the support we have had and are delighted to see some of these things included in there that we have been talking about for several years.

THE CHAIRMAN. Thank you for your very cogent statement. It is boiled down, and specifically on the point. We appreciate these rep-

resentations and as we go to mark up this bill in the Health Subcommittee, we will consider all of these recommendations.

Miss MOORE. I don't want to be ugly, but do you know your own State is the only one that does not have a licensing law in physical therapy?

The CHAIRMAN. No, I did not know that.

Mr. NOLAND. I am pleased to note that it appears that will soon be corrected.

Miss MOORE. I think the Medical Society has bucked it before.

The CHAIRMAN. I am surprised, because we have 11 million people, and when you have a large, populous State it is easier to pass a licensure law. I was surprised we had not done it.

It was pointed out in a study in North Dakota that the highest lack of training was in the hospital. In a hospital, a person would think they had protection.

Miss MOORE. That is why a lot of us in education are concerned about the desire to expand the health professions without quality control.

I am afraid we are going to realize we have let this get out of hand with a lot of people in fragmented service.

The CHAIRMAN. In the North Dakota experience 49 percent of the persons operating the machines are not registered with the association, and many of them were employed by hospitals.

Miss MOORE. And when you are on the table, you don't know whether the guy is qualified behind the machine or not.

The CHAIRMAN. They recommended in North Dakota that the survey go to other States, and of the nonregistered technicians, 74 percent indicated that aspects of X-ray protection were not included in their training.

They had had no training at all in protecting people.

Miss MOORE. In physical therapy, programs in the community colleges have expanded greatly. Out of 12 schools, half of those are in States where new licensing laws have been put on the books.

The CHAIRMAN. You have a very active organization in Texas, do you not?

Mr. NOLAND. Yes.

Miss MOORE. I think the one in Houston is the medical technology group.

The CHAIRMAN. Thank you very much.

I regret that I am forced to leave. I would like to ask you some questions, and may submit them in writing for your replies.

This knowledge and use of physical therapy is spreading rapidly in this country, largely, I think as a result of so many nerve and bone injuries in World War II, in Korea, and the war in Vietnam.

The necessity for the therapy there has spread to where the people are learning something about it. That and automobile injuries have contributed to that. We have in this country also many millions of people injured each year, 7 million in industrial accidents alone, and that is only about one-eighth of the total accidents in the country.

We have 400,000 people permanently disabled from accidents every year, and 115,000 killed and many millions of people are disabled for some period of time.

Many millions are disabled, many of whom can be restored through physical therapy. I think the growth in the recognition of physical therapists and what they can do has been phenomenal.

At this point I order printed all prepared statements of those unable to attend the hearings and all other material pertinent to the record. (The material referred to follows:)

PREPARED STATEMENT OF MICHAEL M. DACSO, M.D., DEAN, INSTITUTE OF HEALTH SCIENCES, HUNTER COLLEGE OF THE CITY UNIVERSITY OF NEW YORK

The problem of the increasingly critical health manpower shortage has been often discussed in this and many other committees of both the Senate and the House. Many have testified, experts and lay people alike, some of whom pleaded, others warned of the dire consequences that will result, if this shortage is not treated seriously. The results of these representations have been far from satisfactory. The precarious balance of manpower supply has always been easily upset by unanticipated events, such as wars, natural disasters, and the fortunately rare outbreaks of epidemics. World War II and the Korean conflict were such eye-openers. Those who had persistently denied the existence of a physicians' shortage, were forced after these periods, to alter their opinion enough to begin making optimistic forecasts and assurances of a more than adequate supply of physicians by the mid-sixties. The rest is only too well known. There is not only an inadequate number of physicians in the country, but their uneven geographic distribution is a far more serious problem.

It is a sad fact that, at the present rate of production of medical doctors, there will never be a sufficient number to meet the rapidly growing demand. According to a recent statement in the Journal of Medical Education there is, at present, a shortage of 50,000 physicians. To correct this by the mid-seventies, a 50% increase in the freshman admissions to medical colleges will be needed. As things stand today, with the war in Vietnam and the drastic cutbacks in financial assistance to medical schools and medical research, obviously we cannot anticipate improvement in this situation. As a matter of fact, I fear things will get much worse before they begin to improve.

In the past few years it has become increasingly obvious that new and imaginative solutions must be found to meet the present and anticipated health needs of the nation. The present methods of the health delivery system must be reviewed and restructured. The present heavily hospital-focused patient care must yield to new types of ambulatory care and use of community health resources. To support this trend, the production of allied health professionals must be accelerated. In addition to the *specialist* allied health personnel, such as the laboratory technician, x-ray technician, physical and occupational therapists, etc., a new category of health professional must be trained whose broad knowledge and experience will enable him to support the physician through his entire spectrum of activities. As a *generalist*, he will share the physician's administrative, clinical and preventive responsibilities, and thereby release the physician for the performance of those functions requiring the kind of judgment and decision that only a medical doctor can make.

In the course of the development of the various health professions, the nurse became the closest collaborator with the physician and thereby established the nucleus of the now rapidly expanding health team. This being a fact, the logical question then arises, why should the nurse not fill the need that we propose to assign to a physician's assistant? The answer to this question is not a simple one. The nurse, as a result of her education and in response to an existing demand, has reached the level in the structure of health professions where she acts in the capacity of a quasi-independent health practitioner. Based upon this and other professional, social, and economic considerations the nurses were not willing to serve as a physician's assistant. More recent developments, however, seem to indicate that the official representatives of the nursing profession are now prepared to reconsider their current somewhat rigid stand and are increasingly talking about the nurse's role as a physician's assistant, or whatever name they will chose for identification. While logical considerations would support such development, one cannot help but be deeply concerned about the possibility that the prevailing critical shortage of nurses might be further aggravated, if many nurses decide to make such change and continue their professional activities as a physician's assistant.

In addition to the few already operational physician's assistant programs, some colleges and medical schools are actively considering the establishment of such programs. With this upsurge of interest, it behooves us to make every effort to coordinate these new educational activities. In the absence of such coordination, we are running the risk of producing new health professionals with diverse degrees of education, clinical experience and competence. On the other hand, we must recognize that the increasing health manpower shortage creates a vacuum which in the absence of appropriate precautionary measures will allow persons with inadequate basic and professional education to enter the field of health services. The most important element in settling this problem is *time*—any procrastination may very well lead to the creation of poorly trained and unlicensed health practitioners. It would seem far more prudent to take effective steps now to prevent this development, rather than find ourselves faced with the knotty problem of uncovering and prosecuting unqualified practitioners in the future.

Being a new concept, the education of the physician's assistant is a complex issue. While it is true that some people with long military or civilian experience in health professions could be retrained within two years, I would suggest rather that this new health professional, who will be expected to bear major responsibilities, should be given a full four years of college education; the first two years should be devoted to a solid foundation in liberal arts, humanities, social sciences and the basic courses in natural sciences; the second part of the college course should be devoted to clinical sciences on the theoretical, clinical and practical level. It is conceivable that a useful assistant type of health personnel could be trained in two years in community colleges. However, it must be realized that the education of these people will be limited and, consequently, the responsibilities and tasks assigned to them should also be carefully restricted. A man or woman with a full college education would be prepared to assume a much wider range of responsibilities and would also be in a better position to exercise independent judgment. Those with master's degrees, could be entrusted with commensurately broader range of responsibilities. In some instances, there is no reason why exceptionally well qualified persons could not continue their studies toward a doctor of medicine degree. This is a brief description of a career spectrum which would hopefully open the road to a wide range of health professions for qualified students.

It should be emphatically stated that the training of the physician's assistant must become the responsibility of medical education. Important as the basic college course is, his function as a health practitioner will still depend on his clinical and practical experience which he can learn only within the framework of a medical school. Continuing this train of thought, it is entirely possible, if not highly desirable, that the education of all health professionals, ranging from the more modest level to the level of medical doctor, should take place within the confines of *one* educational establishment. This new concept would gradually expand the scope of medical schools until they become health science universities, dedicated to the education of health professionals on *all* levels.

In conclusion, a word of warning about the role of the physician's assistant in the health delivery system. It must be accepted as an unalterable principle that the physician's assistant, regardless of his level of training and experience, can act only as the name indicates, *as an assistant to the medical doctor and work under his close supervision*. At no time, except in grave emergencies, should he be allowed to act independently or serve as a substitute for a physician.

Also, it must be borne in mind that, since the most critical shortages in physicians and other health professionals exist in the ghettos and remote rural areas, this situation may create the almost irresistible temptation to train people for services in these areas, exclusively. Such a practice would create a system of "poor man's medicine" with all its discriminatory and undesirable consequences. Such development must be anticipated, and effective steps must be taken to prevent such an undesirable and inequitable distribution. If the physician's assistant is needed, he must be used throughout the entire medical care system without regard to the socio-economic status or geographic location of the recipient.

PREPARED STATEMENT OF FRANCES E. FISCHER, PRESIDENT, THE AMERICAN DIETETIC ASSOCIATION

I am Frances E. Fischer, an assistant professor in the Department of Nutrition of Case Western Reserve University. I also serve as the president of the American Dietetic Association and it is on behalf of the Association that I am presenting this testimony.

Since this is the first time the American Dietetic Association has appeared before this distinguished Committee, I might mention that the Association is the professional organization of 20,000 dietitians and nutritionists who are responsible for the application of the scientific principles of nutrition. Our members work in hospitals, in health departments and agencies, in colleges and universities, and also in school food programs, industrial plants and commercial eating establishments.

The American Dietetic Association urges the approval of S. 3586, the proposed Health Training Improvement Act of 1970, that provides for a five-year extension of the Allied Health Professions Personnel Training Act. If universities are to attract the faculty and resources that are required to expand our capacity for the training of allied health manpower it is essential that there be some assurance of continuity of support on the part of the Federal government. This is one of the reasons for our endorsement of S. 3586.

CONSTRUCTION

The increase in appropriation authorizations for construction under S. 3586 is very encouraging. We are concerned, however, because no funds have been requested under this authority in 1970 or 1971 by the Department of Health, Education, and Welfare. Only \$3 million of the \$35.5 million that is authorized has been appropriated over the four years 1967-70.

IMPROVEMENT GRANTS

Our Association also endorses the provisions of S. 3586 that continue the eligibility criteria with respect to formula grants. As we understand the provisions of S. 3586, it would be possible to support more dietetic intern training programs through project grants. We hope that in the project grants that are authorized for "training and retraining," that "retraining" will be interpreted to include continuing education.

TRAINEESHIPS

The increasing authorizations for appropriations for traineeships under S. 3586 are essential if we are to increase our faculty resources for the training of allied health manpower. We would suggest, however, that authority for institutional support be added to strengthen and expand graduate training. The very successful training grants program of the National Institutes of Health provides for institutional support as well as stipends. This same authority should be available under the Allied Health Professions Personnel Training Act.

DEVELOPMENT OF NEW METHODS

The authority for project grants to develop new methods for the training of health manpower under S. 3586 should prove most valuable in increasing the supply of allied health personnel. Here, too, we hope that the actual appropriations will at least approximate the authorizations. We also strongly support the grants and contracts that are authorized to encourage full utilization of educational talent for the allied health professions.

RECRUITMENT—STUDENT ASSISTANCE

Both S. 3586 and S. 2753 authorize appropriations for recruitment, student loans and scholarships. These authorities are needed and we hope that they will be a part of the legislation approved by the Congress. Similar authorities are provided for in the case of the Nurse Training Act. They are no less essential to an expansion of allied health manpower through the Allied Health Professions Personnel Training Act.

## THE NEED FOR DIETITIANS AND NUTRITIONISTS

Although we are supporting the enactment of S. 3586 we want to make it clear that we do not believe that our manpower needs in the field of nutrition will be met through the Allied Health Professions Personnel Training Act even if it is fully funded under the increased appropriation authorizations.

The average annual investment in the training of dietitians and nutritionists under the Allied Health Professions Personnel Training Act has amounted to \$1.3 million for the period 1967-69. The report of the White House Conference on Food, Nutrition and Health recommends an initial investment of \$4 million for training nutrition personnel with increases to an annual total of \$8 million over the next five years. (See Appendix A.)

The report of the White House Conference on Food, Nutrition and Health also estimated that the existing supply of dietitians and nutritionists should be not less than doubled over the next five years. The American Dietetic Association endorses this recommendation. Some States have as many as 20 or 30 dietitians and nutritionists per 100,000 population while others have as few as six or seven per 100,000. State health departments report that 25% of their public health nutrition positions are vacant.

In concluding, I would like to call attention to another recommendation of the White House Conference on Food, Nutrition, and Health. Section 4 of the Conference report is devoted to nutrition teaching and nutrition education. Panel IV-2 of that Section recommended nutrition training of physicians, dentists, nurses and allied health professions. (See Appendix B.) This recommendation of the White House Conference and also the recommendation relating to the training of dietitians and nutritionists could be carried out through a modification and enactment of S. 1865 that was introduced by Senator Javits and nine co-sponsors. We would be glad to submit our specific recommendations for modifications if this would be helpful.

Finally, I want to express the appreciation of The American Dietetic Association for the leadership of this Committee in the enactment of legislation on behalf of combatting hunger and malnutrition. Our membership is very much aware that this Committee in 1967 initiated the legislation that authorized the National Nutrition Survey. We know, too, that four members of the Subcommittee are also members of the Select Committee on Nutrition and Human Needs.

## APPENDIX A

## FUNDING FOR TRAINING OF PUBLIC HEALTH AND COMMUNITY NUTRITIONISTS AND DIETITIANS

Funds, facilities and staffing for education of dietitians and public health and community nutritionists at various levels of competence are urgently needed and should be immediately provided with planned progression.

At the present time there are about 31,000 prepared to effect nutritional care to people: 30,000 dietitians and 1,000 nutritionists. While data for estimating the number actually needed to provide even moderately adequate services to the American people are not presently at hand, there is common agreement that these numbers should be no less than doubled within five years. There is urgent need for their services in emerging anti-poverty programs, in school health programs, and in providing consultation to patients of private physicians, in addition to the need to fill the increasing number of more traditional posts in health departments, other community agencies, clinics, hospitals and other medical care facilities. Specifically, there is need for:

1. Funding for traineeships and institutional support for post-bachelor's dietetic internships to relieve hospital budgets and encourage development of more internships which can prepare more people. (The American Dietetic Association has expanded the number of internships as well as the number of people in some internships. In September 1968 there were 770 interns in 65 approved internships, whereas in September 1969 there were 815 in 68 internships. There are four newly approved internships for 1970 and more in the organization stage.) Hospitals and universities in which these internships are based are currently carrying the financial cost of internship training. Increasingly, hospitals are finding this a burden and many are already stating that they will be unable to continue internship training without financial assistance.

Estimated minimum amount needed annually to maintain 72 hospital and university based internships (for use of facilities and personnel, including one full-time educational director per internship at a salary of \$14,000)-----	\$1, 440, 000
Traineeships for dietetic interns: 500 at \$2400 annually, presently funded by hospitals and universities-----	1, 200, 000

This amount will need to be doubled within five years to provide 1,000 traineeships.

2. Increased funding for master's degree training in public health nutrition. Traineeships and institutional funds for public health nutrition have been severely curtailed at a time when the number of institutions offering such training needs to be increased at once from 16 to 32 or more, and the number of students trained annually at the master's degree level increased from approximately 100 to 300. Within five years these numbers should be tripled.

- |   |            |
|---|------------|
| (a) Funding for institutional grants within a year, to provide staff and facilities for setting up public health nutrition training programs.<br>Five at \$50,000 each----- | \$250, 000 |
| Within five years this should be increased to \$750,000.  |            |
| (b) Student traineeships per year, within a year—100 at \$8,500-----  | 350, 000   |
| Within five years this should be increased to \$1,050,000.  |            |
| (c) Reimbursement of field agencies for expenses incurred in providing field experience to students-----  | 10, 000    |

3. Funding for the experimental development of undergraduate professional training in dietetics and public health of community nutrition. While positions of major responsibility in these fields will continue to require graduate training, the urgent need for more nutritionists and dietitians at the staff level and the higher level of competence of undergraduate students today make such experimentation not only necessary but also feasible. Guidelines for such training for public health nutritionists have been developed<sup>1</sup> and at least one bachelor's level training program for dietitians already exists. Funding for institutional grants to provide necessary specialized staff and facilities to institutions setting up training programs—annually within one year, five at \$40,000 each; \$200,000. Within five years this should be increased to \$800,000.

4. Funding for doctoral level training in dietetics and public health nutrition. Such training is to provide first of all teachers for the training of nutritionists and dietitians in schools of public health, nutritional sciences, home economics and others; also for the teaching of nutrition in medical, dental and nursing schools, teacher training institutions and other colleges. Existing positions in colleges and universities already are not being filled. With the proposed increase in number of training centers and increased emphasis on nutrition in the curricula of health-related professions and teachers, need for teachers with doctoral level training will become more acute. Such advanced training is needed also to provide leaders with depth understanding of problems and programs in nutrition and dietetics and the ability to do research toward advancement of these fields.

- |   |            |
|---|------------|
| (a) Funding for institutional grants to provide needed specialized staff and facilities—annually within one year, three at \$70,000-- | \$210, 000 |
| (b) Traineeships for doctoral candidates—annually within one year,<br>12 at \$6,000-----  | 72, 000    |
| Annually for third year, 24 continuing plus 12 additional : \$144,000   |            |
| Annually for third year, 24 continuing plus 12 additional : \$216,000   |            |

Within five years funding for institutional grants and traineeships should be doubled.

5. Money for research on the feasibility of training and using food aides to expedite the work of the public health or community nutritionist. While aides are already being employed by some agencies, there is indication that much remains to be learned before widespread use of them can be recommended. Three projects within one year; \$120,000.

Within five years this should be increased to eight, for a total of \$320,000.

#### Part B

The public needs to know about opportunities for careers in dietetics, public health, and community nutrition. Many have not heard of these professions as

<sup>1</sup> See "Public Health Nutritionists—Their Responsibilities and Qualifications," by the Steering Committee on Roles, Qualifications, and Training of Nutrition Workers in Health Agencies, July 1969, p. 20.

they have of doctors and nurses. There is need for funding to publicize these careers to the general public and particularly to high school students, their parents and counselors. There seems little doubt that these "people-centered" professions could appeal to present-day youth.

Specifically, there is immediate need for a small number of personnel to give impetus to such publicity with adequate funds to operate effectively. Estimate of amount needed \$150,000 for each of 3 years (three salaries of \$20,000 each plus materials, travel, use of mass media, etc.).

N.B. Obviously funding for training is to no avail unless budgeting for positions is assured. Other panels will speak to this point.)

## APPENDIX B

### NUTRITION TEACHING IN MEDICAL SCHOOLS

#### ADEQUACY OF NUTRITION TEACHING IN MEDICAL SCHOOLS

Only a few formal studies have been made of the adequacy of nutrition teaching in schools of medicine. Such studies have disclosed that:

1. A need for improvement in nutrition teaching is readily acknowledged by many medical schools.

2. Only a few schools have a separate division or department of nutrition.

3. Special courses in nutrition are rare and nutritional material is commonly incorporated in courses in biochemistry and physiology and in the teaching of clinical specialties such as medicine, surgery, pediatrics, and obstetrics.

(a) At the preclinical level, nutritional subject matter is often displaced by more "basic" topics such as enzyme kinetics, and membrane theory. In addition, instructors in biochemistry and physiology not infrequently emphasize their own research interests out of proportion to their relevance to the overall subject and to clinical problems. Often, little attempt is made to provide the student with the basic information about nutrition upon which "clinical nutrition" is necessarily based.

(b) In the clinical department and subspecialties of medicine there has been little or no correlation of nutrition teaching; thus, the student has been offered only a fragmentary selection of aspects of nutrition having particular relevance to various clinical subjects. Such fragmentation inevitably has led to appreciable gaps in nutrition education.

4. A few medical schools offer elective courses on therapeutic diets (medical dietetics), experience in a "nutrition clinic," and in nutritional investigation.

5. Many medical students only learn about florid malnutrition in man when they take electives involving participation in overseas programs based in countries where protein-calorie malnutrition and vitamin deficiencies are common.

6. In medical schools with a good program in nutrition there is usually either a strong division or department interested in nutrition, or professors with a special interest in clinical nutrition or nutritional research.

7. A thorough and definitive survey of nutrition teaching in American medical schools remains to be done.

(a) No objective assessment of the nutritional knowledge acquired by medical students has been made.

(b) Sufficient nutritional questions do not appear on National or State Board examinations to provide a fair test of nutritional knowledge.

(c) Current knowledge of the extent and effectiveness of nutritional teaching necessarily is based in large part on the results of questionnaires distributed to various medical schools and on the impression, observations, and opinions of a relatively few faculty members. These sources give a useful preliminary indication of the state of nutritional teaching in American medical schools; however, the information they contain does not provide a sufficiently strong foundation upon which a national policy with respect to nutritional teaching at the medical school level can be based.

(d) (See addendum No. 1.)

#### I. OPPORTUNITIES FOR NUTRITION TEACHING TO MEDICAL STUDENTS

No plan designed to improve nutrition teaching to medical students can overlook the striking changes introduced into the curriculums of most medical schools during the past 5 years. These include:

1. Reduction of time spent in laboratory exercises in anatomy, biochemistry, physiology, pharmacology, and other preclinical sciences.

2. Strong efforts made to coordinate teaching of basic science material so that biochemical, physiologic, pharmacologic, and clinical information about the various organ systems of the body is presented to the student in an integrated fashion.

3. Increased emphasis on interdisciplinary teaching with some beginning dissolution of departmental boundaries.

4. Introduction of the student to clinical problems earlier than previously; often in the first year, or early in the second year.

5. More emphasis on elective opportunities for students after they have completed a "core curriculum," usually during the last 18 months of medical school. These elective opportunities include:

(a) Assignments to medical facilities in technically underdeveloped countries and to poverty areas in the United States.

(b) "Clerkships" in community medicine where problems in the delivery of medical care by the hospital center are given special attention.

## II. NUTRITION TEACHING DURING THE PRECLINICAL YEARS

In considering how nutrition teaching can be fitted into and articulated with the medical school curriculum, it must be kept in mind that the time available for basic science courses is being increasingly compressed. Thus, it would seem difficult to add a required course on basic aspects of nutrition during the so-called preclinical years, even though establishment of such a course has been recommended on a number of occasions. However, since there is an increasing emphasis on integration of basic science material, it is possible that the presentation of what is ordinarily considered to be nutritional subject matter can be used to organize biochemical or physiological information. For example, a discussion of the factors affecting nitrogen balance could be used to pull together a greater deal of material on protein biochemistry that otherwise might not be related readily to human health problems. A discussion of calorie requirements in man might serve to give relevance to the subject of energy transformations at the cellular level.

It has been pointed out that some medical schools offer courses in clinical correlation or pathophysiology, in which an attempt is made to bridge the gap between basic science and clinical training. In such a course nutritional information can help the student understand the relationship between the clinical picture and the underlying physiologic or biochemical disorder. For example, the symptoms that accompany growth-onset diabetes mellitus can be best understood in terms of the conditioned malnutrition that results from inability to utilize carbohydrate properly.

## III. NUTRITION TEACHING IN THE CLINICAL SPECIALTIES

The importance of nutritional considerations in medicine, surgery, pediatrics and obstetrics is acknowledged. Unfortunately (as mentioned previously), the nutrition teaching provided by the various medical specialties is necessarily fragmented, and sometimes superficial. For example, the student may be taught a rule-of-thumb approach to nutritional therapy without being given an understanding of the principles upon which such treatment is based.

It has been suggested that a properly qualified member of the faculty with a strong interest in nutrition could help to coordinate and strengthen the teaching of nutrition in the clinical specialties and, by means of lectures, conferences, clinics, or teaching rounds, fill in any important gaps that remain.

## IV. NUTRITION TEACHING IN ELECTIVES

1. Electives that involve participation in programs designed to deliver medical care in poverty areas in the United States or abroad often bring the medical student into direct contact with patients who exhibit florid deficiency states, including protein-calorie malnutrition. Such experiences are far more effective than slides or textbook pictures in convincing the student that malnutrition remains a major world health problem and that clinical nutrition is a subject providing many challenges for the young physician.

2. Clerkships in community medicine are increasingly offered by the various divisions and departments of community medicine that are developing in medical schools and teaching hospitals throughout the country. In such programs, the medical student can work in a nutrition clinic, participate in nutrition surveys, study the role of nutrition in disease prevention or retardation and learn to

work effectively with other members of the "health care team," including the public health nutritionist. This type of training can lead logically into a career in public health nutrition or to a program of graduate training in comprehensive medicine designed to train a new type of specialist for whom the designation "primary physician" has been suggested.

3. An elective in a division where nutritional and metabolic research are conducted can serve as an introduction to a career in academic clinical nutrition. Medical students who participate in such electives may be motivated to obtain 2 to 4 years of post-doctoral training in nutrition and metabolism after completing 1 or 2 years of residency work in a medical specialty.

#### V. RECRUITMENT

Recruitment of young physicians into clinical nutrition has been extremely difficult and there is a critical shortage of trainees and of teachers and investigators in this field.

Some of the reasons for this situation have been identified. These include the following:

1. A lack of identity for clinical nutrition.
2. Lack of a subspecialty status for clinical nutrition.
3. Dearth of superior training programs in nutrition designed to meet the needs and interests of young physicians.
4. Lack of recognition by medical schools and teaching hospitals of a need for clinical nutrition programs.
5. Debilitating effect on the image of nutrition as a respectable scientific discipline of food faddists, commercially motivated pressure groups, and widespread pedestrian nutritional research.

The problem of an identity for nutrition seems to be inherent in the scope and diffuseness of the word "nutrition." For example, there are no satisfactory terms in the vocabulary of nutrition to distinguish the clinical investigator of nutritional problems from the home economist who is concerned with applied nutrition. A professor of nutrition can be either a dietitian or a medical scientist. Such semantic difficulties have not helped to dispel the cloud of confusion that hovers over the subject as it relates to clinical medicine and medical research. Indeed, many otherwise sophisticated medical and school faculty members and administrators tend to identify nutrition inherent in the standards for certification in this field promulgated by the American Board of Nutrition.

Lack of a subspecialty status for clinical nutrition has been an important factor in discouraging many young physicians from entering the field. While hematology, cardiology, gastroenterology, etc., are recognized subspecialties, clinical nutrition is not. This distinction has important financial implications for the house officer who is considering entrance into a subspecialty.

As Mueller has pointed out (Fed. Pros. "167, 1967"): "At the present time there is no clear career future for the young physician in nutrition." He goes on to say that " \* \* \* it is a well-established truism that the quality of undergraduate training is proportional to that of graduate training. In other words, if the science of nutrition lent itself to a residency training program it would automatically improve the facility for undergraduate teaching."

It must be recognized that there has emerged in medicine a growing number of medical students and young physicians who are placing the concept of service well above considerations of financial remunerations and "success" as it is conventionally viewed. Such individuals are very likely to be attracted to careers in clinical nutrition if they can be shown the enormous benefits to mankind inherent in the prevention and treatment of all forms of malnutrition. However, the exposure that medical students usually receive to serious nutritional problems in their present medical school setting is ordinarily so minimal that the chances of stimulating their interest in the subject seem small.

#### ADDENDUM NO. 1

It is recommended that funds be made available to permit appropriate voluntary agencies (AAMC, AMA, etc.), to conduct a thorough and definitive survey of nutrition teaching in medical schools. The results of such a survey should be evaluated by an expert panel selected by NAS-NRC in consultation with other national groups concerned with medical education, to determine the adequacy of nutrition teaching in American schools of medicine.

STATEMENT  
OF  
AMERICAN SOCIETY OF HOSPITAL PHARMACISTS  
Before  
Subcommittee on Health  
Senate Committee on Labor and Public Welfare  
on  
S.3096, S.3297, S.3652, S.3651  
April 28 & 29, 1970

Mr. Chairman and Members of the Committee:

The American Society of Hospital Pharmacists appreciates the opportunity to present this written statement, for inclusion into the hearing record, on the above referenced legislative proposals. We regret not being able to present this material personally to the Committee. Unfortunately, due to circumstances beyond our control, it was impossible. Nevertheless, we are prepared to meet with members of the Committee, individually or collectively, to further discuss the information contained in this statement or to supply additional written information, if necessary.

As you may know, the American Society of Hospital Pharmacists is the nonprofit national specialty Society representing pharmacists who practice in the over 7,000 hospitals and related institutions in the United States. These pharmacists represent those persons in the health community who, day in and day out, year in and year out, try to achieve the highest quality health care possible in the use of drugs at the lowest practical cost.

DRUG CODING

We would like to turn our attention first to S.3096 and S.3297, both of which deal with an identification system for prescription drugs for human use. The American Society of Hospital Pharmacists recognizes the need for a uniform national code for drug products and supports the

intent of these Senate bills. In fact, hospital pharmacists have been at the head of the charge attacking this problem antedating 1966.

As early as 1965, hospital pharmacists were assigning codes to pharmacy inventory items. These codes were necessary because electronic data processing was being used in the hospital for patient billing and for inventory control.

Individually, hospital pharmacists developed numerical codes for drug products to serve as the address location for some description of the drug product which was to be stored in the computer. The codes would also be used as a short way of referring to the drug on printouts of inventory lists and on the patient's bill. Some hospital pharmacists used "idiot" codes - they assigned numbers that had no relation to each other and served only to identify a specific product in a list of products. Others designated "meaningful" codes, attempting alphabetical succession of nonproprietary names, indications of manufacturers or, commonly, indications of pharmacologic-therapeutic classification according to the American Hospital Formulary Service, the drug information compendium of the American Society of Hospital Pharmacists. See Appendix A for complete listing of classification system. These computer processable codes were designed primarily for the single function of facilitating inventory control or patient billing and were, of course, limited to the drug products used in the individual hospital.

As more and more hospital pharmacists were faced with this task of building a data bank and coding their drug products - a tedious job at best - it became obvious that one data bank with standard codes, including all pharmaceutical products and applicable in any hospital, would be more desirable than a large number of different, non-related

data banks and codes. Our members approached the American Society of Hospital Pharmacists as the logical source of such a uniform data bank and code, and the Society's Board of Directors, at its December 1966 meeting, approved a crash program to develop a code. Thus, since December 1966, the American Society of Hospital Pharmacists has been exerting a comprehensive effort in this area.

Early in 1967, the ASHP formed a special code committee, consisting of selected hospital pharmacists who had themselves done drug coding, hospital computer specialists and systems analysts. This committee met to design a code content and format for a drug data bank for inventory control. Originally it was thought that a meaningful code number could be designed, but by the time each drug product was described in code, the number suggested was seventeen digits in length. Our consultant committee told us this was an unrealistic number of digits with which to work and, although a meaningful number was the more desirable, advised that this approach be abandoned and an "idiot" code, not to exceed six digits, be used.

Another project, which involves a computer-based drug listing or formulary service, was begun in mid-1967. Through this listing service, the ASHP would prepare for an individual hospital a listing of the drugs which had Pharmacy and Therapeutics Committee approval for use within that hospital. Since the Society was already working on one listing of drugs with code numbers for computer processing - the one for inventory control - and now had an additional computer project to prepare formularies - it was decided to combine the two projects and to build one comprehensive data file.

Also in mid-1967, the Task Force on Prescription Drugs of the Department of Health, Education and Welfare became involved with the same idea of drug coding. Something was needed to assist in the processing of 250 million individual Medicare drug bills per year and the HEW Task Force investigated a uniform nomenclature and coding system which could be effectively utilized by all hospitals, pharmacists, manufacturers, insurance companies and other third-party institutions, and government agencies in accounting procedures, adverse drug reaction reporting and drug utilization reviews. A representative of the ASHP served on the Task Force Subcommittee on Coding and, as the Task Force discussions proceeded, the ASHP incorporated all the criteria of the code envisioned by the Task Force into the ASHP code.

The ASHP's drug coding service has received the endorsement of the American Hospital Association. In addition, the American Pharmaceutical Association's House of Delegates at its 1970 Annual Meeting commended the ASHP for its efforts in developing a coding system usable in professional practice.

At the present time there are more than thirty subscribers to our Drug Coding and Listing Services representing more than 23,000 hospital beds. A complete list of subscribers is contained in Appendix B. Here in the United States, our coding service is being used for the processing of drug information by the Latter-day Saints complex of 10 hospitals, and other hospitals of varying types and sizes ranging from 210-bed Clinic Hospital of Bluffton, Indiana to 1470-bed Baptist Memorial Hospital of Memphis, Tennessee.

Maimonides Hospital in New York City, the University of Minnesota and University of Wisconsin subscribe to the ASHP coding service and

they have used it to prepare their hospital formularies. The Medical Center of Vermont has built price files with the ASHP coding service. The Drug Information Center of the University of Michigan, under a grant from the Regional Medical Program, uses the ASHP code in the entry and retrieval procedures for therapeutic information.

Looking outside the United States, the Notre Dame Hospital of Montreal, Canada, which is a computerized national clearing center for drug reactions and a poison control center, is using the ASHP code as the basis of a Therapeutic Information System. (This is described more fully in Appendix C.)

The Drug Committee of the Ministry of Health of Israel has chosen the Society's code to be used in about fifteen hospitals throughout the state for uniform drug nomenclature, drug information and consultative services, and medical research in clinical areas related to drug usage.

It is because of this background that the Committee may benefit from the years of experience by the American Society of Hospital Pharmacists in the drug information field, including drug listing and coding.

Turning now to the legislation before the Committee, we must measure the effect of the proposed bills against the total needs of the medication portion of our national health care system. Some of these needs are outlined in the legislation itself which mentions consumer protection measures such as "identification of drugs in cases of accidental poisoning, facilitation of drug recalls and prevention of drug mixups." These are admirable and necessary objectives and hospital pharmacists support them; however, these few objectives do not fulfill all the needs of the health professions.

For example, the National Drug Trade Conference felt that other needs must additionally be met:

1. Monitoring total national supply of drugs;
2. Direct computer to computer ordering;
3. Inventory management;
4. Billing.

Further, the HEW Task Force on Prescription Drugs concluded that a uniform nomenclature and coding system should be capable of performing the following additional functions:

1. Administrative and accounting procedures under Medicare and other third-party pay systems;
2. Utilization reviews designed to promote rational drug therapy and cost analyses;
3. Facilitation of adverse drug reaction reporting.

The ASHP itself has established the following scientific and professional goals:

1. Monitoring chemical and physical incompatibilities of drug mixtures;
2. Monitoring drug interactions in patients;
3. Preparation and maintenance of patient profile records;
4. Computer preparation of drug formularies;
5. ADP retrieval for hospital drug information centers.

Ideally, any national drug code should be capable of meeting not only the objectives specifically mentioned in S.3096 and S.3297, but all of the aforementioned additional objectives as well. At the present time, however, there is only one code that can, and has demonstrated that it can, accomplish all of these tasks. That code and data

bank is the drug code prepared by the American Society of Hospital Pharmacists and recognized under the title of the Drug Products Information File (DPIF). As pointed out above, DPIF has already been proven in a substantial number of hospitals throughout the world.

To identify a drug that has been accidentally ingested by a child in overdosage, or to identify a drug product for recall, any number or any code can be used. The code presently called the National Drug Code, which has been developed by the Science Information Facility of the Food and Drug Administration could serve that purpose. But to function as a tool for retrieval of comparative information about drug products, such as will be required for studies of comparative cost analysis, drug utilization studies or reports of adverse drug reactions, the code that is used must tell much more about the drug than merely its trade name and its manufacturer or labeler. For these latter types of comparative studies, we must take full advantage of computerization and other modern techniques of data processing.

For any "drug," there may be numerous trade names; different trade names may contain different salts, and therefore be chemically different even though the active "drug" moiety is the same. The dose of a "drug" may be expressed in terms of a chemical derivative not even present in the drug product as administered to the patient. For any meaningful comparison, especially by means of computerization of drug data, therefore, every detail of the drug product must be carefully defined and entered into the machine. Every available drug product must be entered separately but some provision must be made for comparing, for example, one product with another one which may be generically identical or which may be referred to as being the same generic "drug" but which actually is a different chemical derivative.

Thus, a drug utilization review of ampicillin trihydrate, anhydrous ampicillin and ampicillin sodium might reveal that one or more of these chemical variants of ampicillin produces severe side effects such as those experienced in the use of chloramphenicol. Such information could not be revealed by the National Drug Code except perhaps on a brand name basis and then with a great deal of difficulty.

Any computer input or any data bank about drugs compiled without sufficient forethought and without painstaking accuracy will be a constant frustration and totally useless in the years to come when searching for correlations in drug therapy programs. Such correlations are not only a necessity in providing better medical care but are necessary in order to know where the drug-dollars are going - and the government must know before reimbursement programs are expanded.

The seven or nine character National Drug Code is too long for practical day-to-day use in hospital systems. Further, it must be borne in mind that the equipment for data processing has some practical limitations. All hospitals, for example, do not have access to computer facilities, although many do have less sophisticated equipment which can process only all-numerical data. The National Drug Code contains code designations that use alphabetical characters as well as numerical digits.

Similar needs for a short, all-numeric code were found to exist in the nonhospital setting. At the University of Mississippi, a project was carried out under a Social Security Administration contract to determine the feasibility of creating a computer based drug information system using remote terminals in community pharmacies. One purpose of the study was to find the most practical and economical

piece of equipment for transmitting information from pharmacies to the central computer. The study found that the piece of equipment that met the needs of the vendor program was a mark-sense card reader or punched card system. This equipment will not transmit alphabetical code characters. Therefore, the University of Mississippi used the ASHP code in its pilot project. A researcher for the University has stated that the present National Drug Code could not have been used in their system because the National Drug Code contains alphabetical characters. It is our understanding that the Social Security Administration and the Social and Rehabilitation Service, government agencies that administer the Medicare and Medicaid programs, respectively, both have had similar difficulties because of the alphabetical characters in the National Drug Code.

Another thing the National Drug Code System cannot do is identify the pharmacologic-therapeutic category of any drug. It is simply not coded in this regard. On the other hand, the American Society of Hospital Pharmacists code has such a built in classification system. The classification system that is used is that of the American Hospital Formulary Service. The American Society of Hospital Pharmacists devised this drug classification system which has proven effective since 1959 and, in fact, is now being used by the United States Public Health Service, the National Library of Medicine, and the Veterans Administration. In addition, the International Classification of Diseases, Adapted, as published by the Public Health Service, uses this classification system for coding adverse drug reactions. In the private sector, in addition to its use in thousands of hospitals throughout the world, many pharmaceutical manufacturers utilize the classification

system in their product literature, package inserts, catalogs, and advertisements - a further goal of the HEW Task Force recommendation.

Nevertheless, despite the shortcomings of the present National Drug Code System, we believe passage of this legislation will be a step toward achieving the intent of the legislation as stated therein. It may be possible for the FDA's Science Information Facility to build upon this base a system that will meet all the needs outlined above. Until this should transpire, the ASHP has undertaken the inclusion in its coding system of the presently available National Drug Code designations so that those using the ASHP code can easily convert to the National Drug Code System.

In any event, the ASHP will continue its efforts in this area. With some government financial assistance however, the Society would be able to advance more quickly and at less expense than a government agency just undertaking such a task. In fact, any government agency may be continually hampered in its endeavors by the varied needs of the pluralistic interests it must serve. On the other hand, the ASHP, with its independent status and past record of achievement could make rapid substantial progress.

Finally, we would like to point out that Congress could, if it chose to, name the ASHP's code as the official code for use in connection with drugs. This would be similar to the technique used by Congress in establishing the standards of the United States Pharmacopeia and National Formulary as the official standards of purity and strength of drugs on the American market.

#### DISPENSING LABELS

S.3652 would require that the labels of dispensed prescription drugs bear the established name(s) of the drug(s) dispensed. S.3297



"2.1 In addition to the recommendations outlined in Section I, the inpatient prescription labels should bear, as a minimum, the following information:

- a. Patient's full name
- b. Nonproprietary and/or proprietary name of the drug actually dispensed
- c. Strength
- d. Date of issue
- e. Name or initials of dispensing pharmacist

2.2 The prescription or inpatient order should have noted thereon, at the time dispensed, the source and batch identifying number of the medication and the initials of the dispenser."

In addition, Section III, Labeling and Dispensing of Outpatient Prescriptions, subsections 3.2(g) and 3.3 state:

"3.2 The outpatient prescription label should bear the following information:

- g. Where physician requests or hospital policy dictates, identity and strength should be on the label

3.3 Prescriptions should have noted thereon, at the time dispensed, the source and batch identifying number of the medication and the initials of the dispenser."

Hence, we have always supported the principle of full disclosure by advocating the use of the established name of the drug on the prescription label and the name of the manufacturer or source and the batch identifying number on the prescription order itself, which the pharmacist keeps on file. In addition, the trade name should appear on the prescription label if the drug is ordered in that manner.

Codes have also been used on prescription labels by hospital pharmacists. Even before a drug code was available, the American Hospital Formulary Service classification number has been used as a means of identifying the therapeutic classification of the drug dispensed. This classification system is an integral part of the American Hospital

Formulary Service. American Hospital Formulary Service, which is approved by the American Hospital Association and the American Pharmaceutical Association, has more than 30,000 subscriptions in force and is widely used throughout the world as a basic drug information compendium. The classification system, being a part of the American Hospital Formulary Service, is likewise widely used. As pointed out above, it has been approved and used by a number of government agencies including the United States Public Health Service, the National Library of Medicine, and the Veterans Administration. In addition, the International Classification of Diseases, Adapted, as published by the Public Health Service, uses this classification system for coding adverse drug reactions. In the private sector, in addition to its use in thousands of hospitals throughout the world, many pharmaceutical manufacturers utilize the classification system in their product literature, package inserts, catalogs, and advertisements.

At the present time, the ASHP has no official policy on whether an identification code number should be placed on the label. If the name of the drug and its strength appear on the label, we see no compelling reason for also using a code number. However, neither do we see any great drawback in doing so.

#### INSPECTION OF DRUG MANUFACTURERS

S.3651 would reduce the Food, Drug and Cosmetic Acts' presently required biennial inspection to a six month inspection.

The American Society of Hospital Pharmacists believes every manufacturer of drugs, either interstate, intrastate or foreign, should be subject to a plant inspection before being permitted to introduce drug products in the American market.

Secondly, we feel that any subsequent inspection requirements be set at a level that will be effective. Other witnesses have testified to the effect that the Food and Drug Administration, under its present funding and manpower supply, is not, in all cases, able to carry out the intent and purpose of the present law, especially in respect to foreign manufacturers and manufacturers just starting in business. Under the present law, the Food and Drug Administration may inspect manufacturers every six months, and, in some cases, does so. It does not seem to be a lack of determination or resolve that prevents the agency from doing so in all cases; it is more likely due to the lack of money and manpower.

We respectfully submit that the more appropriate means of achieving the goal, with which we are in complete agreement, is through the appropriations procedure rather than amending, at this time, the law in regard to inspection intervals. In this manner, the credibility of the Federal government, both the Congress and the administration agency, would be better maintained.

## APPENDIX A

# American Hospital Formulary Service Classification System

- 4:00 ANTIHISTAMINE DRUGS
- 8:00 ANTI-INFECTION AGENTS
- 8:04 Amebicides
- 8:08 Anthelmintics
- 8:12 Antibiotics
- 8:12.04 Antifungal Antibiotics
- 8:12.08 Chloramphenicol
- 8:12.12 The Erythromycins
- 8:12.16 The Penicillins
- 8:12.20 The Streptomycins
- 8:12.24 The Tetracyclines
- 8:12.28 Other Antibiotics
- 8:16 Antituberculars
- 8:20 Plasmidocides (Antimalarials)
- 8:24 Sulfonamides
- 8:26 Sulfones
- 8:28 Trepanemides
- 8:32 Trichomonocides
- 8:36 Urinary Germicides (Anti-Infectives)
- 8:40 Other Anti-Infectives (includes Antiviral)
- 10:00 ANTINEOPLASTIC AGENTS
- 10:04 (Alkylating Agents)
- 10:08 (Antimetabolites)
- 10:12 (Miscellaneous Antineoplastic Agents includes — Actinomycin, Urethan, Vincristine, Vincristine and immunosuppressive agents)
- 12:00 AUTONOMIC DRUGS
- 12:04 Parasympathomimetic (Cholinergic) Agents
- 12:08 Parasympatholytic (Cholinergic Blocking) Agents
- 12:12 Sympathomimetic (Adrenergic) Agents
- 12:16 Sympatholytic (Adrenergic Blocking) Agents
- 12:20 Skeletal Muscle Relaxants
- 16:00 BLOOD DERIVATIVES (INCLUDES BLOOD COAGULATION FACTORS)
- 20:00 BLOOD FORMATION AND COAGULATION
- 20:04 Anemia Drugs
- 20:04.04 Iron Preparations
- 20:04.08 Liver and Stomach Preparations
- 20:12 Coagulants and Anticoagulants
- 20:12.04 Anticoagulants
- 20:12.08 Antiheparin Agents
- 20:12.12 Coagulants
- 20:12.16 Hemostatics (including Antifibrinolytic Agents)
- 24:00 CARDIOVASCULAR DRUGS
- 24:04 Cardiac Drugs
- 24:06 Antihypertensive Agents
- 24:08 Hypotensive Agents
- 24:12 Vasodilating Agents
- 24:16 Sclerosing Agents
- 28:00 CENTRAL NERVOUS SYSTEM DRUGS
- 28:04 General Anesthetics
- 28:08 Analgesics and Antipyretics
- 28:08.04 (Anti-Inflammatory Analgesics)
- 28:08.08 (Narcotic Analgesics)
- 28:08.12 (Miscellaneous Analgesics)
- 28:10 Narcotic Antagonists
- 28:12 Anticonvulsants
- 28:16 Psychotherapeutic Agents
- 28:16.04 Antidepressants
- 28:16.08 Tranquilizers
- 28:16.12 Other Psychotherapeutic Agents (includes Hallucinogens)
- 28:20 Respiratory and Cerebral Stimulants
- 28:24 Sedatives and Hypnotics
- 28:24.04 (Barbiturates)
- 28:24.08 (Non-Barbiturates)
- 36:00 DIAGNOSTIC AGENTS
- 36:04 Adrenocortical Insufficiency
- 36:08 Amyloidosis
- 36:12 Blood Volume
- 36:16 Brucellosis
- 36:24 Circulation Time
- 36:26 Diabetes Mellitus
- 36:28 Diphtheria
- 36:32 Fungi
- 36:36 Gastric Function
- 36:38 Intestinal Absorption
- 36:40 Kidney Function
- 36:44 Liver Function
- 36:48 Lymphogranuloma Venereum
- 36:52 Mumps
- 36:56 Myasthenia Gravis
- 36:60 Myxedema
- 36:62 Phenylketonuria
- 36:64 Pheochromocytoma
- 36:66 Pituitary Function
- 36:68 Roentgenography
- 36:72 Scarlet Fever
- 36:76 Sweating
- 36:80 Trichinosis
- 36:84 Tuberculosis
- 36:88 Urine Contents
- 40:00 ELECTROLYTIC, CALORIC, AND WATER BALANCE
- 40:04 Acidifying Agents
- 40:08 Alkalinizing Agents
- 40:10 Ammonia Detoxicants
- 40:12 Replacement (Agents) Solutions (includes Electrolytes and Plasma Expanders)
- 40:16 Sodium-Removing Resins
- 40:18 Potassium-Removing Resins
- 40:20 Caloric (and Nutrient) Agents
- 40:24 Salt and Sugar Substitutes
- 40:28 Diuretics
- 40:36 Irrigating Solutions
- 40:40 Uricosuric Agents
- 44:00 ENZYMES (INCLUDES FIBRINOLYTIC AGENTS)
- 48:00 EXPECTORANTS AND COUGH PREPARATIONS
- 52:00 EYE, EAR, NOSE AND THROAT PREPARATIONS
- 52:04 Anti-Infectives
- 52:04.04 Antibiotics
- 52:04.08 Sulfonamides
- 52:04.12 Miscellaneous Anti-Infectives
- 52:08 Anti-Inflammatory Agents
- 52:12 Contact Lens Solutions
- 52:16 Local Anesthetics
- 52:20 Miotics
- 52:24 Mydriatics
- 52:28 Mouth Washes and Gargles
- 52:32 Vasoconstrictors
- 52:36 Unclassified Agents
- 56:00 GASTROINTESTINAL DRUGS
- 56:04 Antacids and Adsorbents
- 56:08 Anti-Diarrhea Agents
- 56:10 Antiflatulents
- 56:12 Cathartics
- 56:16 Digestants
- 56:20 Emetics
- 56:22 (Anti-Emetics)
- 56:24 Lipotropic Agents
- 60:00 GOLD COMPOUNDS
- 64:00 HEAVY METAL ANTAGONISTS
- 68:00 HORMONES AND SYNTHETIC SUBSTITUTES
- 68:04 Adrenals (Cortex—includes Glucocorticoids and Mineralocorticoids)
- 68:08 Androgens
- 68:12 Chorionic Gonadotropin
- 68:16 Estrogens
- 68:20 Insulins and Anti-Diabetic Agents
- 68:22 (Gastrointestinal Hormones)
- 68:24 Parathyroid (and Parathyroid Antagonists)
- 68:28 Pituitary
- 68:32 Progestogens
- 68:34 Other Corpus Luteum Hormones
- 68:36 Thyroid and Antithyroid (Thyroid Antagonists)
- 72:00 LOCAL ANESTHETICS
- 76:00 OXYTOCICS
- 78:00 RADIOACTIVE (AND ANTIRADIATION) AGENTS
- 78:04 (Radioisotopes)
- 78:08 (Radiation Protectors)
- 78:12 (Radiation Sensitizers)
- 80:00 SERUMS, TOXOIDS AND VACCINES
- 80:04 Serums
- 80:08 Toxoids
- 80:12 Vaccines
- 84:00 SKIN AND MUCOUS MEMBRANE PREPARATIONS
- 84:04 Anti-Infectives
- 84:04.04 Antibiotics
- 84:04.08 Fungicides (Antifungal Agents)
- 84:04.12 Scabicides and Pediculicides
- 84:04.16 Miscellaneous Local Anti-Infectives (includes Germicides)
- 84:06 Anti-Inflammatory Agents
- 84:08 Antipruritics and Local Anesthetics
- 84:12 Astringents
- 84:16 Cell Stimulants and Proliferants
- 84:20 Detergents
- 84:24 Emollients, Demulcents and Protectants
- 84:24.04 Basic Lotions and Liniments
- 84:24.08 Basic Oils and Other Solvents
- 84:24.12 Basic Ointments and Protectants
- 84:24.16 Basic Powders and Demulcents
- 84:28 Keratolytic Agents
- 84:32 Keratoplastic Agents
- 84:36 Miscellaneous Agents
- 86:00 SPASMOLYTIC AGENTS
- 88:00 VITAMINS
- 88:04 Vitamin A
- 88:08 Vitamin B Complex
- 88:12 Vitamin C
- 88:16 Vitamin D
- 88:20 Vitamin E
- 88:24 Vitamin K Activity
- 88:28 Multivitamin Preparations
- 92:00 UNCLASSIFIED THERAPEUTIC AGENTS
- 94:00 (DEVICES)
- 96:00 (PHARMACEUTIC AIDS)

Classifications in parentheses are provisional.

## APPENDIX B

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HOSPITAL SUBSCRIBERS TO THE ASRP CODE

Memorial Hospital of Long Beach  
Long Beach, California

San Antonio Community Hospital  
Upland, California

Lee Memorial Hospital  
Fort Myers, Florida

Florida Sanitarium & Hospital  
Orlando, Florida

University of Chicago Hospital  
Chicago, Illinois

University of Illinois Medical Center  
Chicago, Illinois

Clinic Hospital  
Bluffton, Indiana

Deaconess Hospital  
Evansville, Indiana

St. Francis Hospital  
Wichita, Kansas

Sisters of Charity of Nazareth  
Louisville, Kentucky

St. Joseph Mercy Hospital  
Ann Arbor, Michigan

University of Michigan Medical Center  
Ann Arbor, Michigan

University of Minnesota Hospital  
Minneapolis, Minnesota

Saint Marys Hospital  
Rochester, Minnesota

Barnes Hospital  
St. Louis, Missouri

Beth Israel Hospital  
New York, New York

Maimonides Medical Center  
Brooklyn, New York

State University of New York at Buffalo  
Buffalo, New York

New York University Medical Center  
New York, New York

Good Samaritan Hospital  
Cincinnati, Ohio

Harris County Hospital District  
Houston, Texas

Methodist Hospital of Dallas  
Dallas, Texas

Harris Hospital  
Fort Worth, Texas

Methodist Hospital Pharmacy  
Houston, Texas

St. Anthony Hospital  
Oklahoma City, Oklahoma

Hospital of the University of Pennsylvania  
Philadelphia, Pennsylvania

Magee-Womens Hospital  
Pittsburgh, Pennsylvania

Baptist Memorial Hospital  
Memphis, Tennessee

Thomas D. Dee Memorial Hospital  
Ogden, Utah

Primary Children's Hospital  
Salt Lake City, Utah

Latter-Day Saints Hospital  
Salt Lake City, Utah

Medical Center Hospital of Vermont  
Burlington, Vermont

Providence Hospital  
Seattle, Washington

University of Wisconsin Hospital  
Madison, Wisconsin

Hopital Notre-Dame  
Montreal, Quebec, Canada

## APPENDIX C

## CANADIAN HOSPITAL CONTRACTS FOR DPIF \*

Notre-Dame Hospital of Montreal, Quebec, Canada, has contracted for the Society's Drug Coding and Listing Services for a period of three years. The essential part of the contract provides for Notre-Dame Hospital's use of ASHP's Drug Products Information File. This action marks the first international utilization of DPIF since its inception in 1967.

Notre-Dame Hospital's Medical and Administration Data Processing Center is by reputation the largest and most sophisticated center of its kind in Canada. Procedures implemented range from simple accounting monthly reports and statistics to highly complex and elaborate medical data processing systems, such as automated biochemistry procedures, interpretations of E.C.G. and cardiac monitoring.

The Medical Data Processing Center has organized a special task force aimed at creating a Therapeutic Information System. This system, consisting mainly of a drug information file and a patient medical record file, would form a part of a Medical Information System.

According to Jules Labarre, D. Sc., Project Director of the Pharmacological and Therapeutical Task Force and Committee, "DPIF data will save our Task Force approximately one year of information gathering on specific drugs and time in creating a usable drug code. It will serve as the basic structure for creating our Therapeutical Information System, capable of disseminating rapidly and at all times, specific data on drugs coded in the hospital formulary."

In addition to Dr. Labarre, membership on the Task Force includes Miss Helene Meloche, B.A., L.Ph., participating pharmacist; Mr. Gilles Kourie, Data Processing Manager; Miss Paule Benfante, B.A., L.Ph., Chief Pharmacist; Denise Leclerc-Chevalier, Ph.D., Professor at the Faculty of Pharmacy, University of Montreal; Guy Quenneville, M.D., President, Pharmacological and Therapeutical Committee; and Claude Langlois, M.D., consulting M.D.

Notre-Dame Hospital's equipment includes the IBM 360, model 40 computer and the IBM 1800 data acquisition and control system. Also included are 1050 system teleprocessing equipment and the 1080 data acquisition system.

Gilles Kourie, Data Processing Manager for the hospital, explained how the DPIF will be used. A computer listing of the File will be reviewed by members of the Pharmaceutical Task Force in order to define which drugs are to form the main body of Notre-Dame's drug information file. Each chosen drug information record will then be

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\*ASHP Newsletter, March, 1970

copied from the DPIF tape onto magnetic disc. According to Kourie, "The new records will consist of approximately one thousand bytes of which only 480 will initially contain data (original information from DPIF). The remaining 600 bytes of the new basic record will be used at a future date and will contain such information as adverse reactions, possible secondary effects, inventory data and reference to the Hospital's formulary."

A DPIF code number will be used as a direct access key to each record in the file. Other records from the original tape not chosen to form part of the information system will be copied on another tape in the present format and be used as complementary information. Some information regarding certain drugs will have to be changed to meet with Canadian standards on drug suppliers. New drug records will have to be added for those pertaining to Canada only.

Gerard Brais, Notre-Dame's Director of Finance, explained that as many as eight hospitals are expected to utilize the Medical Information System after it is fully developed and implemented at Notre-Dame Hospital.

APPENDIX D

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# GUIDING PRINCIPLES ON THE OPERATION OF THE HOSPITAL FORMULARY SYSTEM

Approved by American Hospital Association, American Medical Association,  
American Pharmaceutical Association and American Society of Hospital Pharmacists

### Preamble

► THE TREATMENT OF PATIENTS IN HOSPITALS in many cases is dependent upon the effective use of drugs. The multiplicity of drugs available makes it mandatory that a sound program of drug usage be developed within the hospital to ensure that patients receive the best care and protection possible.

In the interest of better patient care, there should be a program of objective evaluation, selection and use of medicinal agents in the hospital. This program is the basis of rational drug therapy. The hospital formulary concept is a method for providing such a program in hospitals and has been utilized as such over the years.

The hospital formulary system is based upon its approval by the organized medical staff, the concurrence of individual staff members and the functioning of a properly organized Pharmacy and Therapeutics Committee<sup>1</sup> of the medical staff. The basic policies and procedures governing the hospital formulary system should be incorporated in the medical staff bylaws, or in the medical staff rules and regulations.

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<sup>1</sup>For recommendations of AHA and ASHP, see Statement of Pharmacy and Therapeutics Committee, adopted by the Board of Trustees of the American Hospital Association and the Executive Committee of the AMERICAN SOCIETY OF HOSPITAL PHARMACISTS in February 1959.

Action approving the above Statement was taken by the ASHP Board of Directors, meeting in Washington, January 10, 1964.

The Pharmacy and Therapeutics Committee, composed of physicians and pharmacists, selected under the guidance of the medical staff, represents the official organizational line of communication and liaison between the medical staff and the pharmacy. The Committee is responsible to the medical staff as a whole and its recommendations are subject to approval by the organized medical staff, as well as to the normal process of administrative approval.

This Committee assists in the formulation of broad professional policies relating to drugs in hospitals, including their evaluation or appraisal, selection, procurement, storage, distribution, use and safety procedures.

### Definition of Hospital Formulary and Hospital Formulary System

The hospital formulary is a continually revised compilation of pharmaceuticals which reflects the current clinical judgment of the medical staff.

The hospital formulary system is a method whereby the medical staff of a hospital, working through a Pharmacy and Therapeutics Committee, evaluates, appraises and selects from among numerous available medicinal agents and dosage forms those that are considered most useful in patient care.

The hospital formulary system provides for the procuring, prescribing, dispensing and administering of drugs under either their nonproprietary or proprietary names in instances where drugs have both names.

### Guiding Principles

The following principles may serve as a guide to physicians, pharmacists and administrators in hospitals utilizing the hospital formulary system:

1. The medical staff shall appoint a Pharmacy and Therapeutics Committee composed of physicians, and pharmacists and outline its purposes, organization, function and scope.
2. The hospital formulary system shall be sponsored by the medical staff based upon the recommendations of the Pharmacy and Therapeutics Committee. The medical staff should adapt the principles of the hospital formulary system to the needs of the particular hospital.
3. The medical staff shall adopt written policies and procedures governing the hospital formulary system as developed by the Pharmacy and Therapeutics Committee. Action of the medical staff is subject to the normal process of administrative approval.

These policies and procedures shall afford guidance in the evaluation or appraisal, selection, procurement, storage, distribution, use, safety procedures, and other matters relating to drugs in the hospital and shall be published in the hospital's formulary or other media available to all members of the medical staff.

4. To insure the maintenance of the responsibility and prerogatives of the physician in the exercise of his professional judgment, the hospital formulary system shall not contain any policies or procedures which, prior to the time of prescribing, provide for consent by the physician to the dispensing of a nonproprietary drug or to the dispensing of a proprietary brand different from the brand which he prescribed. However, it shall be within his discretion at the time of prescribing to approve or disapprove the dispensing of a nonproprietary drug or the dispensing of a different proprietary brand.

5. The medical staff shall adopt the policy of, and formulate the procedure for, including drugs in the formulary by their nonproprietary names, even though proprietary names are and will continue to be in common use in the hospital. Physicians may be encouraged to prescribe drugs under their nonproprietary names, although the nomenclature used is entirely a matter of the individual medical practitioner's discretion.

6. In the absence of written policies approved by the medical staff relative to the operation of the hospital formulary system, and authorization from the prescribing physician, the pharmacist must dispense the brand prescribed, bearing in mind his professional prerogative to confer with the physician should the prescribed brand be unavailable.

7. A hospital shall make certain that its nursing personnel are informed in writing (through its established means of communication) about the existence of the formulary system in the hospital and the procedures governing its operation.

8. In the formulation of policies and procedures, the terms "substitute" and "substitution" should be avoided, since these terms have been used to imply the unauthorized dispensing of a brand different from that prescribed or the dispensing of an entirely different drug, neither of which takes place under a properly operated hospital formulary system.

9. Provision shall be made to apprise the medical staff of changes in the working of the hospital formulary system or in the content of the hospital formulary.

10. Provision shall be made for the appraisal and use by members of the medical staff:

- a. of drugs not included in the formulary.
- b. of investigational drugs.\*

11. The pharmacist, with the advice and guidance of the Pharmacy and Therapeutics Committee, shall be responsible for specifications as to quality, quantity, and source of supply of all drugs, chemicals, biologicals and pharmaceutical preparations used in the diagnosis and treatment of patients, and for assuring that quality is not compromised for economic considerations. When applicable, such products shall meet the standards of quality of the *United States Pharmacopeia* or *National Formulary*.

12. The labeling of a medication container with the nonproprietary name of the contents is always proper. The use of a proprietary name other than that describing the actual contents is improper if it is used in a manner that can be taken as descriptive of the contents, even though personnel familiar with the hospital formulary system may understand that it is not descriptive. The following format is recommended for labeling individual patient's containers used within hospitals:

(Nonproprietary Name)  
(Name of Manufacturer or Distributor)  
Note for information of staff:  
Prescription or order for  
(Proprietary Name)  
dispensed as per formulary policy; contents are same basic drug as prescribed but may be of another brand.

### Recommendation

A hospital formulary system, based upon these guiding principles, is considered to be important in drug therapy in hospitals. In the interest of better patient care, its adoption by hospital medical staffs is recommended.

\* For recommendations of AHA and ASHP, see Statement of Principles Involved in the Use of Investigational Drugs in Hospitals, adopted by the Board of Trustees of the American Hospital Association in September 1957, and approved by the Executive Committee of the American Society of Hospital Pharmacists in June 1958.

## APPENDIX E

# GUIDELINES relative to the SAFE USE OF MEDICATIONS IN HOSPITALS

Submitted by the ASHP Committee on Safety Practices and Procedures

R. DAVID ANDERSON, *Chairman\**

MARCH 1962

*The following guidelines are presented for the use of professional personnel responsible for the safe handling of medications and diagnostic agents in hospitals. Recognizing that existing procedures may change, these guidelines are designed to provide a basis for formulating policies and procedures at the present time.*

## PREAMBLE

► THE BOARD OF TRUSTEES OF THE AMERICAN HOSPITAL Association and the Executive Committee of the AMERICAN SOCIETY OF HOSPITAL PHARMACISTS in 1957 adopted the following significant position:

To urge hospital pharmacists, through appropriate channels, to extend their responsibilities to include participation in programs dealing with the safe handling of drugs throughout the hospital.

Problems of medication safety are now the grave concern of the many persons involved with patient care. These include the hospital trustee, the physician, the administrator, the pharmacist, the nurse, and others. The multiplicity of drugs, the increased number and kinds of medications prescribed per patient, the increased number of both inpatients and outpatients who are being treated, and the ever-changing concepts of medical care make it mandatory that a system of safe medication practices be developed and maintained to insure that the patient receives the best possible care and protection.

In recent years, the rapid obsolescence of drugs, the availability of more specific drugs per disease entity, and the general increase in the prescribing of medi-

cations have placed a greater responsibility on pharmacy and nursing services in dispensing and administering medications.

The greatly increased use of medications has increased the hazard of possible error. The seriousness of the problem may be indicated by the fact that medication errors are among the leading causes of accidents in hospitals.

For the purpose of this statement, a medication error, though resulting from many possible causes, is defined as the administration of the wrong medicine or dose of medicine, diagnostic agent, or treatment requiring the use of such agent to a patient; or the administration of the medicine, agent, or treatment at the wrong time, or to the wrong patient; or the failure to administer such medication, agent, or treatment; or the failure to administer at the time specified or in the manner prescribed or normally considered as accepted practice.

## SECTION I

### LABELING and MEDICATION CONTAINERS - GENERAL

- 1.1 Drug labeling should be performed by a pharmacist or under the supervision of a pharmacist. Prescription labels and pharmacy stock labels should be used only by the hospital pharmacy. (See 1.16 and 4.14.)
- 1.2 The pharmacist should be consulted and should make recommendations concerning labeling, containers and storage of housekeeping items, insecticides, cleaners, and such.
- 1.3 Medication labels should be typed or machine-printed. Labeling with pen or pencil, use of adhesive tape or china marking pencils should be prohibited. A label should not be superimposed on a label.
- 1.4 The label should be legible, easily read, and free from erasures and strikeovers. It should be firmly affixed to the container. The label for stock containers should be protected from chemical action or abrasion.
- 1.5 Labels should bear the name, address, and telephone number of the hospital.
- 1.6 One order or prescription should be filled and labeled at a time.
- 1.7 The following or similar accessory labels and caution statements should appear where indicated:
  - a. Poison
  - b. Not to be taken internally

\*Members of 1962-63 Committee include: Kenneth N. Barker, Franz W. Geisz, Claude U. Pauloni, Robert L. Ravin, Sister M. Gonzales and Alfred J. Smialek. Acknowledgment is also made of contributions by former Chairmen Robert Lantos and Sister Gonzales, Liaison Committee members George Archambault and Robert Bogash, and members of this Committee from 1957-1963. Acknowledgment is also made of helpful suggestions and collaboration of the Department of Hospital Nursing of the National League for Nursing. The N.L.N. has published a "Self Evaluation Guide for Hospital Nursing Service Medication Safety" which is based on the ASHP's "Guidelines Relative to the Safe Use of Medications in Hospitals" and was developed in cooperation with the ASHP Committee on Safety Practices and Procedures. The N.L.N.'s Guide may be purchased from 10 Columbus Circle, New York 19, New York. Reprints of the ASHP's Guidelines may be purchased from 4630 Montgomery Avenue, Washington, D.C. 20014.

- c. Shake well before using
- d. For external use only
- e. For the eye
- f. For the nose
- g. For the ear
- h. Refrigerate at 2° - 10°C (35° - 50°F)
- i. Refrigerate after reconstitution
- j. Warning: Not for injection
- k. Do not use after . . . . .
- l. Not to be swallowed
- m. Keep out of reach of children
- n. Keep from freezing
- o. Keep below freezing
- p. Caution: Potent Drug
- q. Research Drug
- \*r. **NONPROPRIETARY NAME**  
Note for information of Staff:  
Prescription or order for (*Proprietary Name*) filled as per formulary policy; contents are same basic drug as prescribed, but may be of another brand.
- \*s. **NONPROPRIETARY NAME**  
Note for information of Staff:  
Contents may be used, per formulary policy, to fill prescriptions or orders for any of the following brands of the same basic drug:  
(*Proprietary Name, Brand 1*)  
(*Proprietary Name, Brand 2*)  
(*Proprietary Name, Brand 3*)
- t. Note change in color, size, or shape
- u. Other accessory labels providing special information such as dosage, side effects, or contraindications for investigational drugs may be used where necessary.

- 1.8 The metric system should be given prominence on all labels where both metric and apothecary systems are commonly used.
- 1.9 The name of the therapeutically-active ingredients should be indicated in compound mixtures.
- 1.10 Labels for medications should indicate the amount of drug or drugs in each dosage form unless otherwise indicated.
- 1.11 Drugs and chemicals in forms intended for dilution or reconstitution should carry directions for so doing. Whenever possible, dilutions and labeling should be done in the pharmacy.
- 1.12 Perishable drugs, such as antibiotics and biologicals, should clearly indicate the expiration date on the label.
- 1.13 The routes of administration should be indicated for parenteral medications whenever possible.
- 1.14 Numbers, letters, coined names, and unofficial synonyms and abbreviations should not be used to identify medications with the exception of approved letter or number codes for investigational drugs.
- 1.15 Only light-resistant, tight containers meeting U.S.P. standards should be used.
- 1.16 Medications if brought into the hospital by the patient or physician should be positively identified before use. Such medications should be checked by the hospital pharmacist with the originating pharmacy by prescription serial number. A supplemental label should be attached in the hospital pharmacy providing information required in Section II. Where no pharmacist is on duty, the physician should check with the issuing pharmacy and attach the supplemental label described above.
- 1.17 Containers presenting difficulty in labeling, such as small tubes, should be labeled with no less than the prescription serial number, name of drug, strength, and name of the patient, and should then be placed

\*Applicable to those hospitals operating under the formulary system as outlined in AHA-ASHP *Statement of Guiding Principles on the Operation of the Hospital Formulary System*. See *Am. J. Hosp. Pharm.* 17:609 (Oct.) 1960.

in a larger carton or container bearing a label with the necessary information indicated in Sections II and III.

- 1.18 The label should conform with all applicable federal, state, and local laws and regulations.
- 1.19 Floor stock medication labels should carry codes to identify source and lot number of medication.

## SECTION II

### LABELING and DISPENSING INPATIENT PRESCRIPTIONS

- 2.1 In addition to the recommendations outlined in Section I, the inpatient prescription labels should bear, as a minimum, the following information:
  - a. Patient's full name
  - b. Nonproprietary and/or proprietary name of the drug actually dispensed
  - c. Strength
  - d. Date of issue
  - e. Name or initials of dispensing pharmacist
- 2.2 The prescription or inpatient order should have noted thereon, at the time dispensed, the source and batch identifying number of the medication and the initials of the dispenser.
- 2.3 For inpatient self-care medications, label as in Section III.

## SECTION III

### LABELING and DISPENSING OUTPATIENT PRESCRIPTIONS

- 3.1 Medications to be dispensed to inpatients who are being discharged should be returned to the pharmacy for relabeling.
- 3.2 The outpatient prescription label should bear the following information:
  - a. Patient's full name
  - b. Prescription identification number
  - c. Specific directions for use
  - d. Date of issue
  - e. Name or initials of dispenser
  - f. Name of prescribing physician
  - g. Where physician requests or hospital policy dictates, identity and strength should be on the label
  - h. A "Keep out of reach of children" label
  - i. Name, address, and telephone number of hospital
- 3.3 Prescriptions should have noted thereon, at the time dispensed, the source and batch identifying number of the medication and the initials of the dispenser.
- 3.4 An identifying check system to insure proper identification of outpatients should be established.

## SECTION IV

### CARE of DRUGS and DRUG CABINETS in NURSING UNITS

- 4.1 Medication centers should be functional and provide:
  - a. Adequate space so that drugs can be placed and arranged in accordance with 4.2
  - b. Adequate space to allow all container labels to be clearly visible
  - c. Adequate lighting so that labels can be clearly read
  - d. Adequate ventilation
  - e. Adequate work space protected from traffic and noise

- f. Hot and cold running water
  - g. Sufficient equipment and supplies in readily usable form
  - h. Refrigeration
  - i. Inner-lockable narcotic cabinet
  - j. Adequate means for security
- 4.2 Medications should be placed in drug cabinets in accordance with an established plan for a particular hospital which provides standardized compartments for:
- a. Internal medications
  - b. Narcotics, barbiturates, amphetamines
  - c. Poisons and external-use drugs
  - d. Emergency drugs
  - e. Ampuls
  - f. Investigational drugs
- 4.3 Drugs should be arranged alphabetically within the above mentioned groups insofar as possible.
- 4.4 Medication cabinets or rooms and narcotic compartments should be kept locked and the keys should be available only to the nurse in charge or her alternate.
- 4.5 Storage of drugs on mobile dressing carriages is discouraged unless properly secured.
- 4.6 Not more than one hypodermic tablet should be placed in a capsule for the purpose of protection against breakage or to facilitate counting or control.
- 4.7 Pharmacy should supply exact quantities for preparation of specific amounts of solution, or should preferably supply the finished preparation. Maintenance of bulk chemicals or stock drugs on the nursing units for preparation of solutions should be discouraged.
- 4.8 Separate storage facilities should be provided for:
- a. Test reagents
  - b. General disinfectants and antiseptics
  - c. Cleansing agents
- 4.9 Only drugs and the equipment for preparation and administration should be stored in medication cabinets.
- 4.10 Drug cabinets should be examined weekly or more often by the nurse in charge. Drugs which appear to have deteriorated, exceeded their expiration date, or are not being used should be returned to the pharmacy for proper disposition. Monthly, or more frequent, inspections should be made by the Directors of Pharmacy and Nursing Service or their delegates.
- 4.11 Controlled drugs in the nursing unit shall be inventoried, recorded, and inspected in accord with an approved system.
- 4.12 Investigational drugs should be handled as directed in the Statement of Principles Involved in the Use of Investigational Drugs in Hospitals issued by the American Hospital Association and AMERICAN SOCIETY OF HOSPITAL PHARMACISTS.
- 4.13 Reconstitution of antibiotics and other unstable drugs on the nursing unit should be kept to a minimum. They should be diluted in accordance with directions supplied by the pharmacy.
- 4.14 Antibiotics and other unstable drugs reconstituted on the nursing unit should carry a nurse-prepared label with essentially the following information:
- a. Expiration date
  - b. Nurse's name or initials
  - c. Dosage or strength per unit volume
- 4.15 Empty medication containers should be returned to the pharmacy.
- 4.16 Flammable or explosive liquids such as ether or acetone should be kept in as small supply as possible and in accordance with state and local fire regulations.

## SECTION V

## MEDICATION ORDERS

- 5.1 Medications should be given only on the written order of a physician. Exceptions to this policy should be covered by a written policy established by the Medical Board or Medical Staff of the hospital, as for example 5.2 and 5.3.
- 5.2 Emergency verbal orders may be accepted by a nurse. The physician should check the prepared emergency dose and container before the medication is administered. An order for the medication should be written by the physician at the earliest time possible.
- 5.3 Stat telephone orders may be accepted by a nurse. The order should be recorded on the doctor's order sheet, followed by the name of physician giving the order, the time, and the signature of the nurse receiving it. The nurse should repeat the order to the physician from her written record for confirmation. The physician should countersign this order on his next visit to the station. The nurse accepting a telephone order should be personally responsible for its execution.
- 5.4 Medication orders should be automatically cancelled under the following conditions:
- a. Patient goes to delivery room or operating room
  - b. Transfer of patient to another service
  - c. In accordance with written policy of the Medical Board adopted in connection with the Automatic Stop Order statement of the Joint Commission on Accreditation of Hospitals
  - d. In accordance with written policy of the Medical Board adopted in connection with Suggested Regulations for Handling Narcotics in Hospitals by the AMERICAN SOCIETY OF HOSPITAL PHARMACISTS and approved by the American Hospital Association
- 5.5 The physician will specify the time a stat or single order was written. After the nurse administers the medication, she should write, "Given," the time administered, and her signature.
- 5.6 Medication orders should be legibly written and should include:
- a. Name of medication
  - b. Dosage expressed in the metric system, except in instances where dosage is commonly expressed otherwise
  - c. Signature of the physician
  - d. Frequency of administration
  - e. Route of administration, if other than oral
  - f. Date and hour
- 5.7 The use of abbreviations and chemical symbols in the writing of medication orders is discouraged and, if used, should be limited to those agreed upon and jointly adopted by the nursing, pharmacy, and medical staffs of a particular hospital.
- 5.8 Any questions arising from a medication order, including the interpretation of illegible order, should be referred to the physician writing the order. The nurse should not be expected to attempt to carry out the order until the question is resolved.

## SECTION VI

## MEDICATION CARDS

- 6.1 A medication card should be made and used for the preparation and administration of all medications and should carry essentially the following information:
- a. Patient's first and last names
  - b. Location of patient and hospital number
  - c. Name of drug
  - d. Dosage
  - e. Route of administration if other than oral
  - f. Frequency of administration
  - g. Time(s) of administration
  - h. Any special precautions or observations

- i. Initials of nurse preparing or verifying the medication order
  - j. Expiration date of order
  - k. Date card made out
- 6.2 The medication card should be clearly written in ink or printed and verified by the nurse against the physician's order.
  - 6.3 Cards for "Delayed" or "Omitted" medications should be removed from the regular medication card file and placed in a designated place.
  - 6.4 On assuming charge of a patient unit, the nurse should check the medication cards against the doctor's order to insure the following:
    - a. All cards are in their proper place
    - b. Cards for "Delayed" or "Omitted" medications have been removed
    - c. Cards for medications to be resumed following "Omit" or "Delay" are returned to their proper place in the file
    - d. Cards for discontinued orders are removed and destroyed

### SECTION VII

#### PREPARATION of MEDICATIONS for ADMINISTRATION

- 7.1 Ascertain that prescribed dose has not previously been administered.
- 7.2 Select medication card(s) or drug(s) to be administered.
- 7.3 Check medication card(s) for expiration time and date and omission.
- 7.4 Arrange medication cards with medicine cups in the order in which medications are to be administered. Use a separate cup for each medication unless otherwise ordered.
- 7.5 Expose each medication card singly while preparing the medication.
- 7.6 Give full attention while preparing medication.
- 7.7 Select drug and compare it to medication card.
- 7.8 Ascertain that the container is completely and properly labeled, including strength when indicated. Never use unlabeled medications.
- 7.9 Read the label three (3) times
  - a. Before removing from shelf
  - b. Before measuring or preparing the dose
  - c. Before replacing on shelf
- 7.10 Medications prepared for administration, but not used, should be discarded.
- 7.11 The pharmacist should be contacted when there is a question regarding the mixing of medications in the same syringe or container.
- 7.12 A copy of the hospital formulary, an up-to-date incompatibility chart for possible parenteral medication mixtures, and an antidote chart should be maintained at each nursing station.
- 7.13 Pharmaceutical calculations required in the administration of medications should be checked by another nurse or, if possible, with the pharmacist.
- 7.14 The metric system, to the extent possible, should be used in prescribing, administering, and recording medications. Approximate metric and apothecary equivalents and information for computing dosage should be readily available on the nursing unit.

### SECTION VIII

#### ADMINISTRATION of MEDICATIONS

- 8.1 Medications should be administered only if information regarding the drug is available in the form approved by the Pharmacy and Therapeutics Committee. The nurse should know and consider:
  - a. General use of the drug
  - b. Therapeutic action
  - c. Usual dosage
  - d. Factors modifying the dosage
  - e. Factors modifying the effects
  - f. Untoward actions, side effects, precautions, and contraindications
  - g. Antidote, if known
  - h. Medium, route and frequency of administration
  - i. Signs of deterioration of drug
- 8.2 Medications should be prepared and given as near the specified time as possible.
- 8.3 The patient for whom the medication is intended should be positively identified by checking the identification band or hospital number, or by other means as specified by hospital policy.
- 8.4 The person administering the medication should stay with the patient until the medication has been taken. Exceptions to this rule are selected medications which may be left at the patient's bedside on the physician's written order.
- 8.5 All medications should be administered by the person who has prepared the dose. For exceptions to this rule, see (5.2) (8.8).
- 8.6 Parenteral medications which are not to be mixed in a syringe should be given in different sites.
- 8.7 The administration of blood and blood derivatives should be the responsibility of the physician. The physician should be responsible for starting intravenous and subcutaneous infusions, for administering all intravenous medications, and for adding medications to flowing intravenous fluids. Exceptions should be covered by written policy established and endorsed by the Medical Board of the hospital, which policies should be in compliance with existing state nursing, pharmacy, and medical practice acts and regulations, or rulings of the office of the state attorney general.
- 8.8 In instances when the administration of medications is delegated to another person, the nurse should assume the responsibility for supervision of the procedure.

### SECTION IX

#### RECORDING of MEDICATIONS

- 9.1 All administered medications or omitted medications should be recorded on the patient's medical record according to an established procedure.
- 9.2 Hospital policy should determine the responsibility for recording medications administered by the physician.

### SECTION X

#### MEDICATION ERRORS

- 10.1 Each hospital should set up a clear statement of policy for all medication errors. Such policy should include:
  - a. Reporting
  - b. Recording
  - c. Review
  - d. Channel for analysis and necessary action
  - e. Written report
- 10.2 If an error occurs in the administration of medication, the physician and the proper administrative representative should be informed immediately.
- 10.3 A written report, in accordance with hospital policy, should be prepared and sent to the proper hospital officials within 24 hours.

AMERICAN HOSPITAL ASSOCIATION,  
Washington, D.C., May 20, 1970.

The Honorable RALPH W. YARBOROUGH,  
Chairman, Health Subcommittee,  
Committee on Labor and Public Welfare,  
U.S. Senate, Washington, D.C.

DEAR MR. CHAIRMAN: This letter is to set forth the views of the American Hospital Association in respect to bills pending before your Subcommittee that deal with training in the Allied Health Professions, including particularly the Health Training Improvement Bill, S. 3586, which you introduced, and the Administration's Allied Health Professions Training Amendments Bill, S. 3718, introduced by Senator Javits.

These bills deal with a most critical national problem. Shortages in various categories of health manpower are directly affecting the ability of the health field to provide needed services. A variety of federal programs developed to better serve the health needs of the people are unable to reach their full effectiveness because of manpower shortages. The future health goal for the nation which is desired by everyone concerned is comprehensive health care for all. The House of Representatives is providing such a goal for aged persons in its amendments to the Social Security Act in which it is intended to put the force of the government behind such a movement. Such desired ends are unlikely of fulfillment without appreciable increases in health manpower. This involves not only expanded programs for training of existing categories of manpower, but also the development of new categories of health manpower.

S. 3586 expands the programs of assistance for training Allied Health Professions personnel and extends these programs for five years. On the other hand, S. 3718 provides a one year extension. We strongly support extension of the programs for five years. The uncertainties created by a one year program would serve to seriously inhibit its full development and might in fact result in a loss of one year in the program's implementation because the educational and training facilities involved would feel the uncertainty which a one year program provides. In contrast we believe the five year program provided for in S. 3586 recognizes the urgency of the situation and builds upon needs that have been well demonstrated. Further, Sec. 209 of this bill does provide for a thorough study and evaluation of the programs and their adequacy to meet the needs of Allied Health Professions personnel.

At the time the original Allied Health Professions Training Act was being considered by the Congress we strongly urged that the legislation permit the use of all qualified public and private non-profit training sources. We emphasized that the need was so great that it was fool-hardy not to include approved hospitals, large numbers of which had demonstrated their capability for training various classifications of needed health personnel. In fact hospitals are a major source of health personnel. The restrictive language originally incorporated in the legislation prevented utilization of all existing sources qualified to train such personnel and we strongly support the provisions in S. 3586 which broaden the existing law as to the organizations and institutions eligible for assistance so as to fully utilize all qualified public and private non-profit training resources, including the many hospitals that are qualified to provide training in the Allied Health professions.

S. 3586 provides specific annual authorizations for the program. We support these provisions and believe they are preferable to the provisions of S. 3718 which provide for appropriation of "such sums as may be necessary." We feel the authorizations provided in S. 3586 are not excessive and are simply a recognition of the extent of the need for such training programs.

We are especially pleased with the provisions in S. 3586 which would provide for grants and contracts with public or non-profit private agencies for identifying culturally, economically, and educationally disadvantaged persons who desire training in the Allied Health Professions, and for assisting them to undertake this training.

This provision would serve to enlarge the pool of manpower available for training. The bill's provisions which authorize new programs of scholarships, loans, and work-study programs for trainees in the Allied Health Professions are also highly desirable, as are the special provisions pertaining to veterans of the Armed Forces.

The advanced funding authorizations provided for in Sec. 210 will prove to be most helpful in assisting those providing training to plan and carry out their training programs, and we fully support these provisions.

We wish to express to you the appreciation of the American Hospital Association and the hospitals of the nation for the fine leadership you have demonstrated by the introduction of his forward looking legislation. We request that this statement be included in the published record of your hearings.

Sincerely,

KENNETH WILLIAMSON,  
*Deputy Director.*

[Telegram]

AMERICAN OCCUPATIONAL THERAPY ASSOCIATION,  
*New York, N.Y., May 19, 1970.*

R. YARBOROUGH,  
*Chairman, Subcommittee on Health, Senate Committee on Labor and Public Welfare, U.S. Senate, Washington, D.C. :*

The American Occupational Therapy Association wishes to express its views on allied health legislation now being considered in hearings before your subcommittee. The association has considered the several pending bills including S. 2753, S. 3586 and S. 3718 as well as pending House bills we are convinced that the only wise course under present circumstances is to enact S. 3718 and we so recommend for several reasons first, far more than brief hearings are needed if the present allied health law is to be extended more than 1 year. Much of the future of the occupational therapy profession and hundreds of thousands of other health personnel are involved in the allied health program.

Decisions on training assistants for them will affect cost of health care, quality of service for patients, and volume of service to be available for many years. Decisions of such magnitude should not be made quickly without full investigation of needs, problems and alternative solutions. Second, a 1 year extension as proposed in S. 3718 would provide a common termination date for the authorities of the allied health and other health manpower programs of health manpower acts, thereby greatly simplifying the administrative and related tasks for all concerned. Third, S. 3718 provides authority to begin fashioning special training assistants arrangements for special groups such as economically or culturally deprived, returning veterans with experience in a health field and others. Thus, a prompt beginning could be made this year and some experience gained in the event broader legislation for such special groups were enacted later. The American Occupational Therapy Association respectfully requests that it be given notification of future hearings of your committee affecting this profession and an opportunity to appear and present data view and recommendations.

HARRIET TIEBEL, *OTR Executive Director.*

THE UNIVERSITY OF NORTH DAKOTA,  
*Grand Forks, N. Dak., May 12, 1970.*

Hon. ODIN LANGEN,  
*House of Representatives,  
Cannon Office Building, Washington, D.C.*

DEAR REPRESENTATIVE LANGEN : I am writing you to express to you my pleasure, and at the same time my displeasure regarding the continuation funding of our Allied Health Basic Science Grant No. 5E01-AH-00557-04. I am pleased, of course, that we will be receiving \$41,830.00 here at the University of North Dakota for the programs in Physical Therapy, Occupational Therapy, and Medical Technology. I am displeased, however, that the amount received is only approximately 60% of the funds which we will need and which we requested (\$64,500.00). It seems to me that in a situation such as ours where we have been able to demonstrate efficient and effective use of Federal funds for Allied Health training, we should be able to receive funding at a higher level than 60%.

I realize that there are many factors involved in the low level of funding for this year. On our campus today we are seeing the reaction to what may very well be the greatest strain, that being the Vietnam war.

As you are aware, the legislation which funded this program; that is, the Allied Health Professions Personnel Training Act of 1966 as amended, will apparently be ending this year. It is my understanding that Senator Ralph Yarborough has introduced into the Senate a bill which is to supplant that act. The bill is numbered Senate Bill 3586. There are several areas in Senate Bill 3586 which, as an Allied Health educator, I feel are quite weak. One of the main areas of concern that I have is the apparent unwillingness of the Federal Government to accept accreditation standards for what an approved curriculum in any given health science might mean. Without some type of accreditation guidelines, set primarily by the individual Allied Health fields, it is going to be virtually impossible to determine which programs are eligible or not eligible for funding under Senate Bill 3586. Along with this inability to determine which programs are to be funded, will come the large influx of all types of programs, accredited or not, which could decrease the quality of care given to the patient by Allied Health personnel, and which will decrease the amount of funds available for those accredited programs which are in need of Federal assistance. It would be to the advantage of all concerned if particular care be paid to establishing more exact standards of eligibility.

Thank you for your attention to this letter and for the work that you have done in behalf of Allied Health Education during your time in the House. Nothing would please me more than if I could continue to be of assistance to you in advisement on Allied Health Education matters. My concern, interest, and knowledge of Allied Health Education processes are at your disposal.

Sincerely,

HENRY C. WESSMAN, R.P.T.,  
*Assistant Professor and Chairman,*  
*Department of Physical Therapy.*

The following is a list of the names of the persons who have been appointed to the various positions in the office of the Secretary of the State, for the term ending on the 31st day of December, 1901.

Secretary of the State, J. W. ...

Assistant Secretary, ...

Chief Clerk, ...

Deputy Chief Clerk, ...

Recorder of Deeds, ...

Register of Wills, ...

Comptroller of the Treasury, ...

Commissioner of the State Land Office, ...

Commissioner of the State Prison, ...

Commissioner of the State Hospital, ...

Commissioner of the State Normal School, ...

Commissioner of the State University, ...

Commissioner of the State Board of Education, ...

Commissioner of the State Board of Charities, ...

Commissioner of the State Board of Prisoners, ...

Commissioner of the State Board of Lunatics, ...

Commissioner of the State Board of Alcoholics, ...

Commissioner of the State Board of Prostitution, ...

Commissioner of the State Board of Vagrants, ...

Commissioner of the State Board of Paupers, ...

Commissioner of the State Board of the Deaf and Dumb, ...

Commissioner of the State Board of the Blind, ...

Commissioner of the State Board of the Mutilled, ...

Commissioner of the State Board of the Feeble-minded, ...

Commissioner of the State Board of the Insane, ...

Commissioner of the State Board of the Epileptic, ...

Commissioner of the State Board of the Drunk, ...

Commissioner of the State Board of the Prostitute, ...

Commissioner of the State Board of the Vagrant, ...

Commissioner of the State Board of the Pauper, ...

Commissioner of the State Board of the Deaf and Dumb, ...

Commissioner of the State Board of the Blind, ...

Commissioner of the State Board of the Mutilled, ...

Commissioner of the State Board of the Feeble-minded, ...

Commissioner of the State Board of the Insane, ...

Commissioner of the State Board of the Epileptic, ...

Commissioner of the State Board of the Drunk, ...

Commissioner of the State Board of the Prostitute, ...

Commissioner of the State Board of the Vagrant, ...

Commissioner of the State Board of the Pauper, ...

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**SUPPLEMENT**

**PEDIATRIC PRACTICE IN THE UNITED STATES**  
**With Special Attention to Utilization of Allied**  
**Health Worker Services**

Alfred Yankauer, M.D., John P. Connelly, M.D., and  
Jacob J. Feldman, Ph.D.

**AMERICAN ACADEMY OF PEDIATRICS EVANSTON ILLINOIS 60204**

**PEDIATRICS**



## PEDIATRIC PRACTICE IN THE UNITED STATES

### With Special Attention to Utilization of Allied Health Worker Services

Alfred Yankauer, M.D., John P. Connelly, M.D., and Jacob J. Feldman, Ph.D.

*A survey for the Committee on Pediatric Manpower, Council on Pediatric Practice,  
American Academy of Pediatrics.*

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## PEDIATRIC PRACTICE IN THE UNITED STATES

### With Special Attention to Utilization of Allied Health Worker Services

Alfred Yankauer, M.D., John P. Connelly, M.D., and Jacob J. Feldman, Ph.D.

*Departments of Maternal and Child Health and Biostatistics, Harvard School of Public Health;  
Children's Service, Massachusetts General Hospital; and Department of Pediatrics,  
Harvard Medical School, Boston*

#### BACKGROUND AND METHODOLOGY

THIS is a report of a mail survey undertaken on behalf of the Subcommittee on Pediatric Manpower of the Council on Pediatric Practice of the American Academy of Pediatrics. Its purposes were: (1) to collect information about how practitioners of pediatrics utilize their own time and that of other health workers for the performance of specific tasks carried out in the course of ambulatory pediatric care; (2) to ascertain the degree to which practice characteristics, including task delegation, were related to characteristics of the physician, his practice arrangement and his practice load; and, (3) to sound out general pediatric opinion concerning task delegation in ambulatory pediatric care.

The genesis of this survey and its relationship to current health manpower shortages have been discussed elsewhere.<sup>1</sup> Prior to this survey no information on a national basis had been available concerning the extent and nature of task delegation in pediatric office practice or the opinions of pediatricians about this subject. Although most American children receive preventive and therapeutic health care from physicians in private office practice, extraordinarily little information about the characteristics of this system of care is available.

A structured, precoded questionnaire was

designed to collect the desired information. In the summer of 1967, the first version was pretested on 273 Regular Fellows\* of the Academy of Pediatrics residing in Massachusetts and a 2% random sample of Fellows residing in the other 49 states and the District of Columbia. The results of this major pretest have been described elsewhere.<sup>1</sup> Slight modifications were made in the original version of the questionnaire and the revised version was mailed in the late fall of 1967 to 6,820 Regular Fellows of the American Academy of Pediatrics residing in the United States. Two follow-up mailings were carried out at approximately 4-week intervals.

The overall national response rate was 88%. Non-respondents were apt to be older than respondents, more likely to reside in large cities, and less apt to be engaged in the practice of pediatrics. There were no significant regional differences in non-response rate, and all of the 49 states and District of Columbia recorded response rates of 82% or more.

Two-hundred three (3%) of the questionnaires were returned but not coded.

\* The category "Regular Fellows" excludes 850 Academy Fellows who are not pediatric practitioners; they are predominantly surgical, retired or honorary Fellows. Also excluded from this mailing were 460 Regular Fellows who had been involved in the pretest.<sup>1</sup>

A Survey for the Committee on Pediatric Manpower, Council on Pediatric Practice, American Academy of Pediatrics.

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## PEDIATRIC PRACTICE IN THE U.S.A.

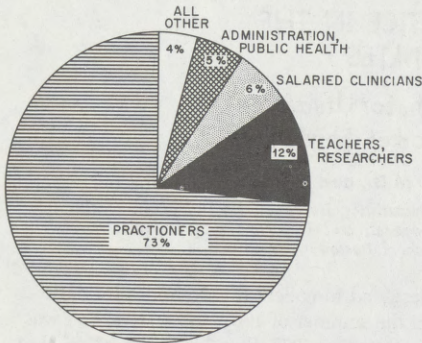


FIG. 1. Current positions of American Academy of Pediatrics Fellows, U.S.A.

Most of the uncoded questionnaires were returned incomplete with a statement indicating that the respondent was no longer practicing pediatrics or that his practice was limited to a subspecialty. These two factors accounted for 77% of the uncoded questionnaires.

The characteristics of the mailing universe were checked against the American Medical Directory<sup>2</sup> and the Directory of Medical Specialists.<sup>3</sup> Regular Fellows of the American Academy of Pediatrics comprise approximately 90% of all pediatricians in the United States certified by the American Board of Pediatrics who graduated from medical school after 1940. They comprise about 60% of the physicians who are listed in the American Medical Directory with pediatrics as a primary medical specialty who have graduated from medical school between 1940 and 1960 and about 50% of all such physicians.

Within the group of active and functionally classifiable survey respondents, the percentage of pediatric practitioners was 73%, as compared to 77% so classified by the Physicians Records Service of the American Medical Association after interns and residents are excluded. The discrepancy is probably accounted for by the fact that a physician is not eligible for certification by

the American Board of Pediatrics nor for admission to the American Academy of Pediatrics until at least 6 years after graduation from medical school.

The mailing universe may be said to represent the core active leadership of the pediatric profession in the United States; because of the manner in which the list was obtained, physicians who have recently entered the practice of pediatrics are under-represented.

When returns were received they were carefully edited according to a set of established rules and analyzed by electronic techniques. The data to be discussed are derived from the coded responses of 5,799 respondents, about 85% of the full mailing. The current position or the current function of these respondents is illustrated in Figure 1.

The reliability of responses was hand checked by comparing questionnaires inadvertently completed twice by the same individual and by comparing responses from pediatricians who gave the same mailing addresses and indicated they were in a group practice, with those of other pediatricians in identical practice settings but giving different mailing addresses in the same area of the state. In all cases, there was substantially greater agreement between presumed associates than between non-associates.

The responses reflect the perceptions of pediatricians. The data concerning practice operations and opinion show a high degree of internal consistency but their validity was not assessed by independent observations.

#### PEDIATRICIANS AND PRACTICE ARRANGEMENTS

Data describing the distribution of pediatricians and practice arrangements in the United States can be found in other publications.<sup>4-6</sup> The survey returns, however, provide some new and additional insights of enough general interest to warrant their presentation. Data were analyzed by

the four U.S. Census Regions† and by a demographic classification of U.S. counties.‡ These descriptive data will be summarized briefly.§

#### Age and Position

Well over one half of the respondents graduated from medical school within the fifteen year period from 1940 to 1954. Younger graduates are more apt to be found in the West and South. Older graduates are more apt to be found in larger cities, a relationship which holds up within each of the four major regions of the country.

About three quarters of the respondents were engaged in the private practice of pediatrics. Among those who graduated from medical school after 1930, there is little variation in this figure, nor are the regional variations striking. What little regional variation exists is accounted for by the demographic characteristics of the region: the more highly urbanized the area, the less frequency of private practice. In the New York City Standard Metropolitan Statistical Area, for example, one third of the respondents were not in private practice; whereas in non-metropolitan counties of 10,000 to 50,000 inhabitants, only one tenth of the respondents were not in practice.

About half of the non-practitioners held academic and research positions, and the

† Throughout this report, the use of the term "Northeast Region" is to be taken as "Northeast Region excluding the state of Massachusetts." Massachusetts responses to the pretest of a similar questionnaire<sup>1</sup> paralleled those of the Northeast Region.

‡ This classification groups counties according to whether or not they are part of a Standard Metropolitan Statistical Area (SMSA) and by county population or SMSA population. The most urban classification represented are the SMSA's of New York, Chicago, and Los Angeles with population aggregates of over 5,000,000. Unfortunately these cannot be separated into core city and suburban sectors. The most rural classification represented in the survey are non-metropolitan counties with 10,000 to 50,000 inhabitants.

§ A list of tables will be found in the Appendix. All tables not published in this Supplement are available on request.

remainder were equally divided between full-time salaried hospital clinicians, administrators, and a miscellaneous group (Fig. 1). At younger ages, an increase in the relative proportion of teachers and researchers is at the expense of pediatricians in administrative-public health positions rather than of those in patient care. The percentage of pediatricians in practice shows no variation by age among medical school graduates, 1930 to 1960. However, the survey did not cover physicians who graduated from medical school after 1961.

#### Practice Arrangements

Solo practice settings were reported by a minority (40%) of the practitioners; 60% were in non-solo settings. The frequency of solo practices varied by geographic region, by age of practitioner, and by the population size of the community in which he practiced. The influences of these geographical, demographic, and individual factors upon the frequency of solo practices were independent of each other: the older the practitioner, the more he is apt to practice alone regardless of the region or community where he resides; the more heavily populated or urbanized the community, the greater the frequency of solo practitioners in all regions except the West where no such differential is apparent (Fig. 2). Solo pediatric practitioners are found almost twice as frequently in the Northeast Region (57%) as in the Western Region (30%), a difference that cannot be accounted for by differences in the age distribution of practitioners or the degree of urbanization in the two regions.

Forty percent of the practitioners reported some sort of practice setting association with one or more other pediatricians. Half of them were associated with one other pediatrician and half with two or more other pediatricians.

Almost 20% of the practitioners practiced as members of a multispecialty group; the majority of such groups consisted of six or more physicians. In all regions, multispecialty groups were most frequently found

## PEDIATRIC PRACTICE IN THE U.S.A.

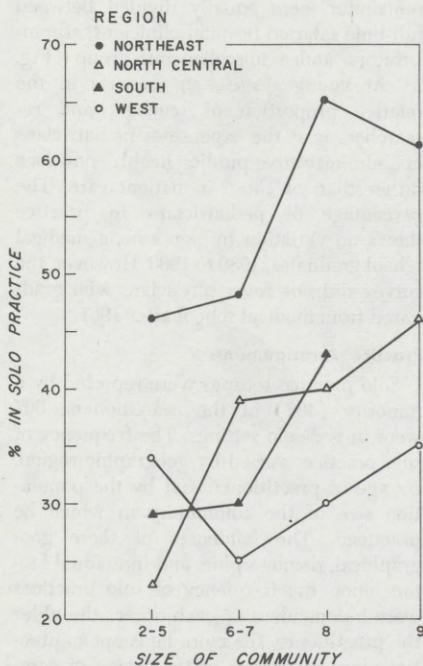


FIG. 2. Solo practice settings by size of community in the four U.S. census regions. Size of community: (2-5) Non-metropolitan counties; (6-7) standard metropolitan statistical area, 50,000-1,000,000; (8) SMSA: 1,000,000-5,000,000; (9) SMSA: 5,000,000 or more.

in non-metropolitan counties. These findings are consistent with other information on practice arrangements.<sup>6</sup>

Figure 3 displays the regional differences in practice settings, showing that pediatric group practice predominates in the South, while multispecialty group practice is found more frequently in the West than in other regions. Within regions, however, certain states stand out as exceptional: practice arrangements in Iowa resemble those of the Northeast more than those of its neighboring states; there are virtually no solo pediatric practitioners in the sparsely settled Rocky Mountain areas; in Wisconsin, Minnesota and the Dakotas, the major-

ity of pediatricians function as members of a multispecialty group.

### Specialization

Four out of five practitioners reported no subspecialization practice and can be called pediatric generalists. Only 3% of the practitioners restricted their practice to a subspecialty while 17% combined general pediatrics with a subspecialty practice. These proportions varied only slightly by region and size of community; there were somewhat more generalists in smaller communities and somewhat fewer generalists in the Western region.

### PRACTICE HOURS, OFFICE VISITS, AND EMPLOYMENT PATTERNS

Practitioners were asked to estimate the number of hours per week spent seeing patients in the office, the numbers and types of office visits during an average week in October 1967, and the average time per visit. Such estimates are apt to be inaccurate or overstated in mail questionnaires. However, data from this survey tend to agree with those of comparable surveys.<sup>7</sup>

The average pediatric practitioner during the course of about 35 hours per week in the office, handles about 110 office visits, almost equally divided between visits for illness and visits for health supervision. About one half of the respondents reported health supervision visits of 15 to 19 minutes and one third less than 15 minutes. Two thirds of the respondents reported illness visits of less than 15 minutes. A much smaller number of visits (1 to 2 per day) are appointments for special problems, but these average over one half hour per visit.

If these data are projected to the national scene, they provide some useful insights into the extent of the nation's manpower needs. The present Child Care Standards of the American Academy of Pediatrics<sup>8</sup> call for a minimum of 17 health supervision visits to the doctor during the first 17 years of life (in addition to 7 visits

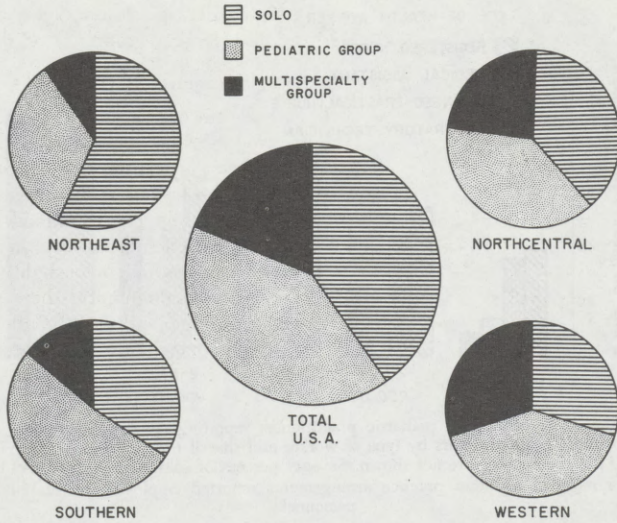


FIG. 3. Practitioner distribution by type of practice setting, U.S.A. and regions.

which can be handled by an allied health worker). There were about 71,000,000 American children under 18 in 1967<sup>9</sup> and about 10,000 practicing physicians whose primary medical specialty was pediatrics.<sup>4</sup> If the weekly rate of doctor health supervision visits reported in this survey is projected indiscriminately to these 10,000 pediatric practitioners, they could have provided about one third of the recommended health supervision during a 48-week work year. Looking at it in another way, they could not have provided the recommended health supervision to all children even if they had devoted all 35 office hours per week for 48 weeks of the year to seeing nothing but four well children per hour. If the present distribution of pediatricians (inversely proportional to community wealth and rurality) were taken into account, the severity of pediatric manpower shortages in the face of disappearing general practitioners would become all the more striking.

Respondents were asked to record the

types of health workers employed by them or their practice setting, and the numbers up to four, of each type. Because of the limitations of the data collection instrument, the median number of employees can be calculated only for solo and two pediatrician settings. These figures were 2.1 and 3.55 respectively. They probably represent overestimates since a number of respon-

|| Types specified and defined in the questionnaire were: registered nurse, licensed practical nurse (LPN), medical assistant, laboratory technician, medical secretary, secretary-receptionist, and "others." In all the tabulations discussed, medical secretaries are grouped with secretary-receptionists. Secretaries were virtually universally employed and have not been included in data which compare communities or practice arrangements. LPN and Medical Assistant are grouped together in some of the tabulations. "Others" were reassigned to one of the four major categories where this was indicated by their work or title. For all practical purposes, "other" types of employees were reported only in large multispecialty groups, and consisted of special technicians (radiology, physical therapy, etc.) or administrative and managerial personnel. They are not counted or included in any of the data presented or discussed.

## PEDIATRIC PRACTICE IN THE U.S.A.

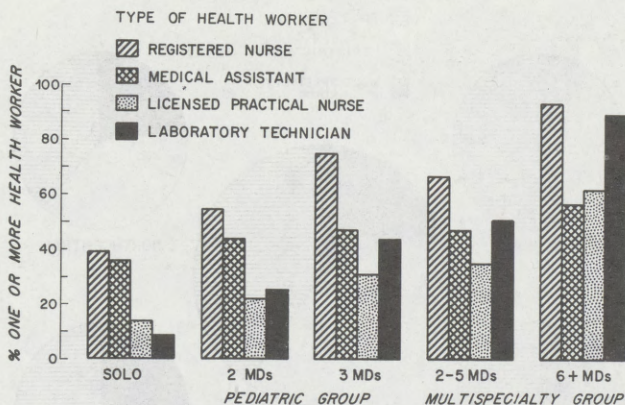


FIG. 4. Percentage of pediatric practitioners reporting employment of one or more health workers by type of worker and size of practice arrangement, U.S.A. Secretaries are not shown. Seventy percent of solo practices and 85% or more of all other practice arrangements reported employing secretarial personnel.

dents were excluded from these calculations.¶

#### Employment Patterns and Practice Arrangements

When employment patterns are viewed in relationship to number of employees, a secretarial worker is the most common type worker employed for settings employing

¶ About 13% of the respondents were excluded from a number of special runs. These exclusions are noted wherever made. They consisted of respondents who graduated from medical school prior to 1925, maintained two offices with practice equally divided between the two, spent less than 20 hours per week in office practice, or limited their practice entirely to a subspecialty. The respondents remaining are the active core of generalist pediatric practitioners. For the estimates of median number of health workers per pediatrician, additional exclusions were also made consisting of 140 respondents who failed to answer this question in full detail and 43 respondents in solo practice who indicated they employed no one.

# The term "medical assistant" was defined in the questionnaire as a "catch-all" to include personnel with no formal training in technical, clerical skills, or nursing skills. The vast majority are women trained on the job for a variety of tasks geared to the needs of the individual practitioner so that they differ from the types of assistant described by Stead or Silver.<sup>10,11</sup>

only one worker; a "medical assistant" is next most common and a registered nurse third most common. When another worker is added to the staff, it is most often a registered nurse or a secretary to round out the basic combination of these two types of workers, but a licensed practical nurse or "medical assistant" is often substituted for the registered nurse. When three or more workers are employed, the possible combinations are increased substantially, but the registered nurse-secretary combination is the most commonly identifiable pattern.

Obviously the number and variety of allied health workers with whom a physician is associated will be related to his practice arrangement or setting (Fig. 4). The proportion of physicians who work with registered nurses varies from 38% among solo practitioners to 92% among practitioners in groups of six or more physicians. The sharpest contrast is the laboratory technician (whose skills are of a more limited nature), associated with 9 out of 10 physicians in groups of six or more but with less than one out of 10 solo practitioners.

The data on employment patterns show some variations when analyzed by region

## SUPPLEMENT

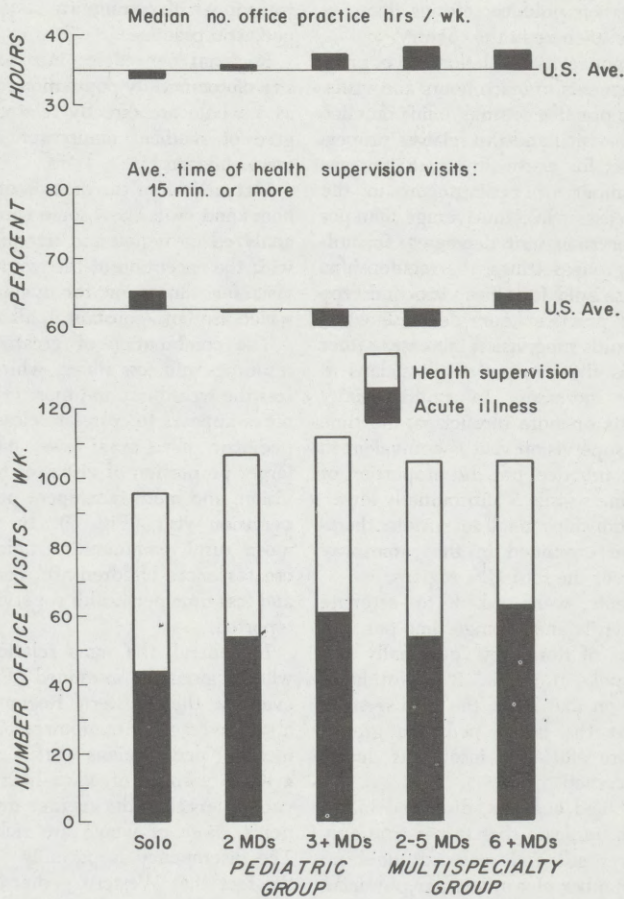


FIG. 5. Pediatric office time and office visits in different practice arrangements, U.S.A.

and size of community.\*\* The most striking finding, as with solo practice distribution, is

\*\* In presenting results of the pretest of this survey,<sup>1</sup> the authors noted that Massachusetts solo practitioners appeared to employ registered nurses to a significantly greater degree than did a sample of solo practitioners representing the rest of the U.S. This observation was based upon a mechanical error of tabulation. On reviewing the data, it was found that the percentage of solo practitioners employing registered nurses in Massachusetts is identical to that in the Northeast Region (exclusive of Massachusetts).

the way the Northeast Region differs from the rest of the country. A smaller number of workers per pediatrician and a smaller variety of workers are employed by pediatric practitioners in the Northeast than in other regions of the country.

This difference holds up even when analyzed by practice arrangement within the regions. The preponderance of solo practices in the Northeast cannot account for the fact that pediatricians in this region appear to employ fewer and a lesser variety of

workers in their practice settings than pediatricians elsewhere in the country.

Figure 5 portrays the relationship of practice arrangements to office hours and visits. In pediatric practice settings, office practice hours, office visits, and the relative proportion of visits for acute illness all increase as the number of pediatricians in the setting increases while the average time per health supervision visit decreases. In multispecialty group settings, the relationships to group size hold for office visits and type of visit but practice hours decrease while time per health supervision increases rather markedly as the number of physicians in the group increases. In multispecialty groups of six or more physicians, the time per health supervision visit is equivalent to that in solo practice, but the proportion of health to illness visits is substantially lower. These relationships tend to sustain themselves when examined in the same way within each of the four U.S. regions.

Respondents were asked to estimate number of visits and average time per visit on the basis of time they "personally saw patient or spoke to parent." If the estimates were made on that basis, the data seem to suggest that the larger pediatric groups operate more efficiently insofar as doctor time is concerned.

More detailed analyses, discussed in the next section, indicate that this is true only "on the average" and may not hold up when the number of workers per physician is taken into account.

#### Community Factors

The character of a pediatric practice reflects not only that of the practitioner and his practice arrangements. It also reflects the pediatric demand-supply ratios, and the medical systems and traditions of the community where the practice is located. Communities differ as much as individuals, and the assembling of many communities into larger geographical regions or demographic groups tends to obliterate such differences in a statistical average. Nevertheless, certain general tendencies emerge from the data analysis which serve to illustrate the

ways in which community factors can affect pediatric practice.

Regional per capita income levels and size of community population for the nation as a whole are directly related to the degree of medical manpower available to serve children.††

Virtually all of the data on office practice hours and visits show some variations when analyzed by region and size of community with the exception of the average time per visit for illness or for special problems which are both constant in all areas.

The combination of greater manpower resources and less illness which characterizes the wealthiest and most urban communities appears to correlate closely with less pediatric office time, fewer office visits, a larger proportion of visits for health supervision, and more time spent per health supervision visit (Fig. 6). In the poorest, most rural communities office time increases, more children are seen for illness, and less time per health supervision visits is reported.

In general, the same relationships hold when regions are examined (Fig. 7). However, in the Western Region (which is above average in manpower resources and income) pediatricians work a greater than average number of office hours per week, yet see less than the average number of patients, more of whom are sick than well. The discrepancy is partially explained by the fact that Western pediatricians spend substantially more time per patient during health supervision visits. Differences in the age distribution of pediatricians in the Western Region as compared to the North Central Region may explain in part the greater office hours reported from the West.

When regional rank orders for office hours and visits are examined within each

†† See Table F and Table 10 in reference 4 and List of Appendix Tables. Within the Standard Metropolitan Statistical Areas, it was not possible to separate the core city with its poverty pockets from the surrounding wealthier suburbs. This may account for the fact that when regional rank orders are examined by SMSA size, no clear, consistent relationships can be discerned between per capita income and physician manpower to serve children.

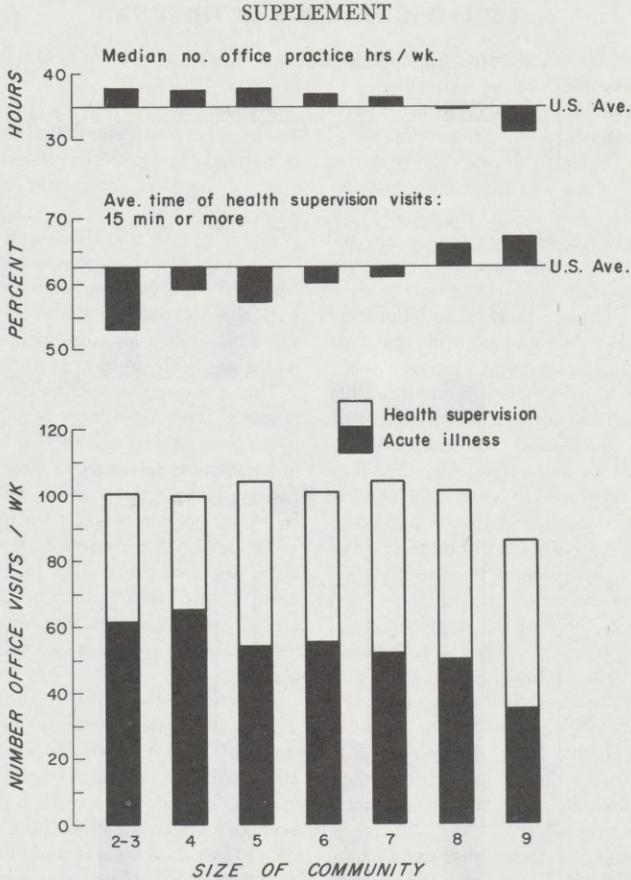


FIG. 6. Pediatric office time and office visits in different sized communities, U.S.A. Size of Community: (2-3) Non-SMSA, 10,000-50,000; (4) non-SMSA, over 50,000; (5) potential SMSA; (6) SMSA, 50,000-500,000; (7) SMSA, 500,000-1,000,000; (8) SMSA, 1,000,000-5,000,000; (9) SMSA, 5,000,000 or more.

of four county demographic groups representing different sized communities, similar relationships hold. The rank order of regional ratios of health supervision to illness visits is inversely related to the regional rank order of median hours per week of office practice. These various interrelationships suggest that in the presence of increasing demands for pediatric treatment, the frequency and time per visit for health supervision are reduced at the same time

that working office hours are increased. Conversely, where pediatric treatment demands are reduced, health supervision visits and time per visit are built up to fill a larger proportion of pediatric office time. In the case of multispecialty groups and in the Western region as a whole, this trend expresses itself primarily by an increase in the average time the pediatrician spends with the patient during a health supervision visit. In other regions and practice arrange-

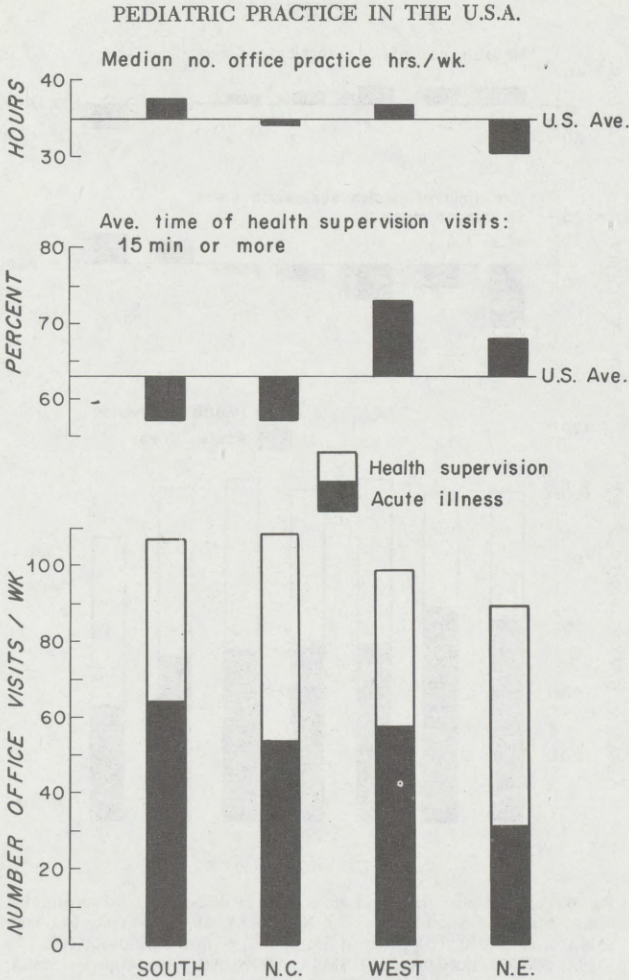


FIG. 7. Pediatric office time and office visits in the four U.S. census regions.

ments, the trend is expressed by the frequency of health supervision visits.

The extraordinary variations in health resources, pediatric visits, and pediatrician time in different areas of the country are worth an additional comment. In Southern communities of 10,000 or less population there are one-third the number of office-based physicians and one-twentieth the number of hospital-based pediatricians

available to serve children as in the New York City Standard Metropolitan Area where per capita income is two-thirds again as high as that of the rural South. Under the circumstances it is understandable that the Southern pediatrician situated in small communities puts in 40 office practice hours per week, sees almost twice as many sick as well children, and spends less than 15 minutes per health supervision visit 50% of the

time, while the New York Metropolitan Area pediatrician puts in 28.5 office practice hours per week, sees over 50% more well children than sick children, and spends 15 minutes or more per health supervision visit more than two thirds of the time.

Respondents were asked in the questionnaire to characterize the income level group which best fit the majority of the families in their practice. They reported serving higher practice load proportions of upper-middle income groups in the poorest regions of the country, a relationship which may reflect the business survival needs of private entrepreneurship. On the other hand, they also reported serving higher proportions of upper-middle income groups from locations in Standard Metropolitan Statistical Areas (where per capita income and physician supply are higher) than from locations in non-SMSA counties. This relationship may reflect the fact that public clinics are more common in cities; whereas in smaller communities, the private practitioner is the principle or only resource for the poor as well as the rich.

When regional rank orders for per capita income and for percent of upper-middle income group served are examined within each of four county demographic groups, the South stands out from the other regions. Regional per capita income seems to govern the percentage of upper-middle income groups served in practice only if the South is excluded from the analysis. In each of the different size community groups, the South ranks lowest of all regions in per capita income and highest in proportion of upper-middle income groups served. One explanation of this finding may be that the proportion of poor who are black is higher in the South than in other regions.

In addition to these general relationships, regions possess certain special characteristics which differentiate them from other regions. The Northeast Region is characterized by a high concentration of pediatric residents which together with their supporting medical institutions and an array of public health services may account for the

high proportion of practitioners who reported spending 10 or more hours per week in professional duty outside of their practice. The North Central Region is characterized by a relatively high ratio of general practitioners to pediatricians. The West is characterized by a higher proportion of respondents reporting practices that combine general pediatrics with a subspecialty. These special regional characteristics hold true within all county demographic groups of the region regardless of community size.

The import of these analyses of interrelationships is that each community or medical service area within the larger Census Regions and demographic county groupings probably possesses its own individual combination of characteristics which must be taken into account in future community and regional health planning.

#### TASK PERFORMANCE AND TASK DELEGATION IN OFFICE PRACTICE

Practitioner respondents were presented with a series of 40 selected tasks carried out in the course of ambulatory pediatric care. The selected tasks were not meant to be inclusive, but rather to serve as "indicators" of services rendered in the clerical, laboratory, technical, and patient caretaking areas of office practice. In addition, six types of out-of-office visits to patients were described. In the case of the office clerical, laboratory, and technical tasks and the "information-giving" patient care tasks, respondents were asked to indicate who "usually" performed them. In the case of other types of office patient care tasks and out-of-office visits to patients, they were asked to indicate whether a physician performed them or whether a specified health worker "frequently" performed them as part of "regularly assigned duty." The wording of the questions and their coding tended to encourage responses in the direction of task delegation. In all cases, respondents were given the option to indicate that the task was "not done" by them or by anyone else in their practice setting.

## PEDIATRIC PRACTICE IN THE U.S.A.

TABLE I  
PERFORMANCE AND DELEGATION OF OFFICE, TECHNICAL, LABORATORY, AND CLERICAL  
TASKS AS REPORTED BY PEDIATRIC PRACTITIONERS, U.S.A.

Task	% of 4,208 in Each Category Performed by*							
	MD	RN	LPN	MA	LT	Sec.	Comb.	ND
<i>Technical Tasks</i>								
Weighing	13	35	10	24	1	7	10	—
Body measurement	23	32	9	21	1	5	8	1
Vision screening	23	29	8	15	2	4	8	10
Hearing screening	38	17	5	8	2	2	5	21
Immunization	41	39	7	6	1	—	5	—
Parent. drugs	47	35	6	4	1	—	4	2
B.P. (older)	66	21	4	4	—	—	3	1
Develop. screening	68	4	1	2	—	—	1	21
B.P. (infant)	76	5	1	1	—	—	1	14
<i>Laboratory Tasks</i>								
Blood count/smear	13	6	1	5	31	1	2	39
Urinalysis	21	16	4	11	30	3	3	10
Hemoglobin	21	13	3	8	30	1	3	19
Venous blood	49	2	—	1	19	—	—	25
Throat culture	59	10	2	3	7	—	3	14
<i>Clerical Tasks</i>								
Inventory/supply	6	35	7	18	2	21	9	1
Insurance forms	13	9	2	11	1	54	8	1
Growth charting	44	16	4	9	1	5	4	15

\* Percentages are rounded to nearest whole number. Non-response rates are not shown but were less than 3% for any single task category.

MA="Medical Assistant," LT=laboratory technician, Sec.=secretary, Comb.=combination of two or more health workers (80% of combinations include R.N.), ND=not done in pediatric office.

### Technical, Clerical, and Laboratory Tasks

Table I shows the distribution of the individual who "most often" performed technical, clerical, and laboratory tasks with each set ranked in order of delegation frequency. For the country as a whole a surprisingly large number of highly trained medical specialists spend some of their time carrying out these simple, minor services. Figure 8 contrasts delegation frequency in the Northeast (least frequent) and the West (most frequent) with the national averages. The other two regions fall between these two extremes but are closer to the West than to the Northeast. These regional differences parallel the regional distribu-

tions of practice setting sizes and employment patterns.

Obviously the capacity to delegate tasks depends upon the availability of health workers to whom the task can be delegated. Delegation frequency is directly related to the number of workers in the setting for almost all technical-clerical-laboratory tasks. For infant blood pressure taking, developmental screening, and growth charting, however, the effect is minimal. Both performance and delegation of these three tasks probably reflect individual practice style rather than any other factors.

Figure 9 examines delegation frequency by practice arrangements within regions for

the task of vision screening. The Northeast Region stands out from the rest of the country in every type of practice arrangement as delegating its performance less frequently. This holds for all technical, clerical, and laboratory tasks with the same three exceptions previously noted.

If these regional contrasts were confined to solo and two-man pediatric settings, they could be interpreted as an expression of the number and types of employees per pediatrician which follow a similar regional pattern. However, the contrast is also evident when task delegation is examined in other practice arrangements. The implication is that the characteristic of task delegation is influenced by local tradition which governs both the number of workers employed in a practice arrangement and the way they are used. The availability of physicians, and thus their ability to meet patient demands for service themselves may also affect this characteristic, but it cannot explain the fact that the Western Region, the high delegator, has greater health manpower resources

than the South or North Central Regions.

Technical-clerical-laboratory task delegation was examined in greater depth as a product of the total number of health workers employed in specified practice arrangements and the presence or absence of a registered nurse among the employed workers. Because of the limitations of the survey instrument, cell breakdowns had to be limited to practice arrangements of less than four physicians, all pediatricians, and arrangements employing less than five health workers. Practice arrangements and numbers of employees larger than this had to be grouped together.

If the three tasks noted earlier are excepted, the maximum extent of technical and clerical task delegation varies from about 60% for blood pressure taking in older children to 100% for many of the other tasks. The pattern of delegation is illustrated for immunizations in Figure 10. The factors influencing delegation are the number of health workers per physician in the setting and (for the technical tasks

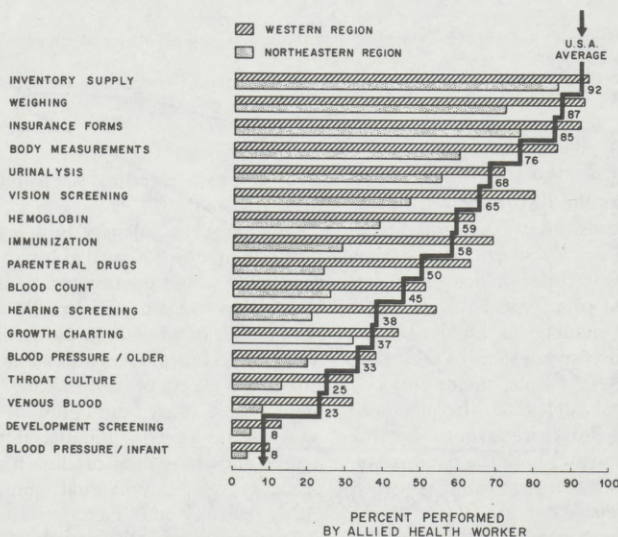


FIG. 8. Allied health worker technical, clerical office task performance, U.S.A. Northeast and Western Regions.

PEDIATRIC PRACTICE IN THE U.S.A.

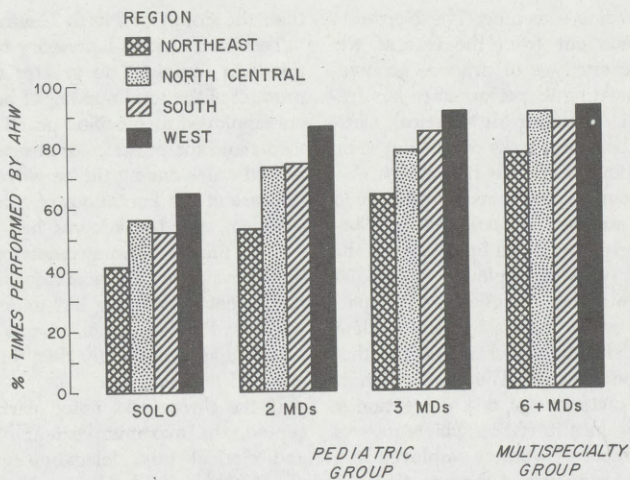


FIG. 9. Delegation of vision screening by practice arrangement in four census regions.

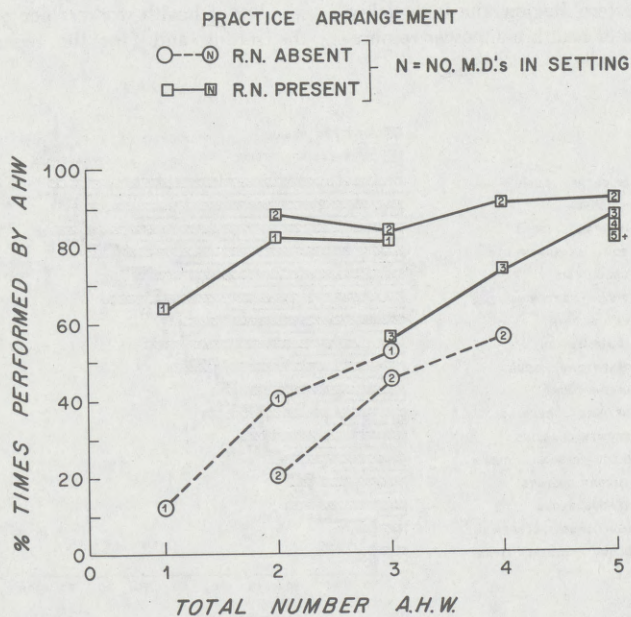


FIG. 10. Delegation of immunization by total number of health workers employed in different sized practice arrangements with and without a registered nurse.

only) the presence of a registered nurse among the workers. For most of these tasks, delegation frequency was as high in one or two man pediatric settings with two or three health workers (one a R.N.) per physician as in larger pediatric group settings or in multispecialty group settings.

In the case of all the laboratory tasks (including taking venous bloods) delegation is highest in the multispecialty group setting, where it reaches 80 to 100%. In the pediatric settings with the highest ratios of allied health workers to physicians, substantial delegation may also occur but never to the same extent as in the large groups. The presence of laboratory technicians in the larger groups almost certainly accounts for this effect.

The effect of the increasing frequency of clerical-technical-laboratory tasks delegation by the physician upon the task performance profiles of different types of workers, especially the registered nurse, has been examined in more detail elsewhere.<sup>12</sup> Inappropriate assignments of registered nurses to perform technical, clerical, and laboratory tasks capable of being discharged by less highly trained personnel is as extensive a problem as inappropriate task performance by pediatricians. Further detailed analyses of this situation will be published elsewhere.<sup>13</sup>

In summary, it appears that technical-clerical-laboratory tasks are already delegated to a substantial extent. Although regional tradition appears to influence their delegation, they are often completely delegated in settings which employ enough allied health workers. A registered nurse as one of the workers appears to influence the degree of technical tasks delegation, and the presence of a laboratory technician enhances the delegation of laboratory tasks.

#### Office Patient Care Tasks

The term patient care is used to designate those tasks or services whose performance requires some degree of patient-caretaker interpersonal relationship. Their performance is substantially more time con-

suming than the previous set of tasks. Their general nature can be characterized as involving information-giving, information-seeking, advising and counseling, or assessing the physical condition of the child.

Table II shows the distribution of the individuals who performed "some or all elements" of a series of 17 office patient-care tasks arranged in rank order of delegation frequency for the country as a whole. With one exception, these were all more frequently performed by the pediatrician than delegated. When delegated, the registered nurse was chosen more than half the time except for history-taking tasks.

The patient care tasks most frequently delegated are those which reflect the most urgent pressures of practice (telephone calls) or those most easily routinized (interpretation of instructions and routine history taking). The tasks least frequently delegated are those which involve clinical judgment or a more intimate patient-caretaker relationship. In contrast to technical-clerical-laboratory tasks (with two exceptions), there were no substantial differences in task delegation frequency between regions. The exceptions involve instructions on the after care of immunizations and the handling of telephone calls. In the first instance, the information giving is presumably a function of the person performing the immunization and parallels the regional pattern of delegation for immunizations. For telephone calls, delegation frequency parallels the regional distributions of associational or group practice arrangements and employment patterns with the most striking differences between the Northeast Region and other regions.

In contrast to technical-clerical-laboratory tasks, delegation frequency was not related to the number of workers employed in a setting once the number reached 2, with the exception of instructions about after-care of immunizations for which delegation increased about 10% more in settings with 5 or more allied health workers.

When the delegation of office patient care tasks was examined by practice ar-

## PEDIATRIC PRACTICE IN THE U.S.A.

TABLE II  
PERFORMANCE AND DELEGATION OF OFFICE PATIENT-CARE TASKS  
AS REPORTED BY PEDIATRIC PRACTITIONERS, U.S.A.

Office Patient-care Tasks†	% of 4,208 in Each Task Category Performed by*						
	MD	RN	LPN	MA	Sec.	Comb.	ND
Telephone/minor medical advice	44	29	4	9	9	3	—
Telephone/child care	51	25	4	8	7	3	1
Interpret instructions	52	16	3	5	3	4	16
Information/immunizations	55	27	4	5	2	5	1
Family social history	56	16	3	9	11	3	1
Past medical history	66	14	3	7	7	3	—
Advice/minor medical	69	18	2	5	3	2	—
Information/child care	69	15	2	4	2	3	4
Advice/feeding-development	75	14	2	4	2	2	1
Present illness history	76	11	2	5	2	2	—
Interval history/well child	81	8	2	4	2	2	1
Information/feeding	82	9	1	3	2	2	1
Interval history/sick child	83	8	2	3	1	2	—
Examination/sick child	88	5	1	2	—	1	3
Examination/well child	90	3	1	1	—	1	4
Information/growth development	91	4	—	1	—	1	2
Advice/school child	92	4	—	1	1	1	1

\* Percentages are rounded to nearest whole number. Non-response rates are not shown but were less than 2% for any single task category.

† In interpreting these data it must be remembered that the task description captions are very condensed abbreviations. Thus exam/sick child means only that "some elements" of the medical examination of a sick child were "frequently performed as part of the regularly assigned duty" of an allied health worker. The statements in quotation marks are taken from the questionnaire.

MA = "Medical Assistant," Sec. = secretary, Comb. = combination of 2 or more health workers (80% of combination include R.N.), ND = not done in pediatric office.

rangements within each region, the regional difference in the handling of telephone calls and after-care of immunizations held up in all arrangements. There were no differences in delegation frequency of information seeking and physical assessment tasks when practice arrangements were compared on a regional basis. For the information-giving and counseling tasks, however, regional differences not apparent in the earlier analysis appear to emerge in the larger practice arrangements. This is illustrated by the giving of information about infant care (Fig. 11).

The 17 office patient care tasks were also examined as a product of the total number of health workers employed in specified practice arrangements and the presence or absence of a registered nurse among the

employed workers. The patterns which emerged indicate strongly that size of practice arrangement *per se* is not a significant factor in the delegation of patient care tasks, but that the presence of a registered nurse and the total number of workers per physician are significant factors.

Figure 12 portrays the median number of office patient care tasks performed by allied health workers in solo practices employing one, two, and three workers respectively. In every case, the median number of tasks performed is greater when a registered nurse is one of the workers.

The highest degree of office patient care task delegation in all the sub-groups analyzed (a median of 6.6 tasks delegated) was found in 84 solo practices employing 3 workers one of whom was a registered

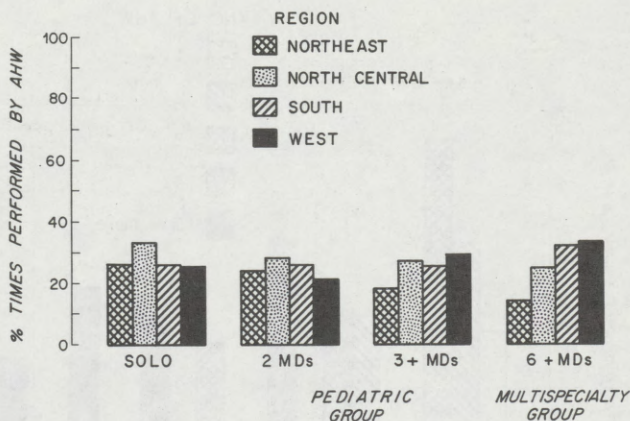


FIG. 11. Delegation of infant care information given by practice arrangement in four census regions.

nurse. This finding is portrayed in Figure 13. Unfortunately, the data do not allow comparison of the solo practice-three health worker (one or more a R.N.) practice setting with its two-man or larger practice setting counterparts. However, it is significant that the next highest delegator among the sub-groups examined was the two-man setting which employed five or more health workers (one or more a R.N.).

In these last analyses, the large multispecialty group compares poorly with all other practice arrangements employing at least one registered nurse. The median number of tasks delegated by multispecialty groups (3.5) is less than the number delegated by solo practices employing only one worker who is a registered nurse (3.9).

The median number of patient care tasks delegated in multispecialty groups located in the Northeast Region was 2.0 as compared to 3.7 for those located in the Western Region. The latter figure is still substantially less than that of the one-man three worker (one or more a R.N.) arrangement. The regional distribution of the one man-three worker (one or more R.N.) arrangements parallels that of all practitioner respondents. These 84 practitioners who

delegated a median number of 6.6 patient care tasks are evenly distributed throughout the country.

These findings are consistent with Bailey's finding that the production output

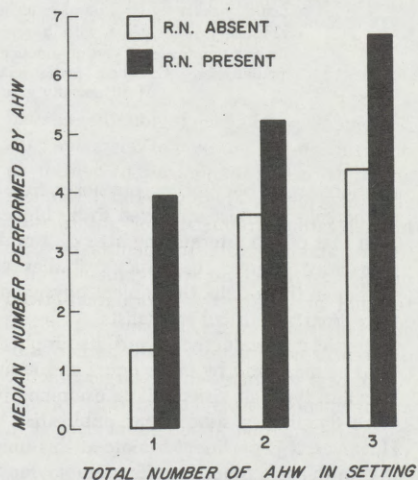


FIG. 12. Median number of office patient care tasks performed by allied health worker in solo practice settings by total number of workers employed and presence or absence of a registered nurse.

## PEDIATRIC PRACTICE IN THE U.S.A.

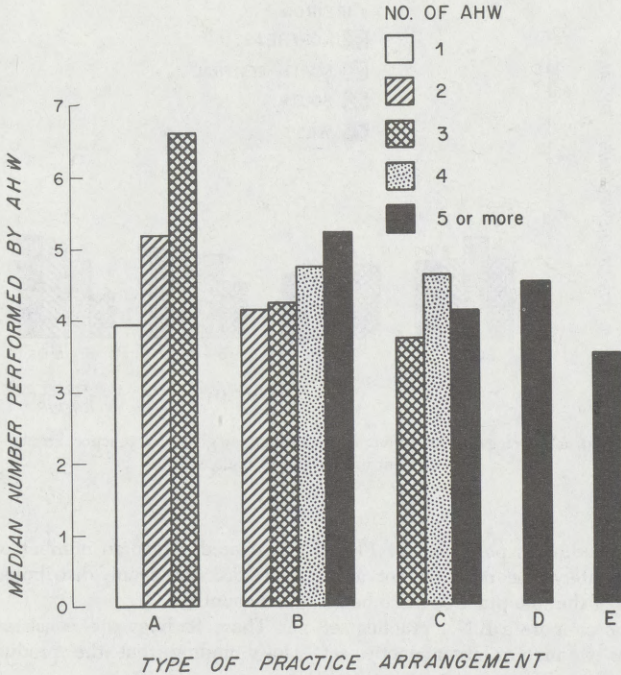


FIG. 13. Median number of office patient care tasks performed by allied health worker by total number of health workers employed in different sized practice arrangements with a registered nurse. All settings include R.N. among employees. Type of practice arrangement: A: Solo practice, B: Two pediatricians, C: Three pediatricians, D: Four or more pediatricians, E: Multispecialty group, 6 or more physicians.

(patients seen per unit of physician time) of the solo internist appeared to be higher than that of the internist member of a multispecialty group.<sup>14</sup> In Bailey's studies as well as in these data, the subject physicians were Board Certified specialists.

Physician productivity and its implications as measured by office hours and numbers and types of visits will be examined in more detail in a subsequent publication.<sup>15</sup> However, it is pertinent to note at this time that in the solo practice setting employing 3 workers (one or more a R.N.), the pediatrician worked fewer office hours per week than in pediatric or multispecialty group settings, and saw more patients. The types

of visits are of particular interest since as many sick children were seen as in the large groups (about 70 per week) but more health supervision visits were recorded (62 versus 42 to 50 per week). The differentiating feature is the average time spent personally seeing patients in health supervision visits which is significantly lower in the solo setting employing three workers (one or more a R.N.) than in the larger group settings. This finding is in sharp contrast to the average time for health supervision visit when all solo practitioners were treated as a single group, but it is consistent with the differences in task delegation frequency reported.

These last analyses probably describe a kind of accommodation to the pressures of practice. They also suggest a prototype of ambulatory pediatric caretaking for achieving the most efficient division of labor among members of a team. In this prototype the pediatrician is teamed with three health workers, one of whom is a registered nurse. The analyses provide no indication that greater efficiency is accompanied by deterioration of service. Reduction of physician time allotted to health supervision visits without substantial reduction in visit frequency or an overloading of acute illness visits appears to be the major factor influencing the process. This is accomplished by the assumption of a greater degree of patient caretaking responsibility by non-physician members of the four-person team. However, the data do not provide any direct measure of the quality or effectiveness of services rendered under these varying circumstances.

#### OUT-OF-OFFICE PATIENT CARE TASKS

Responses to the performance of out-of-office tasks were of a different type. Hospital newborn visits were almost invariably a practice routine carried out by the physician himself. Home and school visiting of the types specified were rarely carried out as a practice routine and, when done, were performed by the physician himself.

It should be pointed out that the out-of-office visits described in the questionnaire were not house calls of an emergency or acute illness type. They were visits to follow up acute illness, visits to assess home and school situations, or to care for chronic illness. Although a few respondents indicated they depended upon public health nurses for such visits, it must be assumed that such visits are not presently a significant feature of the delivery of ambulatory pediatric care from office-based settings.

#### PEDIATRIC OPINION

A series of opinion probes concluded the questionnaire. In distinction to questions in-

volving actual details of practice all pediatricians, whether in practice or not, were asked to respond to these questions. The first probe repeated most of the same series of patient-care tasks which practitioners had already been asked to answer in terms of present performance, and requested all respondents to indicate whether they thought "an allied health worker with appropriate special training, responsible to a Board qualified pediatric practitioner" "could and should" perform them. Next, respondents were asked to select the three most important tasks they felt such a worker could and should perform and rank the three tasks chosen in priority order. They were then requested to indicate whether they had experienced "failures" in attempting to delegate tasks and the reasons for "failure;" whether they could foresee hiring such a worker during the next two years; and what effect greater utilization of such workers in pediatric practice would have on the quality and volume of pediatric services. Respondents were also presented with a list<sup>††</sup> of potential obstacles to greater utilization of allied health worker services in pediatric practice and asked whether they perceived these obstacles as "very serious," "somewhat serious," or "not serious."

Responses to all of these questions were consistent. They leave little doubt that, as a whole, Fellows of the American Academy of Pediatrics are prepared to move toward delegating patient care tasks to adequately prepared health workers who in turn will work as members of their caretaking team. On the basis of current practice and comments written in the questionnaire, it is probable that most respondents had a registered nurse in mind as the type of allied health worker preferred.

Figure 14 contrasts opinion and practice relative to delegation of office-based patient care tasks with tasks ranked in order of favorable opinion. There is a striking gap be-

<sup>††</sup> The list was drawn up on the basis of the frequency with which these items were mentioned in response to an open-ended question on the pretest.<sup>1</sup>

## PEDIATRIC PRACTICE IN THE U.S.A.

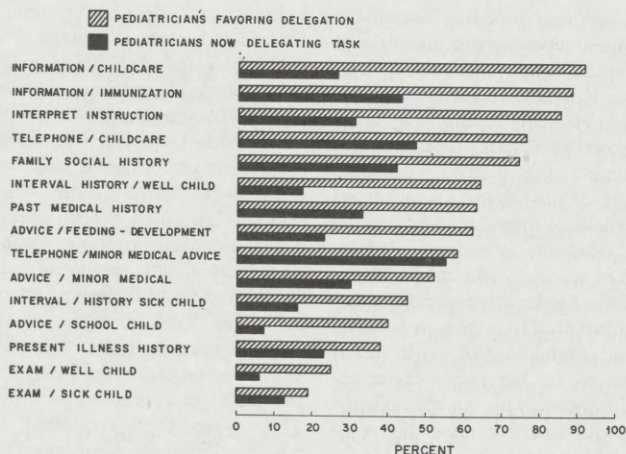


FIG. 14. Office patient care tasks according to present performance and opinion about their delegation.

tween practice and opinion concerning delegation of specific tasks except for one "telephone task" where current practice approximates opinion.

Figure 15 contrasts pediatrician opinion and current performance for out-of-office patient care tasks. It will be remembered that all of these tasks except hospital newborn visiting were "not done" in practice unless the physician did them himself. Ma-

majority opinion would seem to favor their performance by an allied health worker, thus adding a new dimension to ambulatory care of children under the pediatrician's supervision. About one third of the respondents favored delegation of hospital newborn visiting, now almost completely carried out by the pediatrician himself.

In interpreting these responses, it must be recognized that "delegation" was neither

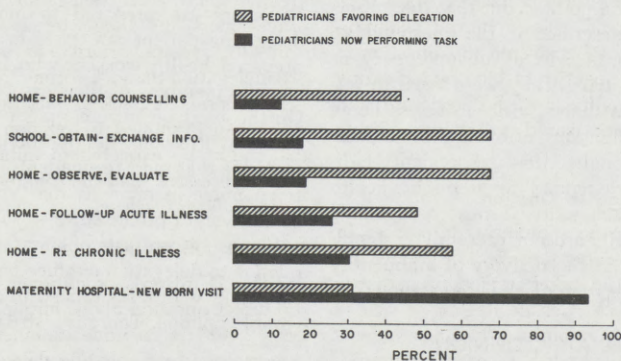


FIG. 15. Out of office patient care tasks according to present performance and opinion about their delegate.

intended nor perceived to mean the delegation of complete responsibility, or delegation at all times and under all circumstances. For performance of medical examinations, the wording of the task stated "some elements of medical examination other than body measurements and screening tests," the implication being assessment of the status of the child rather than diagnostic examination.

The patient care tasks to which opinion ascribed highest delegation priority were those involving information giving, counseling, and information seeking relative to well child care and minor medical problems. Those of least priority involved examination and care of the sick child. The priority ranking was consistent with the rank order of tasks where opinion was favorable to delegating with the exception of "telephone tasks." This is an interesting difference which probably indicates again that handling telephone calls is the most urgently felt pressure of pediatric practice. Apparently this urgency is not felt by the non-practitioner to the same extent as it is felt by the practitioner, thus accounting for the discrepancy.

Three out of four respondents felt that greater utilization of allied health worker services would improve the quality of pediatric care or increase the volume of children receiving pediatric care or do both at the same time. Forty percent felt that both outcomes could be achieved simultaneously. Only 6% answered this question in a completely negative fashion by indicating that both quality would deteriorate and practice volume would not change (Table III).

#### Factors Related to Opinion

There were no significant differences of opinion concerning the effect of greater use of allied health worker services on pediatric practice by U.S. Census Region or size of respondent's community. Older respondents tended to express less favorable opinions, although even among the oldest respondents, the majority were favorable; among

TABLE III  
PEDIATRIC OPINION CONCERNING EFFECT OF GREATER  
UTILIZATION OF ALLIED HEALTH WORKER

<i>Effect on Practice</i>		<i>Number</i>	<i>%</i>
<i>Quality</i>	<i>Volume</i>		
Improvement	Increase	2,344	40
No change	Increase	1,144	20
Improvement	No change	849	15
Deterioration	Increase	1,011	17
Deterioration	No change	333	6
Not answered		111	2
Total		5,798	100

medical school graduates after 1940 there was little variation in opinion. The size of practice arrangement was also related to a more strongly favorable opinion about delegation, but even among solo practitioners, less than one-third expressed themselves negatively.

There were slight variations of opinion concerning delegation of specific tasks or the priority of tasks to be delegated, but the magnitude of the differences by region or type of practice is not impressive. The most consistent difference was found between practitioners and non-practitioners with the latter tending to express more strongly favorable opinions.

Practitioners assigned the telephone tasks greater priority for delegation than non-practitioners and the latter assigned substantially greater priority to out-of-office task delegation than the former.

In general, the lack of variation in opinion, when examined in relation to factors that might be expected to influence it, is more impressive than the differences which these analyses disclose.

#### Potential Job Market

Table IV records practitioner answers to the direct question about hiring. The number (2,662) is an understatement because some respondents, already delegating tasks to their health workers, had no need to hire others. The expectation of hiring a health

TABLE IV  
POTENTIAL JOB MARKET FOR ALLIED HEALTH  
WORKERS; GENERAL OPINION OF  
PRACTITIONER RESPONDENTS

<i>Respondent Opinion</i>	<i>Number</i>	<i>%</i>
Would hire full time	1,738	41
Would hire part time	924	22
Would not hire*	1,421	34
Not answered	125	3
Total	4,208	100

\* Some respondents already have satisfactory arrangements.

worker was directly related to size of practice setting: Northeast Region and solo practitioners were somewhat less anxious to hire than those from other regions or with other practice arrangements. Differences were not great, however.

Table V combines the number of practitioners already delegating a specific task with the number of practitioner non-delegators who expressed opinions favoring its delegation. The sum represents another estimate of potential job market as expressed for each task separately (e.g., 3,769 for providing information on infant and child care). These numbers are probably overestimates since they include practitioners who, although favorable toward the idea of delegation, may not be in a position to hire another worker.

#### Obstacles to Action

The obstacles to greater use of allied health worker services are arranged in rank order of those considered "very serious" in Figure 16. Lack of trained workers stands out from the others. Only 12% of the respondents considered this "not serious." These opinions showed no variation by region. Solo practitioners were somewhat more apt to feel hiring less feasible financially than practitioners in other settings, and non-practitioners were somewhat less apt to be concerned about most of the "potential obstacles" than practitioners.

A prior question had asked practitioners

whether they had had unsuccessful experiences with allied health worker performance of patient care tasks. Only 13% reported unsuccessful experiences. The most common reason advanced for lack of success was that the worker was not capable. Another prominent reason was that the pediatrician had no time to train the worker.

It is reasonable to conclude from these responses that by all odds, the greatest obstacle to task relegation is the pediatrician's perception that capable personnel to whom the pediatrician can entrust the tasks he wishes to delegate are hard to come by.

#### INTERPRETATIONS AND IMPLICATIONS

This survey has described some of the socio-economic factors which shape the character of pediatric practice, such as practice arrangements, medical and economic resources, and the traditions of communities. It has described how these factors interact with each other in terms of the numbers and types of visits to pediatric offices and the delegation of specific tasks. The interactions are complex and the outcomes multiple, a finding that has particular meaning for pediatricians and health planners.

#### Health Supervision

Survey data suggest that the rationales and routines of child health supervision be reexamined. No hard data on the quality and outcome of care delivered under differing circumstances have been provided. However, the amount of physician time allotted to health supervision appears to be directly related to community per capita income and pediatric manpower resources and inversely related to the size of pediatric practice arrangements. Under the circumstances, it may be more helpful to question the virtue and worth of the observed maximum allotment of physician time to health supervision than to assume that the minimum allotment must be raised to the maximum. There is every logical reason to believe that some families may need very little health supervision beyond immunization, and some may need a great deal more,

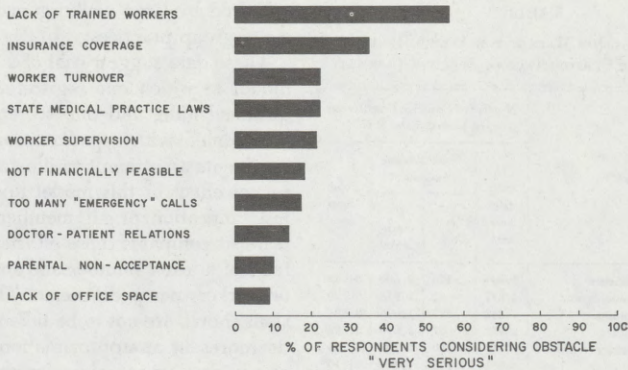


FIG. 16. Obstacles to greater use of allied health workers in pediatric practice.

but that individual needs are unrelated to the standard, across-the-board recommendations for its delivery and the extent to which physician time is allotted to this activity.

Present standards for health supervision are based upon the assumption that preventive and curative care are separate entities and upon needs and visit intervals derived from an era when infant formula distribution or regulation was the dominating activity. Routine visiting is chronologic in time, but the chronology is not clearly related to critical phases of growth and development. Frequency of visiting and length of visit should logically be adjusted to patient needs, but criteria for defining individual needs in such terms do not exist.

Reduction in the health manpower time presently devoted to health supervision could exert considerable impact upon current child health manpower shortages regardless of whether physician, nurse, or other allied health worker time is at issue; the issue is not merely who is to carry out this activity but also how much needs to be carried out. Nevertheless, the assumption that all health supervision is valueless is as untenable as the assumption that children should be seen twice as often when well as when sick throughout their period of growth. Only careful controlled field stud-

ies which provide sound data translatable into planning terms can shed light upon the current confusion in this field.

#### Task Delegation

The survey was designed to focus principally upon the use of allied health worker services in ambulatory pediatric care. In this aspect of practice, the data demonstrate clearly that the efficiency and completeness with which administrative, clerical, and well defined technical services are carried out are directly related to the number and variety of workers employed in a practice arrangement. They also suggest that regional or community tradition on the one hand and health manpower supply on the other hand influence delegation of these tasks independently of each other. Where supplies of physicians and registered nurses are plentiful, tasks are performed by these professionals that would be performed by less highly trained personnel in areas where supplies are less plentiful, regardless of the practice arrangements or the number and type of allied health workers employed. Delegation frequency is highest in the West although this region possesses more pediatric manpower relative to population than the South or North Central Regions.

Patient care tasks, which require some degree of interpersonal relationship to per-

TABLE V  
POTENTIAL JOB MARKET FOR ALLIED HEALTH  
WORKER PERFORMANCE OF SPECIFIC TASKS

Task*	Number of Pediatric Practitioners in United States Who			
	Al- ready dele- gate task	Would delegate but now:		Total Num- ber
		"Not Done"	Do them- selves	
Information/child care	1,094	175	2,500	3,769
Information/immunization	1,821	51	1,858	3,720
Interpret instructions	1,312	517	1,676	3,505
Telephone/child care	1,972	37	1,290	3,299
Family/social history	1,774	30	1,387	3,191
Venous blood	981	775	1,360	3,116
Telephone/minor medical	2,296	5	685	2,986
Past medical history	1,397	2	1,390	2,789
Advice/feeding-development	974	24	1,648	2,646
Interview history/well child	722	25	1,885	2,632
School visit	46	2,081	426	2,553
Home visit/observation	124	1,978	439	2,541
Advice/minor medical	1,264	8	1,205	2,477
Home visit/Rx chronic	85	1,547	578	2,210
Interview history/sick child	682	9	1,298	1,984
Home visit/Rx acute	69	1,444	355	1,867
Present illness history	967	3	866	1,836
Home visit/behavior	43	1,422	163	1,628
Advice/school child	292	14	1,288	1,594
Exam/well child	240	46	752	1,038
Maternity hospital visit	45	52	850	947
Exam/sick child	351	18	549	918

\* These data represent responses of practitioners only. They are based on a comparison of each individual's response to two questions. The first question asked who currently performed the task in his practice. Those who already delegated it are given in the first column. Those who indicated the task was "not done" in their practice and also, in response to a second question that it "could and should" be done by an "allied health worker" are given in the second column. Those who indicated that they themselves now performed the task and also, in response to the second question, that it "could and should" be done by an "allied health worker" are given in the third column. The "total" column sums the previous three. Thus, the "total" column approximates the "potential job market" in terms of absolute numbers of Fellows of the Academy of Pediatrics.

form, were delegated much more rarely by the pediatrician; neither practice arrangements nor regional differences affected the degree of delegation to the same extent as they affected the delegation of other tasks.

The data on patient care task delegation appear to reinforce findings that the demands and responses of the market-place are subtle but highly significant influences upon the precise way in which the ambulatory health care is delivered to children. Under such pressures in all regions of the country, the solo and small specialty group practitioner can achieve patient care task performance efficiencies greater than those

achieved by large well-organized multispecialty group practices.

These data suggest trial of a hypothetical model in which one registered nurse, one technical aide, and one secretarial worker are teamed with a pediatrician. Figure 17 represents an attempt to illustrate the theoretical effect of this model upon the time-task allocation of all members of such a team; it compares these effects with the effects of a lesser number and smaller variety of workers per pediatrician. The time divisions shown are not to be taken literally but do represent an approximation of both the survey data on actual performances and the expressed opinions of respondents. The relationship of this model to the effectiveness and outcome of child health care remains to be demonstrated.

However, the solo practice arrangement is rapidly becoming archaic for many reasons. These include not only a greater efficiency in laboratory services, which the survey has shown resides with larger groups, but also greater efficiencies in radiological and consultative services and in financial security and business administration<sup>16</sup> which this survey did not explore. One must also add the intangible benefits of informal communication and stimulation which close association with peers affords. Within a large multispecialty group setting it seems quite possible that the secretarial and clerical workers of the model can be partially shared among physicians especially since business affairs and laboratory work will be handled by others.

Application of the suggested model should not be expected to exert any direct or dramatic effect upon health care costs. Costs depend primarily upon factors such as hospitalization, fees and drugs, and the routines of ambulatory care, especially health supervision. Non-medical workers can be expected to spend more time per patient than a physician, at least until significant increments of experience are gained, and perhaps even after such a period of time. Employment of added workers adds to direct and indirect expenses and requires

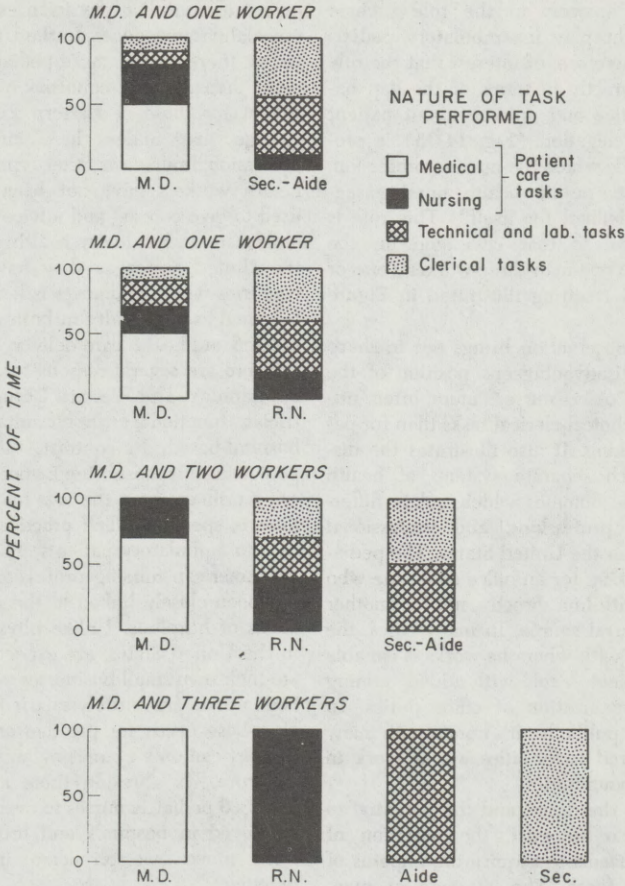


FIG. 17. Effects of numbers and types of health workers on time-task performance by physician and other health workers in same setting.

the physician to devote more of his own time to communication with and supervision of them.

Although the relationship of this model to the effectiveness and outcome of child health care remains to be demonstrated, its application could result in improvement of care by reducing fragmentation and extending scope through such added services as home visiting. In a more concrete sense, application of the model should mitigate significantly the present and projected short-

ages of pediatric manpower as they relate to pediatric health care needs.<sup>17</sup> Considering the malutilization of nursing services which this survey and other reports<sup>18-20</sup> have demonstrated, the effect of readjusting office nursing responsibilities may be expected to relieve the seeming shortage of nurses rather than accentuate it.

In preparing the survey instrument, a decision was made not to try to define the educational or professional background of an "allied health worker" and not to request

any direct answers to the role such a worker might play in ambulatory pediatrics. It is, therefore, of interest that the role defined indirectly in terms of the gap between practice and opinion about patient care task delegation (Fig. 14-15) is precisely the role which the nursing profession, especially its public health nursing segment, has defined for itself.<sup>21</sup> This role is also identical to that envisaged for the nurse in the one-man-three-worker (one or more a R.N.) setting illustrated in Figure 17.

Such an observation brings out in sharp focus the disadvantageous position of the traditional "office nurse," more often utilized for technical-clerical tasks than for patient caretaking. It also illustrates the distances which separate systems of health care and the domains which isolate different health professions, and professional sub-groups in the United States. The pediatrician is asking for an office colleague who can work with him directly, not for another outside referral source. In many cases, the office nurse with whom he works is capable of playing such a role with added training and a reorganization of office duties. In other cases, public health nurses with many of the desired capabilities are at work in the same communities.

Although the desire and the potential to move appear to exist, the initiation of movement seems to require the impetus of an outside force. The shortage of manpower to staff the existing structure and the pressures of consumer dissatisfaction and unmet needs may provide just such an impetus.

#### Historical Background

The sharp contrast between pediatric opinion and current practice in the performance of patient care tasks is in many ways paradoxical. Until the present century the health care of young children was primarily in the hands of mothers, grandmothers, midwives, or other wise women in the country. Neither were physicians (all male) trained in this area, nor did families

expect to consult a physician except under unusual circumstances. In the United States today, there are far more pediatricians per child than in other countries of the world except for those of Eastern Europe. It is strange that under these circumstances professional nurses or other types of female health workers have not been as widely used to give counsel and advice concerning child care and ordinary health problems in the United States as they have in those countries where pediatrics is less firmly entrenched as a specialty in both medical education and health care delivery systems.

There are several reasons for this apparent paradox. The Western European pediatrician functions as a consultant, usually hospital-based. In contrast, the American pediatrician is most often a generalist delivering primary care; the vast majority of his time is spent in office practice, rendering care to ambulatory patients. The history of the American nursing profession, however, has been closely linked to the institutional needs of hospitals. Unlike physicians who, in the United States, are expected to operate their own small businesses or private offices, nurses are entirely salaried professionals whose needs for prestige and financial support can only be met by an institutional structure. As a result, there are approximately 6 pediatric nurses to every physician employed in hospitals and less than one-third nurse per physician in pediatric practice.<sup>12</sup>

In European countries, children of all social classes receive preventive personal health services through government financed maternal and child health clinics which employ large numbers of health visitors or nurses who assume the major burden of care.<sup>22</sup> Such services also exist in the United States and employ public health nurses. However, the responsibilities of American nurses are more narrowly defined, and the American services reach predominantly the less affluent segments of society. Most American children receive both preventive and curative health services through the offices of their private physi-

cian (general practitioner or pediatrician) rather than through publicly supported clinics.

During the present century, the character of pediatric problems has shifted from the care of serious acute illness to focus upon the maintenance and promotion of health, psychosocial problems related to growth, and care of the handicapped child. At the same time, pediatric medicine has become more complex, and subspecialties to handle the rarer conditions have arisen. A less obvious change has occurred within the past 30 years in the day to day responsibilities and affiliations of pediatric practitioners. Thirty years ago, the practitioner of pediatrics could devote significant increments of his time to hospital, ward, or clinic responsibilities which afforded him contact with serious disease and provided a continuing education, while at the same time he could carry a general pediatric case load in private practice. Population shifts within metropolitan areas, the steady dwindling away of general practitioners, the increasing affluence of the middle class and its demands for specialized pediatric care, as well as the growing complexity of pediatric medicine itself, have all combined to make this situation no longer tenable. Sharp divisions between the so-called "academic" pediatrician and the "practitioner" pediatrician have arisen.<sup>23</sup>

As a result of these developments, the pediatric practitioner in the suburban or small city practice is expected to provide comprehensive preventive and curative care to children by himself or in association with another group of physicians, but with no firm institutional base, no tradition of sharing this responsibility with nurses, and no nurses prepared to share responsibilities with him. The situation in urban areas is different in nature but not in outcome insofar as patient caretaking is concerned. The migration of practicing physicians to the suburbs has left the care of the urban poor, an increasingly large segment of the city's population, in the hands of overcrowded and understaffed hospital outpatient de-

partments and emergency wards. The structure of public health preventive pediatric care services, although better organized and covering a larger segment of the population than in the suburbs and rural areas, is still inadequate to the task and unable to assume the coordinating and communicative responsibility which care of the underprivileged in particular demands. In European countries, where a similar separation of preventive and curative services exists, there is a stabler tradition of care which does not create the class distinctions inherent in the traditional American system.

#### Recent Changes

Whether or not these historical differences in the organization and delivery of health care to children have contributed to the infant mortality differentials between the United States and other countries is debatable. However, there is no question but what changes in nursing, medicine, and systems of ambulatory health care are now occurring in this country, and that these changes have considerable significance for the greater use of nurses and other allied health worker services in the delivery of health care to children.

The American nursing profession has struggled both to free its educational institutions from hospital domination and to define its professional role. These struggles have not been altogether successful. However, there is increasing recognition that the nursing role is predominantly one of patient caretaking with emphasis on its educational and counseling aspects. In hospitals administrative responsibilities formerly assumed by nurses are being assumed by unit managers; clerical and minor technical services are being performed by secretaries and aides whom the unit manager supervises.<sup>19</sup> In ambulatory health care, the opportunities for nurses to fulfill the role of patient educator and counsellor are far greater than in hospitals.

During the past 40 years, medical specialization has developed rapidly in the United States. Sporadic and unsuccessful

attempts have been made in the past decade to reverse this trend by stimulating the production of a generalist physician capable of delivering primary care to families. The latest attempt, creation of a Board of Family Medicine and an upsurge in Family Medicine Residency Training Programs, may meet with more success,<sup>24</sup> but only time will tell. In any case, the forces which have launched these efforts are more important than their outcome. These forces can be characterized as an increasing recognition by the medical profession of the medical-social needs of the patient and of the inefficiency, fragmentation, and damage to the delivery of health care which the combination of specialization and solo practice produces. The nurse as the ally and colleague of the physician can play an important role in overcoming these handicaps.

Group or associational practice arrangements are another way of overcoming the handicaps. In the United States, general practitioner, specialty, and multispecialty group or associational arrangements are rapidly replacing traditional solo practice in all areas except remote rural townships and the central cores of cities. Delivery of health care in remote rural areas can never be ideal. However, alternatives to permanently based solo rural general practitioners exist in the form of improved communications systems,<sup>25</sup> and as part of regionalized medical center coverage of an area with voluntary health service corps assignments afforded to recent medical graduates<sup>26</sup> and with the assignment of specially trained nurse practitioners.<sup>27</sup>

In core poverty areas of American cities, community health centers which deliver comprehensive care to children or to families have begun to appear. Such centers, in contrast to the older public health centers, deliver both preventive and curative care to the populations which they serve, providing an alternative to hospital outpatient clinics (except as referral sources for complicated cases and emergencies) and well-baby clinics or child-health conferences run by public agencies. The advent of Medicaid

has begun a penetration of the financial barriers which for so long have restricted the clientele of the average American pediatrician to the financially privileged segments of society. In effect, it appears as if American consensus is electing to eliminate financial barriers to health care while retaining the systems model of private practice which delivers both preventive and curative care from a single responsible source. Regardless of financing methods adopted, this is a departure from the Western European and English system of separate preventive and curative services. The concept of integrated care is comparable to that established in Eastern Europe and in many of the Latin American countries.

This concept, whether governing "health center" or "group practice" operations provides the nurse or other health worker with a more meaningful base from which educational and counseling services may be delivered to children and their families. Furthermore, its implementation requires a broader institutional structure with stabler employment opportunities and greater interdisciplinary communication than either private offices or nursing agencies have been able to offer to the nurse in the past.

#### Future Requirements

To translate the potential of these various changes into actions which ease the current shortages of health manpower to serve children will require something more than an expression of opinion. The first requirement is that personnel be available to take over the administrative clerical and minor technical functions which the pediatric office nurse now performs. This requirement varies from the large group practice—where laboratory and administrative tasks can be centralized, secretarial work shared, and technical aides be occupied exclusively with technical tasks—to one or two man practices where a more all-purpose type of assistant is needed.

The second requirement is a readjustment of the pediatric medical role in which some of the relationship satisfactions that

develop between the pediatrician and the family are relinquished to another professional discipline while responsibility for patient care remains ultimately with the physician. This is a difficult readjustment because of the medical education background from which the pediatrician has emerged, and because it implies that another professional discipline can meet some patient caretaking needs as well as or better than the medical profession.

The third requirement is for a broadening of the skills, assessment, and decision-making potential of the nurse. Fulfillment of this requirement demands conceptual acceptance by the nurse and family, and a period of training that is field oriented and practical.

The fourth requirement is for research and evaluation to lead and monitor the dynamics and direction of the changing process. Although pediatric opinion clearly favored change, concerns about its effect on quality were frequently expressed in the unsolicited written comments of respondents. The perceptive questions recently asked by Green are highly relevant to these issues.<sup>28</sup> Direct measurements of the quality and effectiveness of health services are elusive; most pediatric illnesses resolve spontaneously, and the long-term values of educational and counseling services are still largely theoretical. Nevertheless, short-term qualitative measurements of patient care can be applied on a controlled basis to different delivery mechanisms and other research models can be explored. The difficulty with such research lies less with its feasibility than with its generalizability beyond the individual community and practitioner setting in which it is executed.

The last and most significant requirement is that a mutual understanding and *modus operandi* be reached between the medical and nursing professions, upon whom training programs, working models, and their evaluation depend. This understanding has not been helped by the rash of terms and diverse training programs which have developed during the 3 or 4 year in-

terval between the conception and publication of this survey. "Allied health workers," "paramedical personnel," "medical assistant" and the like tend to alienate the professional nurse. "Nurse practitioner" or "nurse clinician" tend to confuse the physician. The very fact that the value of health supervision tasks is being questioned while at the same time nurses are being asked to perform them, makes it appear as if the unnecessary or "dirty" jobs were being shucked off. The situation is further confused by ferment and argument concerning medical and nursing education, and lack of coordination between recently developed allied health worker training programs and job opportunity and placement.

Realistic training geared to job placement can emerge only after working models are more widely established and training guides, standards and accreditation practices worked out. All of these goals seem eminently possible to attain. Numerous successful working models have been reported,<sup>29-32</sup> or are known to exist,<sup>33</sup> several pilot training courses for nurses have been established,<sup>33</sup> and small-scale evaluations of the results and effects have been carried out.<sup>34</sup>

Nevertheless, widespread application of collaboration and task-sharing between physician and nurse requires agreement between the professions. Standards and guide-lines must be developed which are acceptable both to educational institutions and to the settings which deliver ambulatory care to children. Both physicians and nurses will need support to work through the role changes which successful application of these concepts demands.

Agreement between the medical and nursing professions can only be forged if semanticism and professional status symbols are eschewed and the needs of children become the focus of mutual understanding. Should such understanding fail to materialize, it seems likely that the pressing needs for manpower will give greater impetus to the production of some types of intermediate personnel such as the pediatric associ-

ate<sup>35</sup> or child health assistant for whom no career ladder exists within the health professions.

Achievement of trust and a *modus operandi*, on the other hand, can be expected to lead both to short-term efforts to expedite better use of existing health manpower and to long-term plans which serve to bring both medical and nursing educational practice into closer harmony with each other and with the needs of children.

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The collection of these data would not have been possible without the active interest of Fellows of the American Academy of Pediatrics, the cooperation of its full-time staff, and the leadership of the Subcommittee on Pediatric Manpower on the Council on Pediatric Practice. The Chairman of the Council on Pediatric Practice is Carl C. Fischer, M.D. The members of its Subcommittee on Pediatric Manpower at the time this survey was planned and executed were: John P. Connelly, M.D. (Chairman), Raymond A. Christy, M.D., William G. Crook, M.D., John C. MacQueen, M.D., Halcuit Moore, M.D., and Heinz Luten Teate, M.D., John Kosa, Ph.D., and Mary Malone, R.N., assisted the authors in the planning and analysis phases of the work.

## APPENDIX

## Titles of Supplementary Tables\*

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- 1A—Frequency and Percentage Distribution of Current Position of Non-Military Respondent by U.S. Region
- 1B—Frequency and Percentage Distribution of Respondents by U.S. Census Region

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- 2A—Percentage Distribution of Pediatric Practice Arrangements by State and U.S. Census Divisions and Regions
- 2B—Frequency and Percentage Distribution of Respondents by County Demographic Groups
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\* Tables available on request to American Academy of Pediatrics.

- Health Supervision: Acute Illness Visits—By Type of Practice Arrangement and by Region, U.S.A.
- 21B—Percentage Distribution of Average Time Per Health Supervision Visit by Practice Arrangement by Region, U.S.A.
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## PEDIATRIC PRACTICE IN THE U.S.A.

- 43B—Obstacles to Greater Utilization of Allied Health Worker Services in Pediatric Practice as Perceived by Pediatric Practitioners by Practice Arrangement
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- 45B—Obstacles to Greater Utilization of

Allied Health Worker Services in Pediatric Practice as Perceived by Pediatricians by Current Position

- 46B—Percentage Distribution of Opinions Regarding Greater Use of Allied Health Worker Services in Pediatric Practice, by Year of Graduation from Medical School

The CHAIRMAN. At this point I order printed all statements of those who could not attend the hearings and also all other pertinent material submitted for the record.

(The information referred to follows:)

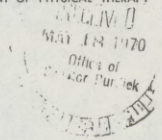
## The University of North Dakota

GRAND FORKS 58201

SCHOOL OF MEDICINE  
DEPARTMENT OF PHYSICAL MEDICINE AND REHABILITATION

DEPARTMENT OF PHYSICAL THERAPY

May 12, 1970



Honorable Quentin N. Burdick  
United States Senate  
Washington, D. C. 20515

Dear Senator Burdick:

I am writing you to express to you my pleasure, and at the same time my displeasure regarding the continuation funding of our Allied Health Basic Science Grant No. 5E01-AH-00557-04. I am pleased, of course, that we will be receiving \$41,830.00 here at the University of North Dakota for the programs in Physical Therapy, Occupational Therapy, and Medical Technology. I am displeased, however, that the amount received is only approximately 60% of the funds which we will need, and which we requested (\$64,500.00). It seems to me that in a situation such as ours where we have been able to demonstrate efficient and effective use of Federal funds for Allied Health training, we should be able to receive funding at a higher level than 60%.

I realize that there are many factors involved in the low level of funding for this year. On our campus today we are seeing the reaction to what may very well be the greatest strain, that being the Veit Nam war.

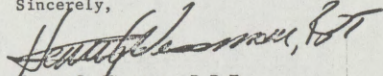
As you are aware, the legislation which funded this program; that is, the Allied Health Professions Personnel Training Act of 1966 as amended, will apparently be ending this year. It is my understanding that Senator Ralph Yarborough has introduced into the Senate a bill which is to supplant that act. The bill is numbered Senate Bill 3586. There are several areas in Senate Bill 3586 which, as an Allied Health educator, I feel are quite weak. One of the main areas of concern that I have is the apparent unwillingness of the Federal Government to accept accreditation standards for what an approved curriculum in any given health science might mean. Without some type of accreditation guidelines, set primarily by the individual Allied Health fields, it is going to be virtually impossible to determine which programs are eligible or not eligible for funding under Senate Bill 3586. Along with this inability to determine which programs are to be funded, will come the large influx of all types of programs, accredited or not, which could decrease the quality of care given to the patient by Allied Health personnel, and which will decrease the amount of funds available for those accredited programs which are in need of Federal assistance. It would be to the advantage of all concerned if particular care be paid to establishing more exact standards of eligibility.

Honorable Quentin N. Burdick

May 12, 1970

Thank you for your attention to this letter and for the work that you have done in behalf of Allied Health Education during your time in the Senate. Nothing would please me more than if I could continue to be of assistance to you in advisement on Allied Health Education matters. My concern, interest, and knowledge of Allied Health Educational processes are at your disposal.

Sincerely,



Henry C. Wessman, R.P.T.  
Assistant Professor and Chairman  
Department of Physical Therapy

HCW:bmm

Statement of  
THE AMERICAN DIETETIC ASSOCIATION  
Before The  
SUBCOMMITTEE ON HEALTH  
SENATE COMMITTEE ON LABOR AND PUBLIC WELFARE  
on  
S.3586, S.2753, and S.3718

I am Frances E. Fischer, an assistant professor in the Department of Nutrition of Case Western Reserve University. I also serve as the president of the American Dietetic Association and it is on behalf of the Association that I am presenting this testimony.

Since this is the first time The American Dietetic Association has appeared before this distinguished Committee, I might mention that the Association is the professional organization of 20,000 dietitians and nutritionists who are responsible for the application of the scientific principles of nutrition. Our members work in hospitals, in health departments and agencies, in colleges and universities, and also in school food programs, industrial plants and commercial eating establishments.

The American Dietetic Association urges the approval of S.3586, the proposed Health Training Improvement Act of 1970, that provides for a five-year extension of the Allied Health Professions Personnel Training Act. If universities are to attract the faculty and resources that are required to expand our capacity for the training of allied health manpower it is essential that there be some assurance of continuity of support on the part of the Federal government. This is one of the reasons for our endorsement of S.3586.

#### Construction

The increase in appropriation authorizations for construction under S.3586 is very encouraging. We are concerned, however, because no funds have been requested under this authority in 1970 or 1971 by the Department of Health, Education, and Welfare. Only \$3 million of the \$35.5 million that is authorized has been appropriated over the four years 1967-70.

#### Improvement Grants

Our Association also endorses the provisions of S.3586 that continue the eligibility criteria with respect to formula grants.

As we understand the provisions of S.3586, it would be possible to support more dietetic intern training programs through project grants. We hope that in the project grants that are authorized for "training and retraining," that "retraining" will be interpreted to include continuing education.

#### Traineeships

The increasing authorizations for appropriations for traineeships under S.3586 are essential if we are to increase our faculty resources for the training of allied health manpower. We would suggest, however, that authority for institutional support be added to strengthen and expand graduate training. The very successful training grants program of the National Institutes of Health provides for institutional support as well as stipends. This same authority should be available under the Allied Health Professions Personnel Training Act.

#### Development of New Methods

The authority for project grants to develop new methods for the training of health manpower under S.3586 should prove most valuable in increasing the supply of allied health personnel. Here, too, we hope that the actual appropriations will at least approximate the authorizations. We also strongly support the grants and contracts that are authorized to encourage full utilization of educational talent for the allied health professions.

#### Recruitment -- Student Assistance

Both S.3586 and S.2753 authorize appropriations for recruitment, student loans and scholarships. These authorities are needed and we hope that they will be a part of the legislation approved by the Congress. Similar authorities are provided for in the case of the Nurse Training Act. They are no less essential to an expansion of allied health manpower through the Allied Health Professions Personnel Training Act.

#### The Need for Dietitians and Nutritionists

Although we are supporting the enactment of S.3586 we want to make it clear that we do not believe that our manpower needs in the field of nutrition will be met through the Allied Health Professions Personnel Training Act even if it is fully funded under the increased appropriation authorizations.

The average annual investment in the training of dietitians and nutritionists under the Allied Health Professions Personnel Training Act has amounted to \$1.3 million for the period 1967-69. The report of the White House Conference on Food, Nutrition and Health recommends an initial investment of \$4 million for training nutrition personnel with increases to an annual total of \$8 million over the next five years. (See Appendix A.)

The report of the White House Conference on Food, Nutrition and Health also estimated that the existing supply of dietitians and nutritionists should be not less than doubled over the next five years. The American Dietetic Association endorses this recommendation. Some States have as many as 20 or 30 dietitians and nutritionists per 100,000 population while others have as few as six or seven per 100,000. State health departments report that 25% of their public health nutrition positions are vacant.

In concluding, I would like to call attention to another recommendation of the White House Conference on Food, Nutrition, and Health. Section 4 of the Conference report is devoted to nutrition teaching and nutrition education. Panel IV-2 of that Section recommended nutrition training of physicians, dentists, nurses and allied health professions. (See Appendix B.) This recommendation of the White House Conference and also the recommendation relating to the training of dietitians and nutritionists could be carried out through a modification and enactment of S.1865 that was introduced by Senator Javits and nine co-sponsors. We would be glad to submit our specific recommendations for modifications if this would be helpful.

Finally, I want to express the appreciation of The American Dietetic Association for the leadership of this Committee in the enactment of legislation on behalf of combatting hunger and malnutrition. Our membership is very much aware that this Committee in 1967 initiated the legislation that authorized the National Nutrition Survey. We know, too, that four members of the Subcommittee are also members of the Select Committee on Nutrition and Human Needs.

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## APPENDIX A

### FUNDING FOR TRAINING OF PUBLIC HEALTH AND COMMUNITY NUTRITIONISTS AND DIETITIANS

Funds, facilities and staffing for education of dietitians and public health and community nutritionists at various levels of competence are urgently needed and should be immediately provided with planned progression.

At the present time there are about \$1,000 prepared to effect nutritional care to people: 30,000 dietitians and 1,000 nutritionists. While data for estimating the number actually needed to provide even moderately adequate services to the American people are not presently at hand, there is common agreement that these numbers should be no less than doubled within five years. There is urgent need for their services in emerging anti-poverty programs, in school health programs, and in providing consultation to patients of private physicians, in addition to the need to fill the increasing number of more traditional posts in health departments, other community agencies, clinics, hospitals and other medical care facilities. Specifically, there is need for:

1. Funding for traineeships and institutional support for post-bachelor's dietetic interships to relieve hospital budgets and encourage development of more internships which can prepare more people. (The American Dietetic Association has expanded the number of internships as well as the number of people in some internships. In September 1968 there were 770 interns in 65 approved internships, whereas in September 1969 there were 815 in 68 internships. There are four newly approved internships for 1970 and more in the organization stage.) Hospitals and universities in which these internships are based are currently carrying the financial cost of internship training. Increasingly, hospitals are finding this a burden and many are already stating that they will be unable to continue internship training without financial assistance.

Estimated minimum amount needed annually to maintain 72 hospital and university based internships (for use of facilities and personnel, including one full-time educational director per internship at a salary of \$14,000), \$1,440,000.

Traineeships for dietetic interns: 500 at \$2400 annually, presently funded by hospitals and universities, \$1,200,000.

This amount will need to be doubled within five years to provide 1,000 traineeships.

2. Increased funding for master's degree training in public health nutrition. Traineeships and institutional funds for public health nutrition have been severely curtailed at a time when the number of institutions, offering such training needs to be increased at once from 16 to 32 or more, and the number of students trained annually at the master's degree level increased from approximately 100 to 300. Within five years these numbers should be tripled.

(a) Funding for institutional grants within a year, to provide staff and facilities for setting up public health nutrition training programs. Five at \$50,000 each, \$250,000.

Within five years this should be increased to \$750,000.

(b) Student traineeships per year, within a year—100 at \$3,500, \$350,000.

Within five years this should be increased to \$1,050,000.

(c) Reimbursement of field agencies for expenses incurred in providing field experience to students, \$10,000.

3. Funding for the experimental development of under graduate professional training in dietetics and public health or community nutrition. While positions of major responsibility in these fields will continue to require graduate training, the urgent need for more nutritionists and dietitians at the staff level and the higher level of competence of undergraduate students today make such experimentation not only necessary but also feasible. Guidelines for such training for public health nutritionists have been developed<sup>1</sup> and at least one bachelor's

<sup>1</sup> See "Public Health Nutritionists—Their Responsibilities and Qualifications," by the Steering Committee on Roles, Qualifications and Training of Nutrition Workers in Health Agencies, July 1969, p. 20.

level training program for dietitians already exists. Funding for institutional grants to provide necessary specialized staff and facilities to institutions setting up training programs—annually within one year, five at \$40,000 each, \$200,000.

Within five years this should be increased to \$800,000.

4. Funding for doctoral level training in dietetics and public health nutrition. Such training is to provide first of all teachers for the training of nutritionists and dietitians in schools of public health, nutritional sciences, home economics and others; also for the teaching of nutrition in medical, dental and nursing schools, teacher training institutions and other colleges. Existing positions in colleges and universities already are not being filled. With the proposed increase in number of training centers and increased emphasis on nutrition in the curricula of health-related professions and teachers, need for teachers with doctoral level training will become more acute. Such advanced training is needed also to provide leaders with depth understanding of problems and programs in nutrition and dietetics and the ability to do research toward advancement of these fields.

(a) Funding for institutional grants to provide needed specialized staff and facilities—annually within 1 year, three at \$70,000—\$210,000.

(b) Traineeships for doctoral candidates—annually within 1 year, 12 at \$6,000, \$72,000. Annually for third year, 24 continuing plus 12 additional: \$144,000. Annually for third year, 24 continuing plus 12 additional: \$216,000. Within 5 years funding for institutional grants and traineeships should be doubled.

5. Money for research on the feasibility of training and using food aides to expedite the work of the public health or community nutritionist. While aides are already being employed by some agencies, there is indication that much remains to be learned before widespread use of them can be recommended. Three projects within 1 year, \$120,000.

Within 5 years this should be increased to eight, for a total of \$320,000.

### *Part B*

The public needs to know about opportunities for careers in dietetics, public health, and community nutrition. Many have not heard of these professions as they have of doctors and nurses. There is need for funding to publicize these careers to the general public and particularly to high school students, their parents and counselors. There seems little doubt that these "people-centered" professions could appeal to present-day youth.

Specifically, there is immediate need for a small number of personnel to give impetus to such publicity with adequate funds to operate effectively. Estimate of amount needed: \$150,000 for each of 3 years (three salaries of \$20,000 each plus materials, travel, use of mass media, etc.).

(N.B. Obviously funding for training is to no avail unless budgeting for positions is assured. Other panels will speak to this point.)

## APPENDIX B

### NUTRITION TEACHING IN MEDICAL SCHOOLS

#### ADEQUACY OF NUTRITION TEACHING IN MEDICAL SCHOOLS

Only a few formal studies have been made of the adequacy of nutrition teaching in schools of medicine. Such studies have disclosed that:

1. A need for improvement in nutrition teaching is readily acknowledged by many medical schools.
2. Only a few schools have a separate division or department of nutrition.

3. Special courses in nutrition are rare and nutritional material is commonly incorporated in courses in bio-chemistry and physiology and in the teaching of clinical specialties such as medicine, surgery, pediatrics, and obstetrics.

(a) At the preclinical level, nutritional subject matter is often displayed by more "basic" topics such as enzyme kinetics, and membrane theory. In addition, instructors in biochemistry and physiology not infrequently emphasize their own research interests out of proportion to their relevance to the overall subject and to clinical problems. Often, little attempt is made to provide the student with the basic information about nutrition upon which "clinical nutrition" is necessarily based.

(b) In the clinical department and subspecialties of medicine there has been little or no correlation of nutrition teaching; thus, the student has been offered only a fragmentary selection of aspects of nutrition having particular relevance to various clinical subjects. Such fragmentation inevitably has led to appreciable gaps in nutrition education.

4. A few medical schools offer elective courses on therapeutic diets (medical dietetics), experience in a "nutrition clinic," and in nutritional investigation.

5. Many medical students only learn about florid malnutrition in man when they take electives involving participation in overseas programs based in countries where protein-calorie malnutrition and vitamin deficiencies are common.

6. In medical schools with a good program in nutrition there is usually either a strong division or department interested in nutrition, or professors with a special interest in clinical nutrition or nutritional research.

7. A thorough and definitive survey of nutrition teaching in American medical schools remains to be done.

(a) No objective assessment of the nutritional knowledge acquired by medical students has been made.

(b) Sufficient nutritional questions do not appear on National or State Board examinations to provide a fair test of nutritional knowledge.

(c) Current knowledge of the extent and effectiveness of nutritional teaching necessarily is based in large part on the results of questionnaires distributed to various medical schools and on the impression, observations, and opinions of a relatively few faculty members. These sources give a useful preliminary indication of the state of nutritional teaching in American medical schools; however, the information they contain does not provide a sufficiently strong foundation upon which a national policy with respect to nutritional teaching at the medical school level can be based.

(d) (See addendum No. 1.)

### *I. Opportunities for Nutrition Teaching to Medical Students*

No plan designed to improve nutrition teaching to medical students can overlook the striking changes introduced into the curriculums of most medical schools during the past 5 years. These include:

1. Reduction of time spent in laboratory exercises in anatomy, biochemistry, physiology, pharmacology, and other preclinical sciences.

2. Strong efforts made to coordinate teaching of basic science material so that biochemical, physiologic, pharmacologic, and clinical information about the various organ systems of the body is presented to the student in an integrated fashion.

3. Increased emphasis on interdisciplinary teaching with some beginning dissolution of departmental boundaries.

4. Introduction of the student to clinical problems earlier than previously; often in the first year, or early in the second year.

5. More emphasis on elective opportunities for students after they have completed a "core curriculum," usually during the last 18 months of medical school. These elective opportunities include:

(a) Assignments to medical facilities in technically underdeveloped countries and to poverty areas in the United States.

(b) "Clerkships" in community medicine where problems in the delivery of medical care by the hospital center are given special attention.

### *II. Nutrition Teaching During the Preclinical Years*

In considering how nutrition teaching can be fitted into and articulated with the medical school curriculum, it must be kept in mind that the time available for basic science courses is being increasingly compressed. Thus, it would seem difficult to add a required course on basic aspects of nutrition during the so-

called preclinical years, even though establishment of such a course has been recommended on a number of occasions. However, since there is an increasing emphasis on integration of basic science material, it is possible that the presentation of what is ordinarily considered to be nutritional subject matter can be used to organize biochemical or physiological information. For example, a discussion of the factors affecting nitrogen balance could be used to pull together a great deal of material on protein biochemistry that otherwise might not be related readily to human health problems. A discussion of calorie requirements in man might serve to give relevance to the subject of energy transformations at the cellular level.

It has been pointed out that some medical schools offer courses in clinical correlation or pathophysiology, in which an attempt is made to bridge the gap between basic science and clinical training. In such a course nutritional information can help the student understand the relationship between the clinical picture and the underlying physiologic or biochemical disorder. For example, the symptoms that accompany growth-onset diabetes mellitus can be best understood in terms of the conditioned malnutrition that results from inability to utilize carbohydrate properly.

### *III. Nutrition Teaching in the Clinical Specialties*

The importance of nutritional considerations in medicine, surgery, pediatrics and obstetrics is acknowledged. Unfortunately (as mentioned previously), the nutrition teaching provided by the various medical specialties is necessarily fragmented, and sometimes superficial. For example, the student may be taught a rule-of-thumb approach to nutritional therapy without being given an understanding of the principles upon which such treatment is based.

It has been suggested that a properly qualified member of the faculty with a strong interest in nutrition could help to coordinate and strengthen the teaching of nutrition in the clinical specialties and, by means of lectures, conferences, clinics, or teaching rounds, fill in any important gaps that remain.

### *IV. Nutrition Teaching in Electives*

1. Electives that involve participation in programs designed to deliver medical care in poverty areas in the United States or abroad often bring the medical student into direct contact with patients who exhibit florid deficiency states, including protein-calorie malnutrition. Such experiences are far more effective than slides or textbook pictures in convincing the student that malnutrition remains a major world health problem and that clinical nutrition is a subject providing many challenges for the young physician.

2. Clerkships in community medicine are increasingly offered by the various divisions and departments of community medicine that are developing in medical schools and teaching hospitals throughout the country. In such programs, the medical student can work in a nutrition clinic, participate in nutrition surveys, study the role of nutrition in disease prevention or retardation and learn to work effectively with other members of the "health care team," including the public health nutritionist. This type of training can lead logically into a career in public health nutrition or to a program of graduate training in comprehensive medicine designed to train a new type of specialist for whom the designation "primary physician" has been suggested.

3. An elective in a division where nutritional and metabolic research are conducted can serve as an introduction to a career in academic clinical nutrition. Medical students who participate in such electives may be motivated to obtain 2 to 4 years of postdoctoral training in nutrition and metabolism after completing 1 or 2 years of residency work in a medical specialty.

### *V. Recruitment*

Recruitment of young physicians into clinical nutrition has been extremely difficult and there is a critical shortage of trainees and of teachers and investigators in this field.

Some of the reasons for this situation have been identified. These include the following:

1. A lack of identity for clinical nutrition.
2. Lack of a subspecialty status for clinical nutrition.
3. Dearth of superior training programs in nutrition designed to meet the needs and interests of young physicians.
4. Lack of recognition by medical schools and teaching hospitals of a need for clinical nutrition programs.

5. Debilitating effect on the image of nutrition as a respectable scientific discipline of food faddists, commercially motivated pressure groups, and widespread pedestrian nutritional research.

The problem of an identity for nutrition seems to be inherent in the scope and diffuseness of the word "nutrition." For example, there are no satisfactory terms in the vocabulary of nutrition to distinguish the clinical investigator of nutritional problems from the home economist who is concerned with applied nutrition. A professor of nutrition can be either a dietitian or a medical scientist. Such semantic difficulties have not helped to dispel the cloud of confusion that hovers over the subject as it relates to clinical medicine and medical research. Indeed, many otherwise sophisticated medical school faculty members and administrators tend to identify nutrition inherent in the standards for certification in this field promulgated by the American Board of Nutrition.

Lack of a subspecialty status for clinical nutrition has been an important factor in discouraging many young physicians from entering the field. While hematology, cardiology, gastroenterology, etc., are recognized subspecialties, clinical nutrition is not. This distinction has important financial implications for the house officer who is considering entrance into a subspecialty.

As Mueller has pointed out (Fed. Pros. 167, 1967): "At the present time there is no clear career future for the young physician in nutrition." He goes on to say that—

"\* \* \* it is a well-established truism that the quality of undergraduate training is proportional to that of graduate training. In other words, if the science of nutrition lent itself to a residency training program it would automatically improve the facility for undergraduate teaching."

It must be recognized that there has emerged in medicine a growing number of medical students and young physicians who are placing the concept of service well above considerations of financial remunerations and "success" as it is conventionally viewed. Such individuals are very likely to be attracted to careers in clinical nutrition if they can be shown the enormous benefits to mankind inherent in the prevention and treatment of all forms of malnutrition. However, the exposure that medical students usually receive to serious nutritional problems in their present medical school setting is ordinarily so minimal that the chances of stimulating their interest in the subject seem small.

#### ADDENDUM No. 1

It is recommended that funds be made available to permit appropriate voluntary agencies (AAMC, AMA, etc.), to conduct a thorough and definitive survey of nutrition teaching in medical schools. The results of such a survey should be evaluated by an expert panel selected by NAS-NRC in consultation with other national groups concerned with medical education, to determine the adequacy of nutrition teaching in American schools of medicine.

The CHAIRMAN. Thank you very much for what you have contributed to public health. The hearings are adjourned.

(Whereupon, at 12:20 p.m. the committee adjourned, subject to the call of the Chair.)



