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ABSTRACT

eport of information on enrollment at 66 Minnesota institutions and programs in five categories (clerical, nursing, personal and community health, rehabilitation and therapy, and technology); student completion; maximum student training capabilities; and possibilities for enlarging programs to meet demands for graduates. More than half the students involved are in nursing programs. Regularly scheduled reassessment of the allied health education field iscalled for due to the rapid developments taking place. Appendixes provide detailed information on programs (including demand estimates), summary tables by system, and codes and definitions used in the report. The survey questionnaire used is included. (MS)

ALLIED HEALTH EDUCATION PROGRAMS

IN MINNESOTA, ACADEMIC YEAR 1968-1969

A Commentary With Tabular Summaries

Prepared By The

MINNESOTA HIGHER EDUCATION COORDINATING COMMISSION

FEBRUARY 1970

PREFACE

This report presents information obtained from a survey of Allied Health Education Programs in Minnesota during the academic year 1968-1969. There are two basic parts to the report. First, a commentary presents information on enrollments and programs, student completions, maximum student training capabilities, and possibilities for enlarging programs. A second part provides detailed information on programs, summary tables by system, and codes and definitions which were used throughout the report.

The Minnesota Higher Education Coordinating Commission wishes to express its appreciation to the people within each institution and staff members from systems and association offices who assisted in the formulation of the study and preparation of the report.

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SUMMARY

Minnesota post-secondary education institutions and hospitals or related associations were surveyed for information on Allied Health Education Programs which were conducted during the academic year 1968-1969. This report provides information on the results of that survey. Programs included in the report are those which a student could complete within a few weeks or possibly three plus years, but not including four years or the baccalaureate degree. Sixty-six institutions reported programs of this type. Thirty were post-secondary education institutions and 36 were hospitals or related associations.

There were 24 program areas in which training was being conducted. These 24 areas could be grouped into five categories of related functions. The Clerical category includes programs for Hospital Station Secretaries, Medical Office Assistants, Medical Record Technicians, and Medical Secretaries. The Nursing category includes programs for Nurse Aides, Nurse Anesthetists, Practical Nurses, Registered Nurses (associate and diploma), and Surgical Technicians. A Personal and Community Health category included programs for Child Development Technicians, Dental Assistants, Dental Hygienists, Food Service Supervisors, Ophthalmic Technicians, and Urological Technicians. The Rehabilitation and Therapy category includes programs for technicians and assistants in three areas: inhalation, occupations, and physical therapies. A Technology category included programs for Certified Laboratory Assistants, Electroencephalograph and Electrocardiograph Technicians, Histologic Technicians, Opticians, and Radiologic Technologists.

Among the five Allied Health Education categories used in the survey, the data show that approximately 75 percent of training was reported in the category of Nursing. Hospitals were the largest

education contributors in this category due to the size of enrollments and student completions in their diploma nursing programs. The Nursing category represented the main thrust of effort for hospitals and related associations with approximately 90 percent of their graduates receiving training in services related to this category.

The post-secondary education institutions also reported substantial efforts in the Nursing category with approximately 57 percent of enrollments and student completions in this category. The categories of Clerical, Personal and Community Health, Technology, and Rehabilitation and Therapy accounted for 12.9%, 13.6%, 9.6%, and 6.2% of enrollments and 14.9%, 11.7%, 11.7%, and 4.7% of student completions, respectively, in post-secondary institutions. For both enrollments and student completions the relative efforts in programs are consistent.

The results of the study indicated a slightly different relationship when student capacities were compared. Student capacity relates to the capability of an institution to train additional students without adding staff or facilities. Nursing and Clerical programs were capable of additional student capacity with much the same ratio they had held when considering enrollments and current student completions. Technology programs had a slightly higher capability (224) than Personal and Community Health programs (221) and Rehabilitation and Therapy programs were capable of increasing current capacity by only 92 students.

Most respondents to the study questionnaire reported high demands for graduates of their programs. A notable exception to this was the Radiologic Technology program where several pieces

of data indicated a slight oversupply of graduates at the time of the study. Some programs in this area have already decreased class sizes because of the oversupply.

In many program areas, however, the educational institutions are apparently not keeping abreast of the demand for graduates. Steps are being taken by some institutions to ease shortages in such programs as Practical Nurse, Dental Hygiene, Professional Nurse, Physical Therapy Assistant, and Occupational Therapy Assistant, but these programs account for areas of educational need among programs which are currently ongoing in the field. The Allied Health Education areas, however, are experiencing growth in two directions. First, growth is seen through individual program needs resulting in continually spiralling demands for graduates. This growth is evident in the context of this report. A second direction of growth is seen in the addition of occupational titles in certain categories. Whether as a result of increased technology and consequent new specification or definition of occupational titles or a result of additional case loads within medical institutions and consequent fragmentation of work responsibilities, these new positions appear in the form of additional demands on educational institutions. Expectations of Allied Health Education can be met only through a realization and specification of these needs and coordinated efforts of representatives of education and health organizations throughout the state to plan to meet the needs. A careful assessment of the Allied Health Education field should continue on a scheduled basis.

ALLIED HEALTH EDUCATION PROGRAMS IN MINNESOTA, ACADEMIC YEAR 1968-1969

Introduction

The Minnesota Higher Education Coordinating Commission has just completed a study of Allied Health Education including paramedical training programs in Minnesota. This report offers some of the information resulting from the study and highlights certain occupational groups which may need additional planning emphasis within the state.

The Allied Health Education area includes a number of occupational groups which are needed to work with individuals or groups of individuals for improvement of health in a social, medical, or psychological sense. This area would encompass many occupational areas which are frequently associated with paramedical services. The areas of interest to this report are programs which offer attainment of a skill in the occupational area and generally require less than a four-year or baccalaureate degree objective. Programs were included which had only a few weeks expected study time and included some which would require three plus years of formal study beyond a high school diploma prerequisite.

The specific goals of the survey were to look at each program, identifying the capacity for training, length of program, and expressed needs. Information was requested on programs conducted during the academic year 1968-1969.

The Allied Health areas were identified by title through information previously compiled by the Minnesota Hospitals Association, the Twin City Hospital Association, the Minnesota Department of Education, and U.S. Government sources. From these sources a list of 37 known Allied Health occupations areas was compiled. These areas were included in a questionnaire which was mailed to 17 state junior colleges, 26 area vocational-technical schools, five private junior colleges, six state colleges, the University of Minnesota, and 22 private senior colleges. In addition, 59 hospitals and related medical training associations which were reported to conduct training programs were asked to furnish information on their programs. The total number of institutions surveyed was 139.

Of the 37 Allied Health areas surveyed, training was reported in 22 areas with two additional areas of training which had not previously been identified. Sixty-six institutions reported training programs which would fit the criteria established for the study. Thirty of these institutions were primarily educational institutions and 36 were hospital or medical training associations.

Program Enrollment

Table I provides information on 24 Allied Health Education areas which were being conducted in Minnesota during the academic year 1968-1969. The information has been classified to show enrollments in program areas by sex, sponsoring system control, and totals. In addition, the median length in weeks for each program is provided, again, broken down into system control.

TABLE 1: ENROLLMENTS IN ALLIED HEALTH PROGRAMS

PROGRAM	MEDIAN LENGTH OF PROGRAM (WEEKS)	POST-SECONDARY EDUCATION INSTITUTIONS			MEDIAN LENGTH OF PROGRAM (WEEKS)	HOSPITALS AND RELATED ASSOCIATIONS			MEDIAN LENGTH OF PROGRAM (WEEKS)	PROGRAM TOTALS		
		Male	Female	Total		Male	Female	Total		Male	Female	Total
Clerical												
Hospital Station Secretary	18		38	38	4		7	7	11		45	45
Medical Office Assistant	6		14	14					6		14	14
Medical Record Technician	72		19	19					72		19	19
Medical Secretary	44		218	218					44		218	218
Nursing												
Nurse Aide	7	(1)	(1)	36	3	86	216	302	5	86(1)	216(1)	338
Nurse Anesthetist					78	57	67	124	78	57	67	124
Practical Nurse (LPN)	47	4	647	651	49		298	298	48	4	945	949
Professional Nurse (Assoc.-Diploma)	72	32	569	601	117	33	1688	1721	110	65	2257	2322
Surgical Technician					12	6	21	27	12	6	21	27
Personal and Community Health												
Child Development Technician	72	2	57	59					72	2	57	59
Dental Assistant	38		125	125					38		125	125
Dental Hygienist	66	1	103	104					66	1	103	104
Food Service Supervisor	60		15	15					60		15	15
Ophthalmic Technician					88		6	6	88		6	6
Urological Technician					52	4		4	52	4		4
Rehabilitation and Therapy												
Inhalation Therapy Technician	72		27	27					72		27	27
Occupational Therapy Assistant	46		78	78					46		78	78
Physical Therapy Assistant	72	2	31	33					72	2	31	33
Technology												
Certified Laboratory Assistant (MLA, MLT)	52	2	174	176					52	2	174	176
EEG Technician	12		2	2	24				18		2	2
EKG Technician					(1)		2	2	(1)		2	2
Histologic Technician					52		2	2	52		2	2
Optician	38	11		11					38	11		11
Radiologic Technologist	104	3	22	25	104	25	210	235	104	28	232	260
TOTALS		57	2139	2232		211	2517	2728		268	4656	4960

(1) Data incomplete.

Programs have been classified into five categories: Clerical, Nursing, Personal and Community Health, Rehabilitation and Therapy, and Technology.

The greatest effort on the part of post-secondary education institutions and hospitals or related associations is in the category of Nursing. More than half of the students enrolled in Allied Health fields in post-secondary education institutions are enrolled in related Nursing programs, and about 90 percent of students enrolled in hospital programs are receiving training of this same nature. The diversity of training experience in the nursing category is greater for hospitals than for post-secondary institutions. Two of the programs, Nurse Aide and Surgical Technician, are essentially on-the-job training programs. Even in the post-secondary institutions the Nurse Aide program is brief and considered a worthwhile preliminary course in theory for other Allied Health fields.

In all other categories the post-secondary institutions tend to dominate in numbers of formal programs conducted and numbers of students enrolled. The area of Rehabilitation and Therapy is exclusively a post-secondary institution area. The Clerical category lists one area where training is conducted by a hospital with essentially on-the-job instruction. The Personal and Community Health category includes six occupational fields which may or may not be related to hospital interests; thus less emphasis is placed on this training in most hospitals throughout the state. The three occupational fields within the Rehabilitation and Therapy area are sponsored by post-secondary education institutions with close coordination among hospital groups for case work experiences of students. The Technology category consists of programs which could require as few as 12 weeks up to two plus

years to complete training. In addition most occupations in this category would require some in-service training at a hospital facility for accurate assessment of student competence. Enrollments in this category are fairly evenly split, with the Laboratory Assistant programs dominated by post-secondary institutions and the Radiologic Technology (X-ray Technician) programs offered primarily by hospitals and related associations. These two programs represent the bulk of training in the Allied Health Technology category.

A comparison of enrollments by sex shows that women enrolled in the Allied Health programs outnumber men by approximately 17 to one. Only in the area of Nurse Anesthetist does the number of men and women enrolled reach a near even mix. There were almost 5,000 students enrolled in the Allied Health programs during the academic year 1968-1969. Of this total approximately 75 percent were enrolled in occupational programs in the category of Nursing Services.

Program Completion and Placement

Table II represents educational output of post-secondary education and hospitals in Allied Health fields. Responses were classified according to the actual number of students completing a program within the academic year, placement rate, in-state retention rate, and demand. The placement rate was obtained by dividing the number of students working on a job within one month after completion by the total number of students completing a program. The in-state retention rate was a result of division of numbers of students working in Minnesota by the total number of working students. A demand rating for a program field was obtained by averaging ratings of each respondent with all others in a program.

TABLE II: STUDENT COMPLETIONS, PLACEMENT, AND DEMAND RATING

PROGRAM	POST-SECONDARY EDUCATION INSTITUTIONS				HOSPITAL AND RELATED ASSOCIATIONS			
	STUDENT COMPLETIONS	PLACEMENT RATE	IN-STATE RETENTION RATE	DEMAND RATING*	STUDENT COMPLETIONS	PLACEMENT RATE	IN-STATE RETENTION RATE	DEMAND RATING*
Clerical								
Hospital Station Secretary	38	100.0%	(1)	S	7	85.7%	100.0%	SD
Medical Office Assistant	14	100.0%	100.0%	SD				
Medical Record Technician	8	100.0%	(1)	SD				
Medical Secretary	145	97.6%	100.0%	S				
Nursing								
Nurse Aide	36	(1)	100.0%	SD	298	100.0%	100.0%	SD
Nurse Anesthetist					59	100.0%	64.4%	S
Practical Nurse (LPN)	591	98.0%	96.8%	S	265	99.6%	92.4%	S
Professional Nurse (Assoc.-Diploma)	157	100.0%	96.7%	SD	504	99.8%	84.1%	S
Surgical Technician					26	100.0%	96.2%	S
Personal and Community Health								
Child Development Technician	19	100.0%	92.3%	SD				
Dental Assistant	86	97.7%	98.8%	S				
Dental Hygienist	44	100.0%	88.6%	S				
Food Service Supervisor	12	(1)	(1)	SD				
Ophthalmic Technician					4	100.0%	100.0%	SD
Urological Technician					(1)	(1)	(1)	(1)
Rehabilitation and Therapy								
Inhalation Therapy Technician	6	100.0%	66.6%	SD				
Occupational Therapy Assistant	47	95.7%	91.3%	S				
Physical Therapy Assistant	11	100.0%	(1)	SD				
Technology								
Certified Laboratory Assistant (MLA, MLT)	143	99.3%	96.2%	S				
EEG Technician	2	100.0%	100.0%	S	0(2)			S
EKG Technician					2	100.0%	100.0%	S
Histologic Technician					2	100.0%	100.0%	SD
Optician	11	100.0%	36.4%	S				
Radiologic Technologist	5	100.0%	60.0%	0	114	93.0%	73.6%	SD
TOTALS	1375				1281			

* S-Shortage; SD-Supply=Demand; 0-Oversupply

(1) Data not available.

(2) Students withdrawn by parent hospitals prior to completion.

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TABLE II: STUDENT COMPLETIONS, PLACEMENT, AND DEMAND RATING

PROGRAM	TOTAL PROGRAM			
	STUDENT COMPLETIONS	PLACEMENT RATE	IN-STATE RETENTION RATE	DEMAND RATING*
Clerical				
Hospital Station Secretary	45	97.8%	100.0%	S
Medical Office Assistant	14	100.0%	100.0%	SD
Medical Record Technician	8	100.0%	(1)	SD
Medical Secretary	145	97.6%	100.0%	S
Nursing				
Nurse Aide	334	(1)	100.0%	SD
Nurse Anesthetist	59	100.0%	64.4%	S
Practical Nurse (LPN)	856	98.5%	95.1%	S
Professional Nurse (Assoc.-Diploma)	661	99.8%	84.8%	S
Surgical Technician	26	100.0%	96.2%	S
Personal and Community Health				
Child Development Technician	19	100.0%	92.3%	SD
Dental Assistant	86	97.7%	98.8%	S
Dental Hygienist	44	100.0%	88.6%	S
Food Service Supervisor	12	(1)	(1)	SD
Ophthalmic Technician	4	100.0%	100.0%	SD
Urological Technician				
Rehabilitation and Therapy				
Inhalation Therapy Technician	6	100.0%	66.6%	SD
Occupational Therapy Assistant	47	95.7%	91.3%	S
Physical Therapy Assistant	11	100.0%	(1)	SD
Technology				
Certified Laboratory Assistant (MLA, MLT)	143	99.3%	96.2%	S
EEG Technician	2	100.0%	100.0%	S
EKG Technician	2	100.0%	100.0%	S
Histologic Technician	2	100.0%	100.0%	SD
Optician	11	100.0%	100.0%	S
Radiologic Technologist	119	93.3%	73.6%	O
TOTALS	2656			

*S-Shortage; SD-Supply=Demand; O-Oversupply

(1) Data not available.

(2) Students withdrawn by parent hospitals prior to completion.

The Nursing category accounted for the greatest number of student completions in the hospitals and post-secondary education institutions. In post-secondary education institutions Nursing area student completions accounted for 57 percent of graduates in those institutions while Nursing area programs were slightly less than 90 percent of the total student completions in hospitals. The hospitals dominate this category essentially with their diploma nursing programs. The ratio of diploma graduates to associate graduates was greater than three to one, respectively.

Placement rates were generally quite high. The range was from a low of 93.3 percent for Radiologic Technologist to 100.0 percent in several categories. Although it would seem that these rates might indicate a demand rate, there was no clear means of confirming this. What might be considered an indicator of oversupply would be a rate somewhat lower than 95 percent. Some respondents reported students who simply did not desire to go immediately into employment; others found that a student would be unwilling to move outside his "home" region; or others were pregnant and not able to continue into a work area. The number of students in these situations would probably not exceed 5 percent under normal circumstances.

The in-state placement rate seems to indicate some interesting possibilities for analysis. First, occupational areas with brief training periods tend to have higher in-state retention rates. Second, when related to demand rating, occupational areas where extreme shortages exist or an oversupply exists tend to have lower in-state retention rates. It is apparently advantageous under the circumstances for some graduates to secure employment outside the state especially if salaries are competitive.

There was only one program where the supply of graduates exceeded a ready availability of openings.

This was in the area of Radiologic Technologist where a number of respondents indicated some difficulty in placing graduates. Some programs have already been reduced because of this.

Possibilities for Program Enlargement

An important part of any study of educational programs is the determination of student capacity. This study approached the question of capacity by requesting respondents to give the total number of students which could be graduated each year from each program. The response assumed no additional facilities or staff would be necessary to reach the maximum student completion figure. The 1968-1969 student completions were then subtracted from the maximum completions possible for each program to establish the number of additional openings available and the percent of the program output which was represented by this difference. Results of this computation are available in Table III.

A review of Allied Health Education programs for maximum output of students based on 1968-1969 estimates shows that short term training programs had some difficulty stating an absolute maximum. In most cases where a substantial part of a brief program would consist of on-the-job training the respondents declined to give a positive answer. Most training of this type could be repeated a number of times each year, as the need arises and students are available, but would not warrant increased expenses to make public recruiting announcements and set starting dates that would be firm. Many hospitals favor a relaxed policy which allows classes to form as groups of workers are hired in such areas as Hospital Station Secretary, Nurse Aide, and Surgical Technician.

The column representing maximum available capacity in Table III indicates some areas where

TABLE III: MAXIMUM CAPACITY AND ADDITIONAL CAPACITY OF PROGRAMS AVAILABLE; ACADEMIC YEAR 1968-1969

PROGRAM	POST-SECONDARY EDUCATION INSTITUTIONS			HOSPITALS AND RELATED ASSOCIATIONS		
	STUDENT COMPLETIONS	MAXIMUM ANNUAL COMPLETIONS	ADDITIONAL CAPACITY AVAI	STUDENT COMPLETIONS	MAXIMUM ANNUAL COMPLETIONS	ADDITIONAL CAPACITY AVAILABLE
Clerical						
Hospital Station Secretary	38	38	0.0%	7	(2)	(1)
Medical Office Assistant	14	16	12.5%			
Medical Record Technician	8	(1)	(1)			
Medical Secretary	145	271	46.5%			
Nursing						
Nurse Aide	36	(1)	(1)	298	(1)	(1)
Nurse Anesthetist				59	95	37.9%
Practical Nurse (LPN)	591	701	15.7%	265	317	16.4%
Professional Nurse (Assoc.-Diploma)	157	590	73.4%	504	783	35.6%
Surgical Technician				26	(1)	(1)
Personal and Community Health						
Child Development Technician	19	31	38.8%			
Dental Assistant	86	129	33.3%			
Dental Hygienist	44	45	2.2%			
Food Service Supervisor	12	16	25.0%			
Ophthalmic Technician				4	4	0.0%
Urological Technician					6	
Rehabilitation and Therapy						
Inhalation Therapy Technician	6	20	70.0%			
Occupational Therapy Assistant	47	54	13.0%			
Physical Therapy Assistant	11	18	38.9%			
Technology						
Certified Laboratory Assistant, (MLT, MLA)	143	166	13.9%			
EEG Technician	2	4	50.0%		2	
EKG Technician				2	5	60.0%
Histologic Technician				2	3	33.3%
Optician	11	14	21.4%			
Radiologic Technician	5	40	87.5%	114	162	34.6%

(1) Data not available.

(2) Reported capacity to train 250 per year if necessary.

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TABLE III: MAXIMUM CAPACITY AND ADDITIONAL CAPACITY OF PROGRAMS AVAILABLE; ACADEMIC YEAR 1968-1969

PROGRAM	TOTAL PROGRAM STUDENT COMPLETIONS	MAXIMUM ANNUAL COMPLETIONS	ADDITIONAL CAPACITY AVAILABLE
Clerical			
Hospital Station Secretary	45	(1)	(1)
Medical Office Assistant	14	16	12.5%
Medical Record Technician	8	(1)	(1)
Medical Secretary	145	271	46.5%
Nursing			
Nurse Aide	334	(1)	(1)
Nurse Anesthetist	59	95	37.9%
Practical Nurse (LPN)	856	1018	15.9%
Professional Nurse (Assoc.-Diploma)	661	1373	51.9%
Surgical Technician	26	(1)	(1)
Personal and Community Health			
Child Development Technician	19	31	38.8%
Dental Assistant	86	129	33.3%
Dental Hygienist	44	45	2.2%
Food Service Supervisor	12	16	25.0%
Ophthalmic Technician	4	4	0.0%
Urological Technician		6	
Rehabilitation and Therapy			
Inhalation Therapy Technician	6	20	70.0%
Occupational Therapy Assistant	47	54	13.0%
Physical Therapy Assistant	11	18	38.9%
Technology			
Certified Laboratory Assistant, (MLT, MLA)	143	166	13.9%
EEG Technician	2	6	66.6%
EKG Technician	2	5	60.0%
Histologic Technician	2	3	33.3%
Optician	11	14	21.4%
Radiologic Technician	119	202	45.0%

(1) Data not available.

(2) Reported capacity to train 250 per year if necessary.

additional training positions are currently available. It should be interpreted with care, however, since some programs are not very large at this time. It is an important figure in such areas as Medical Secretary (46.5%), Practical Nurse (15.9%), Dental Assistant (33.3%), Professional Nurse (51.9%), and Radiologic Technologist (45.0%). In these cases it represents a substantial number of places where additional recruitment efforts should be made; or less recruitment in the case of the Radiologic Technician where an oversupply probably exists within the state.

Some of the information from Tables II and III has been regrouped in Table IV to give a comparison with previous manpower information from the Minnesota Department of Employment Security. The selection of programs for this table was determined by the categories in the earlier manpower study. The hospital Station Secretary, Nurse Aide, and Surgical Technician programs were included even though they are apparently quite flexible with regard to the need for formal training experiences.

The programs included in Table IV show shortages for ten of the 13 areas when looking at the 1968-1969 student completions. The maximum capacity student completion for the same 13 areas show that five would still be deficient even if operating at capacity levels. Four other programs had no maximum capacity indicated; all four were short of the manpower demand in student completions for the academic year 1968-1969. Three programs had significant capacity for oversupply: Medical Secretary Nurse Anesthetist, and Radiologic Technologist. Occupational Therapy Assistant programs could apparently meet the demand for graduates.

A consistent comment regarding enlarging programs was that additional students would depend upon the size of facilities available. This was especially true of programs which require some on-the-job

experiences to complete training. In some instances the size of programs would depend upon the number of qualified hospitals with which post-secondary institutions could affiliate to provide this training. Some programs are currently at the limit of student enrollment since the number of affiliate hospitals within a reasonable geographic area is limited.

TABLE IV: COMPARISON OF ALLIED HEALTH EDUCATION STUDY WITH MANPOWER NEEDS

PROGRAM	AVERAGE ANNUAL MANPOWER DEMAND 1966-1971(2)	STUDENT COMPLETIONS 1968-1969	MAXIMUM CAPACITY OF PROGRAM
EEG Technician	10	2	6
EKG Technician	11	2	5
Hospital Station Secretary	310	45	(1)
Inhalation Therapy Asst.	23	6	20
Medical Record Technician	41	8	(1)
Medical Secretary	126	145	271
Nurse Aide	6154(3)	334	(1)
Nurse Anesthetist	58	59	95
Occupational Therapy Assistant	49	47	54
Physical Therapy Assistant	45	11	18
Practical Nurse (LPN)	1115	856	1018
Radiologic Technologist	88	119	202
Surgical Technician	58	26	(1)

(1) Data not available.
(2) Manpower estimates from Minnesota Health Service Survey. Minnesota Department of Employment Security, May, 1967.
(3) Includes orderlies.

Current Plans for Enlarging and Adding Programs

A number of responses from the Allied Health Education Survey indicated planned changes in status over the next few years. These responses have been grouped into Tables V and VI of this report.

Table V lists additional new programs which may be offered within the next three years. The list should not be interpreted to mean that these are the only programs which will be added. It does, however, give an indication of current planning and provides insight into the areas where some institutions believe their programs can be of greater service to the Allied Health Education field.

A total of 17 additional programs are currently being planned. Five new programs will be in state junior colleges; two in state colleges; one in a private junior college; six in area vocational-technical schools; and three in the Veterans' Administration Hospital. Most programs will be added in areas where critical shortages exist.

TABLE V: ADDITIONAL NEW PROGRAMS IN MINNESOTA ALLIED HEALTH EDUCATION

PROGRAM	INSTITUTION(3)	STARTING DATE	EXPECTED CAPACITY
Dental Hygiene	111	Fall 1969	24
Medical Assistant	111	Fall 1969	12
Medical Secretary	105	Fall 1969	20
Occupational Therapy Assistant	101	Fall 1969	25
Registered Professional Nurse (Assoc.)	110	Fall 1970	(1)
Dental Hygiene	202	Fall 1970	(1)
Rehabilitation Counselor Aide	204	(2)	20
Mental Health Technician	302	Fall 1969	(1)
Child Development Assistant	539	Fall 1969	(1)
Dental Assistant	513	Fall 1969	40
Food Service Supervisor	517	Fall 1969	22
Medical Laboratory Assistant	521	1970	(1)
Nurse Aide	539	February 1970	(1)
Psychiatric Technician	539	January 1970	(1)
Dental Hygiene	695	Planning Stage	
Laboratory Technician	695	Planning Stage	
Nurse Anesthetist	695	July 1970	(1)

(1)Data not available. (2)Proposal has been prepared for federal funding. Program will begin on an experimental basis when funds are available. (3)See Appendix C.

Table VI provides information on programs which are being enlarged to handle more students. There are four programs in area vocational schools which will have increased student completions by the end of the academic year 1969-1970. Three of the four are Practical Nurse (LPN) programs which should increase the capacity in that area by 95 students. The fourth is a program for Occupational Therapy Assistant where 12 additional students may be added.

Another concern in observing programs in a specialized field should be the possible numbers of programs outside the field which could be considered related. There was one such program at Rochester State Junior College. The Chemical Laboratory Technician program is closely related to the Certified Laboratory Assistant/Technician programs but does not direct all of its training of students toward employment within an Allied Health area. It may be of interest to note, however, that five students were enrolled and there were two who graduated during the academic year 1968-1969.

In addition one hospital reported training in five programs in the survey, but did not report details since the programs were in-service training only. The programs reported were: Cytotechnologist, Histologic Technician, EEG and EKG Technicians, and Nurse Aide. There are probably more programs like these which were not reported for similar reasons.

Another program which should be considered is conducted as a correspondence course developed by the American Dietetic Association and conducted by the Nutrition Unit of the Minnesota Department of Health. This course in Food Service Supervision is intended to offer training to individuals in hospitals, clinics, and nursing homes within remote rural areas of the state. There were 29 persons

enrolled in this course during the academic year with 29 students completing the training.

TABLE VI: EXPANSION OF ONGOING PROGRAMS

PROGRAM	INSTITUTION*	BEGINNING DATE	INCREASE	NEW CAPACITY
LPN	511	Fall 1969	15	45
LPN	517	Fall 1969	20	80
Occupational Therapy Asst.	505	Fall 1969	12	28
LPN	505	Fall 1969	60	100

*See Appendix C for codes.

Additional Comments of Respondents

A section of the study questionnaire requested any additional comments from respondents concerning Allied Health Education and related experiences. This report provides several of these comments for others to know and use in the process of planning for Allied Health and Paramedical Education.

Some representative comments follow:

- "Two of the largest hospitals in the Rochester, Minnesota, area have floors closed due to the lack of adequate trained Practical Nurses."
- "Demand is high for male special procedure and administrative technicians in the paramedical area."
- "One of the greatest problems in Dental Hygiene education is the lack of trained faculty for new schools."
- "Because of shortage of workers in the health fields, the one-year program in Practical Nursing is helping meet a need and it also provides a good background for persons who wish to specialize as obstetrical or surgical technicians."

- "An increasing percentage of qualified candidates for admission seek/need financial assistance to meet costs related to educational expenses in pursuing nursing as a career goal. It seems imperative that federal/state loan and scholarship monies be made available to these qualified students."

- "Too many private hospitals are unwilling to participate in training programs."

- "The costs of hospital care being what they are, it is questionable . . . whether training programs should be paid for out of income derived from patients. The Department of Health, Education, and Welfare's attitude toward justifying hospital care costs makes one reluctant to engage in a training program which cannot be justified, at least in part, by "on-the-job" instruction so that students may repay a part of the time and dollars expended for their benefit. This means looking for extra hospital sources for funds for training, and I do not look forward to government funding and the accompanying regulations and strictures."

- "Most theory should be given in vocational training programs or Associate of Arts Degree programs. Hospitals are one of this nation's largest industries. This means it employs thousands of people and should not be required to invest millions of its patients' dollars in educational programs that should be offered through our normal school systems. Hospitals can coordinate and cooperate with vocational and college training programs by offering clinical experience and training where equipment costs become prohibitive."

APPENDIX A

MINNESOTA ALLIED HEALTH EDUCATION PROGRAMS, 1968-1969

Explanation of Appendix A Entries

Institutions: Institutions are coded into a three digit number to provide brief reference to specific schools. All 100 series schools are state supported two-year colleges. The 200 series represents public senior colleges including the University of Minnesota. The 300 numbers represent private junior colleges. Numbers in the 500 series are assigned to area vocational-technical schools and 600 series numbers indicate hospital or related associations' training programs. Specific number assignments are provided at the end of this appendix.

Enrollments: The entries for the enrollments row are head count figures of students enrolled in a program during the 1968-1969 academic school year. Entries for a single institution should be read down the column.

Length of Program: This entry refers to the number of weeks of training required to complete the program in each institution.

Student Completions: This row lists the number of students who completed the specified program during the year 1968-1969.

Placements: Gives the number of students from each school who began work in the health field area within 30 days after graduation.

Maximum Graduates Per Year: This row gives the specific number of possible graduates per year within an institution without additional facilities or faculty.

Demand Estimate: Represents the requests for graduates of a program as known by the chief administrators or director responding.

Code:
S-Shortage
SD-Supply=Demand
O-Oversupply

APPENDIX A

MINNESOTA ALLIED HEALTH EDUCATION PROGRAMS, 1968-69

PROGRAM: CERTIFIED LABORATORY ASSISTANT (MEDICAL LABORATORY ASSISTANT/TECHNICIAN)

						TOTAL	
INSTITUTIONS:	304	503	517	525	543	5	
ENROLLMENTS:							
Total	28	48	24	32	44	176	
(Male/Female)	0/28	0/48	2/22	0/32	0/44	2/174	
LENGTH OF PROGRAM:	72	50	52	48	52		
MEDIAN LENGTH OF PROGRAM:							52
STUDENT COMPLETIONS:	11	47	21	20	44	143	
PLACEMENTS:							
Total	11	47	21	19	44	142	
(In Minn./Out of Minn.)	10/1	47/0	18/3	18/1	43/1	127/5	
PLACEMENT RATE:							99.3%
IN-STATE RETENTION RATE:							96.2%
MAXIMUM COMPLETIONS PER YEAR:	12	48	24	32	50	166	
ADDITIONAL CAPACITY AVAILABLE:							13.9%
DEMAND ESTIMATE:	SD	S	O	S	SD		
DEMAND RATE:	Slight Shortage.						

PROGRAM: CHILD DEVELOPMENT TECHNICIAN

			TOTAL	
INSTITUTIONS:	103	304	2	
ENROLLMENTS:				
Total	34	25	59	
(Male/Female)	2/32	0/25	2/57	
LENGTH OF PROGRAM:	72	72		
MEDIAN LENGTH OF PROGRAM:				72
STUDENT COMPLETIONS:	13	6	19	
PLACEMENTS:				
Total	13	6	19	
(In Minn./Out of Minn.)	12/1		12/1	
PLACEMENT RATE:				100%
IN-STATE RETENTION RATE:				92.3%
MAXIMUM ENROLLMENT OF PROGRAM:	16	15	31	
ADDITIONAL CAPACITY AVAILABLE:				38.8%
DEMAND ESTIMATE:	SD	SD		
DEMAND RATE:	Supply equals demand.			

PROGRAM: DENTAL ASSISTANT

						TOTAL	
INSTITUTIONS:	111	202	212	511	525	5	
ENROLLMENTS:							
Total	18	18	42	32	15	125	
(Male/Female)	0/18	0/18	0/42	0/32	0/15	0/125	
LENGTH OF PROGRAM:	40	30	44	36	38		
	MEDIAN LENGTH OF PROGRAM:						38
STUDENT COMPLETIONS:	8	18	32	18	10	86	
PLACEMENTS:							
Total	8	18	32	17	9	84	
(In Minn./Out of Minn.)	8/0	18/0	31/1	17/0	9/0	83/1	
	PLACEMENT RATE:						97.7%
	IN-STATE RETENTION RATE:						98.8%
MAXIMUM COMPLETIONS PER YEAR:	24	25	32	32	16	129	
	ADDITIONAL CAPACITY AVAILABLE:						33.3%
DEMAND ESTIMATE:	S	SD	S	SD	S		
	DEMAND RATE: Shortage.						

PROGRAM: DENTAL HYGIENIST

		TOTAL	
INSTITUTIONS:	212	1	
ENROLLMENTS:			
Total	104	104	
(Male/Female)	1/103	1/103	
LENGTH OF PROGRAM:	66		
	MEDIAN LENGTH OF PROGRAM:		66
STUDENT COMPLETIONS:	44	44	
PLACEMENTS:			
Total	44	44	
(In Minn./Out of Minn.)	39/5	39/5	
	PLACEMENT RATE:		100%
	IN-STATE RETENTION RATE:		88.6%
MAXIMUM COMPLETIONS PER YEAR:	45	45	
	ADDITIONAL CAPACITY AVAILABLE:		2.2%
DEMAND ESTIMATE:	S		
	DEMAND RATE: Shortage.		

PROGRAM: ELECTROENCEPHALOGRAPH TECHNICIAN (EEG)

			TOTAL
INSTITUTIONS:	212	695	2
ENROLLMENTS:			
Total	2		2
(Male/Female)	0/2		0/2
LENGTH OF PROGRAM:	12	24	
	MEDIAN LENGTH OF PROGRAM		18
STUDENT COMPLETIONS:	2		2
PLACEMENTS:			
Total	2		2
(In Minn./Out of Minn.)	2/0		2/0
	PLACEMENT RATE:		100%
	IN-STATE RETENTION RATE:		100%
MAXIMUM COMPLETIONS PER YEAR:	4	2	6
	ADDITIONAL CAPACITY AVAILABLE:		66.6%
DEMAND ESTIMATE:	SD	S	
	DEMAND RATE: Slight Shortage.		

PROGRAM: ELECTROCARDIOGRAPH TECHNICIAN (EKG)

		TOTAL
INSTITUTIONS:	601	1
ENROLLMENTS:		
Total	2	2
(Male/Female)	0/2	0/2
LENGTH OF PROGRAM:		
STUDENT COMPLETIONS:	2	2
PLACEMENTS:		
Total	2	2
(In Minn./ Out of Minn.)	2/0	2/0
	PLACEMENT RATE:	100%
	IN-STATE RETENTION RATE:	100%
MAXIMUM ENROLLMENT OF PROGRAM:	5	5
	ADDITIONAL CAPACITY AVAILABLE:	60%
DEMAND ESTIMATE:	S	
	DEMAND RATE: Shortage.	

PROGRAM: FOOD SERVICE SUPERVISOR

		TOTAL
INSTITUTIONS:	503	1
ENROLLMENTS:		
Total	15	15
(Male/Female)	0/15	0/15
LENGTH OF PROGRAM:	60	
MEDIAN LENGTH OF PROGRAM:	60	
STUDENT COMPLETIONS:	12	12
PLACEMENTS:		
Total	(1)	(1)
(In Minn./Out of Minn.)	(1)	(1)
PLACEMENT RATE:	(1)	
IN-STATE RETENTION RATE:	(1)	
MAXIMUM COMPLETIONS PER YEAR:	16	
ADDITIONAL CAPACITY AVAILABLE:	25%	
DEMAND ESTIMATE:	SD	
DEMAND RATE:	Supply Equals Demand.	

PROGRAM: HISTOLOGIC TECHNICIAN

		TOTAL
INSTITUTIONS:	661	1
ENROLLMENTS:		
Total	2	2
(Male/Female)	0/2	0/2
LENGTH OF PROGRAM:	52	
MEDIAN LENGTH OF PROGRAM:	52	
STUDENT COMPLETIONS:	2	2
PLACEMENTS:		
Total	2	2
(In Minn./Out of Minn.)	2/0	2/0
PLACEMENT RATE:	100%	
IN-STATE RETENTION RATE:	100%	
MAXIMUM COMPLETIONS PER YEAR:	3	
ADDITIONAL CAPACITY AVAILABLE:	33.3%	
DEMAND ESTIMATE:	SD	
DEMAND RATE:	Supply Equals Demand.	

(1) Data not available.

PROGRAM: HOSPITAL STATION SECRETARY
(SECRETARY-TRANSCRIBER UNIT)

			TOTAL
INSTITUTIONS:	531	681	2
ENROLLMENT:			
Total	38	7	45
(Male/Female)	0/38	0/7	0/45
LENGTH OF PROGRAM:	18	4	
	MEDIAN LENGTH OF PROGRAM:		11
STUDENT COMPLETIONS:	38	7	45
PLACEMENTS:			
Total	38	6	44
(In Minn./Out of Minn.)	(1)	6/0	(1)
	PLACEMENT RATE:		97.8%
	IN-STATE RETENTION RATE:		100%
MAXIMUM ENROLLMENT	38	(2)	
	ADDITIONAL CAPACITY AVAILABLE:		0.0%
DEMAND ESTIMATE:	S	SD	
	DEMAND RATE:	Slight Shortage.	

PROGRAM: INHALATION THERAPY TECHNICIAN

		TOTAL
INSTITUTIONS:	304	1
ENROLLMENTS:		
Total	27	27
(Male/Female)	0/27	0/27
LENGTH OF PROGRAM:	72	
	MEDIAN LENGTH OF PROGRAM:	72
STUDENT COMPLETIONS:	6	6
PLACEMENTS:		
Total	6	6
(In. Minn./Out of Minn.)	4/2	4/2
	PLACEMENT RATE:	100%
	IN-STATE RETENTION RATE:	66.6%
MAXIMUM COMPLETION PER YEAR:	20	
	ADDITIONAL CAPACITY:	70%
DEMAND ESTIMATE:	SD	
	DEMAND RATE:	Supply Equals Demand.

(1) Data not available.
(2) Reported the capacity to train 250 students if necessary.

PROGRAM: MEDICAL ASSISTANT
(MEDICAL OFFICE ASSISTANT)

		TOTAL
INSTITUTIONS:	551	1
ENROLLMENTS:		
Total	14	14
(Male/Female)	0/14	0/14
LENGTH OF PROGRAM:	6	
	MEDIAN LENGTH OF PROGRAM: 6	
STUDENT COMPLETIONS:	14	14
PLACEMENTS:		
Total	14	
(in Minn./Out of Minn.)	14/0	
	PLACEMENT RATE: 100%	
	IN-STATE RETENTION RATE: 100%	
MAXIMUM ENROLLMENT OF PROGRAM:	16	
	ADDITIONAL CAPACITY AVAILABLE: 12.5%	
DEMAND ESTIMATE:	SD	
	DEMAND RATE: Supply Equals Demand.	

(1)Data not available.

PROGRAM: MEDICAL RECORD TECHNICIAN

		TOTAL
INSTITUTIONS:	304	1
ENROLLMENTS:		
Total	19	19
Male/Female)	0/19	0/19
LENGTH OF PROGRAM:	72	
	MEDIAN LENGTH OF PROGRAM: 72	
STUDENT COMPLETIONS:	8	8
PLACEMENTS:		
Total	8	8
(In Minn./Out of Minn.)	(1)	
	PLACEMENT RATE: 100%	
	IN-STATE RETENTION RATE: (1)	
MAXIMUM COMPLETIONS PER YEAR:	(1)	
	ADDITIONAL CAPACITY AVAILABLE: (1)	
DEMAND ESTIMATE:	SD	
	DEMAND RATE: Supply Equals Demand.	

PROGRAM: MEDICAL SECRETARY

													TOTAL	
INSTITUTIONS:	108	115	113	111	206	503	505	517	527	533	539	543	12	
ENROLLMENTS:														
Total	12	12	30	2	20	16	27	11	19	30	21	18	218	
(Male/Female)	0/12	0/12	0/30	0/2	0/20	0/16	0/27	0/11	0/19	0/30	0/21	0/18	0/218	
LENGTH OF PROGRAM:	46	66	36	36	72	44	46	37	44	46	40	36		
MEDIAN LENGTH OF PROGRAM:														44
STUDENT COMPLETIONS:	8	(2)	12	2	3	15	21	11	18	21	16	18	145	
PLACEMENTS:														
Total	7	(2)	12	2	3	14	21	11	17	(1)	16	18	(1)	
(In Minn./Out of Minn.)	7/0	(2)	12/0	2/0	3/0	14/0	21/0	11/0	17/0	(1)	16/0	18/0	(1)	
PLACEMENT RATE:														97.6%
IN-STATE RETENTION RATE:														100%
MAXIMUM COMPLETIONS PER YEAR:	20	12	24	10	30	20	40	20	20	30	20	25	271	
ADDITIONAL CAPACITY AVAILABLE:														46.5%
DEMAND ESTIMATE:	SD	SD	S	S	S	S	SD	(1)	SD	SD	SD	SD		
DEMAND RATE: Slight Shortage.														

(1) Data not available.

(2) New program; no data available at time of report.

PROGRAM: NURSE AIDE (NURSE ASSISTANT)

			POST-SECONDARY EDUCATION TOTAL					HOSPITAL OR RELATED ASSN. TOTAL		GRAND TOTAL	
INSTITUTIONS:	511	529	2	601	611	661	681	4		6	
ENROLLMENTS:											
Total	25	11	36	169	24	44	65	302		338	
(Male/Female)	2/23	(1)	(1)	75/94	0/24	6/38	5/60	86/216		(1)	
LENGTH OF PROGRAM:	6	8		2	5	2	4		3		5
MEDIAN LENGTH OF PROGRAM:			7								
STUDENT COMPLETIONS:	25	11	36	169	24	44	61	298		334	
PLACEMENTS:											
Total	10	(1)	(1)	169	24	44	61	298		(1)	
(In Minn./Out of Minn.)	10/0	(1)	(1)	169/0	24/0	44/0	61/0	298/0		(1)	
PLACEMENT RATE:			(1)						100%		(1)
IN-STATE RETENTION RATE:			100%						100%		100%
MAXIMUM COMPLETIONS PER YEAR:			(1)		48		20	(1)		(1)	
ADDITIONAL CAPACITY AVAILABLE:											(1)
DEMAND ESTIMATE:	S	SD		SD	SD	SD	SD				
DEMAND RATE: Supply Equals Demand.											

(1) Data not available.

PROGRAM: NURSE ANESTHETIST

									TOTAL	
INSTITUTIONS:	601	607	623	631	640	648	661	681	8	
ENROLLMENTS:										
Total	3	2	2	60	31	13	7	6	124	
(Male/Female)	3/0	0/2	2/0	31/29	10/21	6/7	1/6	4/2	57/67	
LENGTH OF PROGRAM	104	78	84	104	78	78	68	78		
MEDIAN LENGTH OF PROGRAM:										78
STUDENT COMPLETIONS:		2	1	30	11	8	4	3	59	
PLACEMENTS:										
Total		2	1	30	11	8	4	3	59	
(In Minn./Out of Minn.)	(1)	2/0	1/0	14/16	9/2	6/2	4/0	2/1	38/21	
PLACEMENT RATE:										100%
IN-STATE RETENTION RATE:										64.4%
MAXIMUM COMPLETIONS PER YEAR:	6	2	1	30	35	10	8	3	95	
ADDITIONAL CAPACITY AVAILABLE:										37.9%
DEMAND ESTIMATE:	SD	S	S	S	S	S	S	S		
DEMAND RATE: Shortage.										

(1) Data not available.

PROGRAM: OCCUPATIONAL THERAPY ASSISTANT

				TOTAL	
INSTITUTIONS:	304	505	517	3	
ENROLLMENTS:					
Total	49	16	13	78	
(Male/Female)	0/49	0/16	0/13	0/78	
LENGTH OF PROGRAM	72	46	28		
	MEDIAN LENGTH OF PROGRAM:				46
STUDENT COMPLETIONS:	22	12	13	47	
PLACEMENTS:					
Total	22	12	11	45	
(In Minn./Out of Minn.)	(1)	12/0	9/2	21/2	
	PLACEMENT RATE:				95.7%
	IN-STATE RETENTION RATE:				91.3%
MAXIMUM COMPLETIONS PER YEAR:	24	15	15	54	
	ADDITIONAL CAPACITY AVAILABLE:				13%
DEMAND ESTIMATE:	SD	S	S		
	DEMAND RATE:		Shortage.		

(1) Data not available.

PROGRAM: OPHTHALMIC TECHNICIAN

		TOTAL	
INSTITUTIONS:	698	1	
ENROLLMENTS:			
Total	6	6	
(Male/Female)	0/6	0/6	
LENGTH OF PROGRAM:	88		
	MEDIAN LENGTH OF PROGRAM:		88
STUDENT COMPLETIONS:	4	4	
PLACEMENTS:			
Total	4	4	
(In Minn./Out of Minn.)	4/0	4/0	
	PLACEMENT RATE:		100%
	IN-STATE RETENTION RATE:		100%
MAXIMUM COMPLETIONS PER YEAR:	4	4	
	ADDITIONAL CAPACITY AVAILABLE:		0.0%
DEMAND ESTIMATE:	SD		
	DEMAND RATE:	Supply Equals Demand.	

PROGRAM: OPTICIAN (OPTICAL TECHNOLOGY)

		TOTAL
INSTITUTIONS:	519	1
ENROLLMENTS:		
Total	11	11
(Male/Female)	11/0	11/0
LENGTH OF PROGRAM:	38	
	MEDIAN LENGTH OF PROGRAM:	38
STUDENT COMPLETIONS:	11	11
PLACEMENTS:		
Total	11	11
(In Minn./Out of Minn.)	4/7	4/7
	PLACEMENT RATE:	100%
	IN-STATE RETENTION RATE:	36.4%
MAXIMUM COMPLETIONS PER YEAR:	14	14
	ADDITIONAL CAPACITY AVAILABLE:	21.4%
DEMAND ESTIMATE:	S	
	DEMAND RATE:	Shortage.

PROGRAM: PHYSICAL THERAPY ASSISTANT

		TOTAL
INSTITUTIONS:	304	1
ENROLLMENTS:		
Total	33	33
(Male/Female)	2/31	2/31
LENGTH OF PROGRAM:	72	
	MEDIAN LENGTH OF PROGRAM:	72
STUDENT COMPLETIONS:	11	11
PLACEMENTS:		
Total	11	11
(In Minn./Out of Minn.)	(1)	
	PLACEMENT RATE:	100%
	IN-STATE RETENTION RATE:	(1)
MAXIMUM COMPLETIONS PER YEAR:	18	18
	ADDITIONAL CAPACITY AVAILABLE:	38.9%
DEMAND ESTIMATE:	SD	
	DEMAND RATE:	Supply Equals Demand.

(1) Data not available.

PROGRAM: PRACTICAL NURSE (LPN)

INSTITUTIONS:	108	503	505	507	509	511	515	517	519(2)	521	529	531	539	541	543
ENROLLMENTS:															
Total	27	22	46	24	16	30	16	62	20	32	26	160	30	26	38
(Male/Female)	3/24	0/22	1/45	0/24	0/16	0/30	0/16	0/62	0/20	0/32	0/26	0/160	0/30	0/26	0/38
LENGTH OF PROGRAM:	46	50	46	50	48	45	48	46	46	46	45	46	46	48	52
	MEDIAN LENGTH OF PROGRAM:														
STUDENT COMPLETIONS:	23	22	39	21	14	29	16	55	18	29	26	133	30	26	38
PLACEMENTS:															
Total	22	20	39	21	14	28	16	55	18	29	26	133	30	20	38
(In Minn./Out of Minn.)	21/1	20/0	36/3	21/0	14/0	28/0	16/0	51/4	18/0	29/0	24/2	(1)	29/1	19/1	(1)
	PLACEMENT RATE:														
	IN-STATE RETENTION RATE:														
MAXIMUM COMPLETIONS PER YEAR:	25	22	40	24	16	30	20	62	20	32	64	160	30	30	40
	ADDITIONAL CAPACITY AVAILABLE:														
DEMAND ESTIMATE:	SD	S	S	S	S	S	S	S	S	S	S	S	S	S	S
	DEMAND RATE: Shortage.														

(continued on next page)

(1) Data not available.
(2) Transferred from Virginia School of Practical Nursing 1969-70 school year.
(3) Maximum determined by size of B.A. Nursing Program using same facilities.
(4) Based upon available data.

PROGRAM: PRACTICAL NURSE (LPN)

-continued-

				POST-SEC. EDUCATION TOTAL								
INSTITUTIONS:	547	551	553	18	607	611	621	634	646	652	665	683
ENROLLMENTS:												
Total	20	36	20	651	50	50	21	16	18	30	18	95
(Male/Female)	0/20	0/36	0/20	4/647	0/50	0/50	0/21	0/16	0/18	0/30	0/18	0/95
LENGTH OF PROGRAM:	51	48	48		48	48	50	50	50	47	48	50
	MEDIAN LENGTH OF PROGRAM: 47											
STUDENT COMPLETIONS:	19	33	20	591	41	38	20	15	14	27	15	95
PLACEMENTS:												
Total	17	33	0	579	41	37	20	15	14	27	15	95
(In Minn./Out of Minn.)	17/0	33/0	19/1	395/13	40/1	36/1	18/2	14/1	14/0	23/4	13/2	86/9
	PLACEMENT RATE: 98.0%											
	IN-STATE RETENTION RATE: 96.8%(4)											
MAXIMUM COMPLETIONS PER YEAR:	20	36	30	701	36(3)	50	22	16	18	30	20	125
	ADDITIONAL CAPACITY AVAILABLE: 15.7%											
DEMAND ESTIMATE:	S	S	SD		S	SD	S	S	S	S	S	SD

(1) Data not available.
(2) Transferred from Virginia School of Practical Nursing 1969-70 school year.
(3) Maximum determined by size of B.A. Nursing Program using same facilities.
(4) Based upon available data.

-continued-

PROGRAM: PRACTICAL NURSE (LPN)

	HOSPITAL OR RELATED ASSN. TOTAL		GRAND TOTAL	
INSTITUTIONS:	8		26	
ENROLLMENTS:				
Total	298		949	
(Male/Female)	0/298		4/945	
LENGTH OF PROGRAM:				
	MEDIAN LENGTH OF PROGRAM:	49		48
STUDENT COMPLETIONS:	265		856	
PLACEMENTS:				
Total	264		843	
(In Minn./Out of Minn.)	244/20		639/33	
	PLACEMENT RATE:	99.6%		98.5%
	IN-STATE RETENTION RATE:	92.4%		95.1%
MAXIMUM COMPLETIONS PER YEAR:	317		1018	
	ADDITIONAL CAPACITY AVAILABLE:	16.4%		15.9%

PROGRAM: RADIOLOGIC TECHNOLOGIST (X-RAY TECHNICIAN)*

	212	POST-SECONDARY EDUCATION TOTAL		606	607	609	611	613	615	623	627	635
INSTITUTIONS:		1										
ENROLLMENTS:												
Total	25	25		2	9	10	9	6	14	12	9	8
(Male/Female)	3/22	3/22		0/2	0/9	0/10	1/8	0/6	0/14	0/12	0/9	2/6
LENGTH OF PROGRAM:	104	104		104	104	100	104	104	104	104	104	104
	MEDIAN LENGTH OF PROGRAM:		104									
STUDENT COMPLETIONS:	5	5		2	6	4	2	1	7	5	1	6
PLACEMENTS:												
Total	5	5		2	5	4	2	1	5	5	1	6
(In Minn./Out of Minn.)	3/2	3/2		1/1	4/1	4/0	1/1	1/0	3/2	5/0	1/0	6/0
	PLACEMENT RATE:		100%									
	IN-STATE RETENTION RATE:		60%									
MAXIMUM COMPLETIONS PER YEAR:	40	40		6	10	6	6	3	9	6	10	6
	ADDITIONAL CAPACITY AVAILABLE:		87.5%									
DEMAND ESTIMATE:	0			SD	SD	SD	SD	SD	0	SD	0	0
	DEMAND RATE: Slight Oversupply.											

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* Moorhead State College offers the first 14 weeks of classroom instruction for Bethesda Hospital, Crookston; Lake Region Hospital, Fergus Falls; Northwestern Clinic, Crookston; Northwestern Hospital, Thief River Falls; St. Ansgar Hospital, Moorhead; St. Francis Hospital, Crookston; St. Gabriel Hospital, Little Falls; and St. Mary's Hospital, Detroit Lakes; in addition, four hospitals in North Dakota.

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PROGRAM: RADIOLOGIC TECHNOLOGIST (X-RAY TECHNICIAN)*

INSTITUTIONS:	648	649	657	661	669	681	687	689	695	655	645	641
ENROLLMENTS:												
Total	16	4	15	19	10	17	7	7	25	8	16	12
(Male/Female)	1/15	0/4	2/13	4/15	2/8	2/15	0/7	2/5	4/21	0/8	1/15	4/8
LENGTH OF PROGRAM	104	104	104	104	104	104	104	104	104	100	104	104
STUDENT COMPLETIONS:	8	2	7	11	6	7	4	8	9	4	8	6
PLACEMENTS:												
Total	8	2	6	11	6	6	4	8	6	4	8	6
(In Minn./Out of Minn.)	8/0	2/0	5/1	3/8	5/1	5/1	3/1	5/3	5/1	2/2	3/5	6/0
MAXIMUM COMPLETIONS PER YEAR:	10	2	8	11	6	10	6	16	12	4	10	6
DEMAND ESTIMATE:	SD	SD	SD	0	0	0	SD	SD	SD	SD	SD	SD

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PROGRAM: RADIOLOGIC TECHNOLOGIST (X-RAY TECHNICIAN)*

	HOSPITAL OR RELATED ASSOCIATION TOTAL		GRAND TOTALS	
INSTITUTIONS:	21		22	
ENROLLMENTS:				
Total	235		260	
(Male/Female)	25/210		28/232	
LENGTH OF PROGRAM:				
	MEDIAN LENGTH OF PROGRAM:	104		104
STUDENT COMPLETIONS:	114		119	
PLACEMENTS:				
Total	106		111	
(In Minn./Out of Minn.)	78/28		81/30	
	PLACEMENT RATE:	93.0%		93.3%
	IN-STATE RETENTION RATE:	73.6%		73.0%
MAXIMUM COMPLETIONS PER YEAR:	162		202	
	ADDITIONAL CAPACITY AVAILABLE:	34.6%		45.0%

PROGRAM: REGISTERED PROFESSIONAL NURSE (RN)(Associate and Diploma)

				POST-SECONDARY EDUCATION TOTAL							
INSTITUTION:	106	113	304	3	601	603	615	627	635	639	643
ENROLLMENT:											
Total	75	204	322	601	242	157	120	125	140	140	71
(Male/Female)	11/64	10/194	11/311	32/569	2/240	9/148	0/120	0/125	0/140	0/140	0/71
LENGTH OF PROGRAM:	72	77	72		117	108	105	105	111	108	142
	MEDIAN LENGTH OF PROGRAM:			72							
STUDENT COMPLETIONS:	30	(2)	127	157	74	39	33	32	41	40	17
PLACEMENTS:											
Total	30	(2)	127	157	73		33	32	41	40	17
(In Minn./Out of Minn.)	29/1	(2)	(1)	29/1	68/5		27/6	27/5	34/7	30/10	16/1
	PLACEMENT RATE:			100%							
	IN-STATE RETENTION RATE:			96.7%							
MAXIMUM ENROLLMENT OF PROGRAM:	40	370	180	590	80	60	130	48	135	60	24
	ADDITIONAL CAPACITY AVAILABLE:			73.4%							
DEMAND ESTIMATE:	SD	S	SD		S	S	S	S	SD	S	SD
	DEMAND RATE:		Shortage								

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(1) Data not available.
(2) New program; data not available.

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PROGRAM: REGISTERED PROFESSIONAL NURSE (RN)(Associate and Diploma)

					HOSPITAL OR RELATED ASSOC. TOTAL		GRAND TOTAL	
INSTITUTIONS:	648	657	689	674	11		14	
ENROLLMENT:								
Total	220	148	174	184	1721		2322	
(Male/Female)	0/220	18/130	0/174	4/180	33/1688		65/2257	
LENGTH OF PROGRAM:	118	121	120	124				
	MEDIAN LENGTH OF PROGRAM:					117		110
STUDENT COMPLETIONS:	66	46	64	52	504		661	
PLACEMENTS:								
Total	66	46	64	52	464			
(In Minn./Out of Minn.)	58/8	42/4	48/16	40/12	390/74			
	PLACEMENT RATE:					99.8%		99.8%
	IN-STATE RETENTION RATE:					84.1%		84.8%
MAXIMUM ENROLLMENT OF PROGRAM:	70	46	70	60	783		1373	
	ADDITIONAL CAPACITY AVAILABLE:					35.6%		51.9%
DEMAND ESTIMATE:	SD	S	SD	S				

PROGRAM: SURGICAL TECHNICIAN

	611	681	695	TOTAL
INSTITUTIONS:				3
ENROLLMENT:				
Total	9	15	3	27
(Male/Female)	2/7	3/12	1/2	6/21
LENGTH OF PROGRAM:	12	6	24	
STUDENT COMPLETIONS:	9	15	2	26
PLACEMENTS:				
Total	9	15	2	26
(In Minn./Out of Minn.)	8/1	15/0	2/0	25/1
MAXIMUM COMPLETIONS PER YEAR:	10		4	(1)

MEDIAN LENGTH OF PROGRAM: 12

PLACEMENT RATE: 100%

IN-STATE RETENTION RATE: 96.2%

ADDITIONAL CAPACITY AVAILABLE: (1)

DEMAND ESTIMATE: SD S (1)

DEMAND RATE: Slight Shortage.

(1) Data not available.

PROGRAM: UROLOGICAL TECHNICIAN

	695	TOTAL
INSTITUTIONS:		1
ENROLLMENT:		
Total	4	4
(Male/Female)	4/0	4/0
LENGTH OF PROGRAM:	52	
STUDENT COMPLETIONS:	(1)	(1)
PLACEMENTS:		
Total	(1)	(1)
(In Minn./Out of Minn.)	(1)	(1)
MAXIMUM COMPLETIONS PER YEAR	6	6

MEDIAN LENGTH OF PROGRAM: 52

DEMAND ESTIMATE: SD

DEMAND RATE: Supply Equals Demand.

APPENDIX B

ALLIED HEALTH EDUCATION IN
MINNESOTA, 1968-1969, BY SYSTEM

APPENDIX B

ALLIED HEALTH EDUCATION IN MINNESOTA, ACADEMIC YEAR 1968-1969, BY SYSTEM

PROGRAM	INSTITUTION	MEDIAN LENGTH (WEEKS)	ENROLLMENT	STUDENT COMPLETIONS	PLACEMENT RATE	IN-STATE RETENTION RATE	ADDITIONAL CAPACITY AVAILABLE	DEMAND RATING
PUBLIC JUNIOR COLLEGES								
Child Development Tech.	1	72	34	13	100.0%	92.3%	18.8%	Supply=Demand
Dental Assistant	1	40	18	8	100.0%	100.0%	200.0%	Shortage
Medical Secretary	4	41	56	22	95.5%	100.0%	51.5%	Slight Shortage
Practical Nurse (LPN)	1	46	27	23	95.7%	95.5%	8.0%	Supply=Demand
Registered Professional Nurse (Associate)	2	75	279	30	100.0%	96.7%	(1)	Slight Shortage
PRIVATE JUNIOR COLLEGES								
Certified Laboratory Assistant	1	72	28	11	100.0%	90.9%	8.3%	Supply=Demand
Child Development Technician	1	72	25	6	100.0%	(1)	60.0%	Supply=Demand
Inhalation Therapy Technician	1	72	27	6	100.0%	66.7%	70.0%	Supply=Demand
Medical Record Technician	1	72	19	8	100.0%	(1)	(1)	Supply=Demand
Occupational Therapy Assistant	1	72	49	22	100.0%	(1)	8.3%	Supply=Demand
Physical Therapy Assistant	1	72	33	11	100.0%	(1)	38.9%	Supply=Demand
Registered Professional Nurse (Associate)	1	72	322	127	100.0%	(1)	29.4%	Supply=Demand
AREA VOCATIONAL-TECHNICAL SCHOOLS								
Certified Laboratory Assistant	4	51	148	132	99.2%	96.2%	13.9%	Slight Shortage
Dental Assistant	2	37	47	28	92.9%	100.0%	41.7%	Slight Shortage
Food Service Supervisor	1	60	15	12	(1)	(1)	25.0%	Supply=Demand
Hospital Station Secretary	1	18	38	38	100.0%	(1)	0.0%	Shortage
Medical Office Assistant	1	6	14	14	100.0%	100.0%	12.5%	Supply=Demand
Medical Secretary	7	44	142	120	98.0%	100.0%	31.4%	Supply=Demand
Nurse Aide	2	7	36	36	(1)	100.0%	(1)	Slight Shortage
Occupational Therapy Assistant	2	37	29	25	92.0%	91.3%	16.7%	Shortage
Optician	1	38	11	11	100.0%	36.4%	21.4%	Shortage
Practical Nurse (LPN)	17	48	624	568	98.1%	97.0%	16.0%	Shortage
STATE COLLEGES								
Dental Assistant	1	30	18	18	100.0%	100.0%	28.0%	Supply=Demand
Medical Secretary	1	72	20	3	100.0%	100.0%	90.0%	Shortage

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(1) Data not available.

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ALLIED HEALTH EDUCATION IN MINNESOTA, ACADEMIC YEAR 1968-1969, BY SYSTEM

PROGRAM	INSTITUTION	MEDIAN LENGTH (WEEKS)	ENROLLMENT	STUDENT COMPLETIONS	PLACEMENT RATE	IN-STATE RETENTION RATE	ADDITIONAL CAPACITY AVAILABLE	DEMAND RATING
UNIVERSITY OF MINNESOTA	(BRANCH)							
Dental Assistant	1	44	42	32	100.0%	96.9%	0.0%	Shortage
Dental Hygienist	1	66	104	44	100.0%	88.6%	2.2%	Shortage
EEG Technician	1	12	2	2	100.0%	100.0%	100.0%	Supply=Demand
Radiologic Technologist	1	104	25	5	100.0%	60.0%	87.5%	Oversupply
MINNESOTA HOSPITALS								
EEG Technician	1	24						Shortage
EKG Technician	1		2	2	100.0%	100.0%	60.0%	
Histologic Technician	1	52	2	2	100.0%	100.0%	33.3%	Supply=Demand
Hospital Station Secretary	1	4	7	7	85.7%	100.0%	100.0%	Supply=Demand
Nurse Aide	4	3	302	298	100.0%	100.0%	(1)	Supply=Demand
Nurse Anesthetist	8	78	124	59	100.0%	64.4%	37.9%	Shortage
Ophthalmic Technician	1	88	6	4	100.0%	100.0%	0.0%	Supply=Demand
Practical Nurse	8	49	298	265	99.6%	92.4%	16.4%	Shortage
Radiologic Technologist	21	104	235	114	93.0%	73.6%	34.6%	Slight Oversupply
Registered Nurse (Diploma)	11	117	1721	504	99.8%	84.1%	35.6%	Shortage
Surgical Technician	3	12	27	26	100.0%	96.2%	(1)	Slight Shortage
Urological Technician	1	52	4	(1)	(1)	(1)	33.3%	Supply=Demand

(1) Data not available.

APPENDIX C

CODES AND DEFINITIONS

APPENDIX C

MINNESOTA POST-SECONDARY INSTITUTIONS

CODE NUMBER	INSTITUTION	LOCATION
	State Junior Colleges	
103	Brainerd	Brainerd
106	Hibbing	Hibbing
108	Itasca	Grand Rapids
111	Normandale	Bloomington
113	Rochester	Rochester
115	North Hennepin	Minneapolis
	State Colleges	
202	Mankato	Mankato
206	Winona	Winona
	University of Minnesota	
212	Minneapolis/St. Paul	Minneapolis
	Private Junior Colleges	
304	St. Mary's	Minneapolis
	Area Vocational-Technical Schools	
503	Alexandria	Alexandria
505	Anoka	Anoka
507	Austin	Austin
509	Bemidji	Bemidji
511	Brainerd	Brainerd
515	Detroit Lakes	Detroit Lakes
517	Duluth	Duluth
519	Eveleth	Eveleth
521	Faribault	Faribault
525	Hibbing	Hibbing
527	Jackson	Jackson

-continued-

CODE NUMBER	INSTITUTION	LOCATION
529	Mankato	Mankato
531	Minneapolis	Minneapolis
533	Moorhead	Moorhead
539	Rochester	Rochester
541	St. Cloud	St. Cloud
543	St. Paul	St. Paul
547	Thief River Falls	Thief River Falls
551	Willmar	Willmar
553	Winona	Winona
	Hospitals or Related Associations	
601	St. Paul Ramsey Hospital	St. Paul
603	Abbott Hospital	Minneapolis
607	Bethesda Lutheran Hospital	St. Paul
609	Duluth Clinic Foundation	Duluth
611	Charles T. Miller Hospital	St. Paul
613	Fairmont Community Hospital	Fairmont
615	Fairview Hospital	Minneapolis
621	Fergus Falls School of Practical Nursing	Fergus Falls
623	Hibbing General Hospital	Hibbing
627	Lutheran Deaconess Hospital	Minneapolis
631	Mayo Clinic	Rochester
634	Meeker County School of Practical Nursing	Litchfield
635	Methodist Hospital	Minneapolis
639	Mounds-Midway Hospital	St. Paul
640	Minneapolis School of Anesthesia	Minneapolis
641	Mount Sinai Hospital	Minneapolis
643	Naeve Hospital	Albert Lea
645	North Memorial Hospital	Minneapolis
646	New Ulm School of Practical Nursing	New Ulm
648	Northwestern Hospital	Minneapolis
649	Northwest Hospital	Thief River Falls
652	Red Wing School of Practical Nursing	Red Wing
655	St. Ansgar Hospital	Moorhead
657	St. Barnabas Hospital	Minneapolis
661	St. Cloud Hospital	St. Cloud
665	St. Francis Hospital	Breckenridge

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CODE NUMBER	INSTITUTION	LOCATION
669	St. John's Hospital	St. Paul
674	St. Luke's Hospital	St. Paul
681	St. Mary's Hospital	Duluth
683	St. Mary's School of Nursing	Rochester
687	St. Olaf Hospital	Austin
689	Swedish Hospital	Minneapolis
695	Veterans' Administration Hospital	Minneapolis
698	Education Study Association-St. Paul Ramsey Hospital	St. Paul

DEFINITIONS

Certified Laboratory Assistant (Medical Laboratory Assistant) -- Performs common laboratory procedures such as collecting blood specimens, grouping and typing blood, preparing microscopic slides, analyzing blood and body fluids for chemical elements, and taking basal metabolism tests under the supervision of a Medical Technologist.

Child Development Technician -- Assists child development specialists in working with children needing special development services. Includes recreational, work, and routine activities of development.

Cytotechnologist -- Examine cell samplings for signs of cancer through recognition of abnormalities in color, size, and shape of cell substances. Capable of identifying many different kinds of cells.

Dental Assistant -- Prepares patient for treatment, sterilizes equipment, makes appointments, interviews new patients, and handles other secretarial duties. Mixes and prepares fillings and assists in taking and developing X rays.

Dental Hygienist -- Cleans teeth, teaches patients the proper way to care for their teeth and gums between visits. Charts conditions of decay and disease.

Dental Laboratory Technician -- Performs routine laboratory tasks for dental care, analysis, and correction. Works under supervision of a dentist.

Dietary Technician -- Assists the dietitian in routine administrative and clerical matters concerning menu preparation and modification. Contacts appropriate staff to identify dietetic requirements of patients and records needs for future use.

EEG Technician -- Operates the electroencephalograph to obtain tracings of brain actions. These tracings are interpreted by a qualified physician.

EKG Technician -- Operates the electrocardiograph, attaches electrodes to the patient's chest, arms, and legs obtaining tracings of heart actions. These tracings are interpreted by a qualified physician.

Food Service Supervisor -- Trains, supervises, and evaluates personnel; instructing them in use, care, and maintenance of equipment; prepares work and time schedules; supervises sanitation and housekeeping in the food service area; assists in ordering and receiving food and supervising activities of work areas.

Histologic Technician -- Performs tests and examines samples of tissue microscopically to detect abnormal or diseased conditions in patients. Prepares reports and slides based upon the examination.

Inhalation Therapy Technician -- Administers oxygen and checks patient during treatment. Is capable of assuming responsibility for assuring proper maintenance and operation of oxygen equipment, keeping records on oxygen use, and compliance with safety regulations.

Medical Assistant (Medical Office Assistant) -- Prepares patient for examination or treatment. Sterilizes equipment, makes appointments, interviews new patients, and handles other secretarial duties.

Medical Record Technician (Librarian) -- Capable of assembling and organizing complete and accurate records on hospital patients making sure they are written in uniform terminology. Indexes information, catalogs and controls location of files, compiles different kinds of statistics and data for medical staff and prepares special reports on request.

Medical Secretary -- Transcribes medical reports, keeps records, takes care of routing correspondence, handles billing, orders supplies, keeps financial records, and performs other clerical duties.

Mental Health Technician -- Under the guidance of a psychiatrist or psychologist assists patients in rehabilitating themselves through recreational and occupational activities and through learning new patterns of living.

Nurse Aide (Nurse Assistant) -- Under the supervision of a nurse, helps with meals and bathing, answering patient calls, assisting the patient to move around, and similar tasks. May also work in occupational and physical therapy services.

Nurse Anesthetist -- Administers anesthetics to patients for all types of surgery, working in obstetric, psychiatric, and inhalation therapy departments; the emergency room and dental offices.

Occupational Therapy Assistant -- Works under the supervision of the occupational therapist. Performs routine treatment procedures and assists in carrying out more complex procedures.

Ophthalmic Technician -- Assists the ophthalmologist in the routine of medical eye examinations and in the special procedures required for diagnosis and treatment of eye pathology.

Optician (Optical Technician) -- Make and fit glasses according to prescription. Capable of grinding and polishing corrective lenses.

Orthoptist -- An assistant to the ophthalmologist who works under his supervision teaching patients exercises for restoring and rehabilitating their vision.

Physical Therapy Assistant -- Performs certain routine treatment procedures under supervision of a therapist and assists in carrying out more complex procedures.

Practical Nurse (LPN) -- Gives bedside care under the supervision of a registered nurse.

Prosthetist -- Capable of measuring and fitting an artificial limb or part of body structure to a patient. Must be familiar with technical processes of rehabilitation activities.

Radiologic Technologist (X-ray Technician) -- Prepares patient for X ray; operates and maintains X-ray equipment, processes X-ray film.

Registered Professional Nurse (RN) -- Observes and records symptoms and patient progress; assists in patient education and rehabilitation; administers medications and carries out treatments prescribed by doctor; may supervise auxiliary personnel.

Rehabilitation Counselor Aide -- Assists rehabilitation counselor to provide and coordinate client services. Under supervision of counselor assists in case finding, intake, coordination of casework activities, employer and community contact, placement and follow-up services.

Surgical Technician -- Works in operating room, scrubbing according to procedure and doing other tasks assigned by the professional nurse or physician to maintain an antiseptic operating room.

Urological Technician -- Assists the urologist in examining and testing for disease and disorder of the urinogenital system.

Sources:

Health Carreers in Minnesota. Minneapolis: Minnesota Hospital Association, 1969.

Paramedical Training in Minnesota. Compiled by G. Dean Miller. St. Paul: Minnesota Department of Education, 1969.

Directory of Courses Offered in Area Vocational-Technical Schools. Compiled by Richard Fuller, Julius H. Kerlan, and G. Dean Miller. St. Paul: Minnesota Department of Education, 1969.

"Minimum Educational Requirements for Allied Health Occupations." St. Paul: The Twin City Hospital Association.

APPENDIX D

ALLIED HEALTH EDUCATION
SURVEY QUESTIONNAIRE

APPENDIX D

MINNESOTA HIGHER EDUCATION COORDINATING COMMISSION

ALLIED HEALTH EDUCATION SURVEY
AUGUST 1969

NOTE: Please complete one survey form for each program or occupational title included in question 1 below:

INSTITUTION NAME _____

NAME & TITLE OF RESPONDENT _____
TELEPHONE NUMBER _____

QUESTIONS

1. Check the single occupational title which best describes a graduate of your program.

____ Biomedical Engineering Technician
____ Certified Laboratory Assistant (Medical Lab. Assistant, Tech.)
____ Child Development Technician
____ Cytotechnologist
____ Dental Assistant
____ Dental Hygienist
____ Dental Laboratory Technician
____ Dietary Technician
____ EEG Technician
____ EKG Technician
____ Environmental Health Technician
____ Food Service Supervisor
____ Histologic Technician
____ Inhalation Therapist Technician
____ Medical Assistant (Medical Office Assistant)
____ Medical Record Technician (Librarian)
____ Medical Secretary
____ Mental Health Technician
____ Nurse Aide (Nurse Assistant)
____ Nurse Anesthetist
____ Occupational Therapy Assistant
____ Ophthalmic Technician
____ Optician (Optical Technology)
____ Orthoptist
____ Physical Therapy Assistant
____ Practical Nurse (LPN)
____ Prosthetist
____ Radiologic Technologist (X-ray Technician)
____ Registered Professional Nurse (RN)
____ Surgical Technician
____ Urological Technician
____ Other, (Specify) _____
____ None

2. How many total students were enrolled in your program during the 1968-69 academic year?

_____ men

_____ women

_____ total

3. What is the length of your program in weeks?

_____ weeks

4. How many students completed your program (were awarded certificates or degrees) during the 1968-69 academic year?

_____ students awarded certificates

_____ students awarded degrees

5. How many of the students who completed your program during the 1968-69 academic year were placed upon completion?

_____ in Minnesota

_____ out-of-state

_____ total

6. How many students could be graduated from your program during a single academic year without additional staff or facilities?

_____ students

7. How many applicants to your program were not admitted during the 1968-69 academic year?

_____ students unable to meet admission standards

_____ admissable students not admitted because the program was "full"

_____ total

8. If the program was "full," was it full because of: (check one or more)

____ lack of funding

____ lack of staffing

____ lack of facilities

____ institutional policy

____ other, (explain)

1. If paramedical programs were to serve more students at your institution, would you favor additional new programs or expansion or present programs?

2. What increases in staff, facilities, and equipment would be necessary to increase by 50 percent the maximum potential number of students graduated from your program in a single academic year?

Increases in staff:

Instructional _____
Administrative _____

Increases in facilities: (estimated dollar amounts)

Increases in equipment: (estimated dollar amounts)

3. What is the demand for students graduated from your program within the State of Minnesota? (eg., number of openings; number of "offers"; percent of graduates employed in field one month after completion; proportions of male and female placements)

4. Please include any additional comments or opinions about any phase of paramedical training, your program, or any ambiguities in the questionnaire.

Is descriptive material enclosed? Yes ____ No ____

Do you request a report of the results of this survey? Yes ____ No ____