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AUTHOR Webster, Ann; And Others
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ABSTRACT

The data presented in this document are the results of a survey of physician extenders currently practicing in Michigan as of November 1973. "Physician extender" is a term used for personnel who assist or collaborate with the physician in providing patient care, which means that nurses with additional training who are functioning in expanded roles were also included in this population. The purpose of this study is to examine current utilization in order to develop criteria and guidelines for the definition of the scope of practice of physician assistants and to delineate training standards for assistants. Both physician assistants and their supervising physicians were surveyed. The instruments were designed to provide data on three issues: the market for physician assistants, the impact of assistants on health care delivery, and the satisfaction of physician assistants and their supervising physicians with training and the assistant role. The survey provides an analytical data base for relating the state situation regarding assistants to that of the nation as a whole. It is hoped that this study will raise the visibility of physician assistant training and credentialing issues in the medical community to stimulate their input into the policy development process.

(Author/PG)

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PHYSICIAN EXTENDERS AND THEIR UTILIZATION:
SURVEY DATA FROM MICHIGAN

Ann Webster, Gigi Bosch and
Brian Saylor

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OVERVIEW OF SURVEY

The data presented here are the results of a survey of physician extenders currently practicing in Michigan as of November, 1973. This study was done to assist the Michigan Advisory Commission on Physician Assistants, Department of Public Health. The Commission is charged with approval of physician assistant training programs in the state, and with developing recommendations regarding the credentialing and regulation of physician assistants. Physician assistants are currently covered only by an exemption to the Michigan Medical Practice Act.

The purpose of this study was to examine current utilization in order to develop criteria and guidelines for the definition of the scope of practice of physician assistants and to delineate training standards for assistants. Both physician assistants and their supervising physicians were surveyed. The instruments were designed to provide data on three issues: the market for physician assistants, the impact of assistants on health care delivery, and the satisfaction of physician assistants and their supervising physicians with training and the assistant role.

Data from the survey can be considered when evaluating alternative legislative proposals concerning the credentialing of physician assistants in Michigan. The survey also provides an analytical data base for relating the state situation regarding assistants to that of the nation as a whole. It is also hoped that this study will raise the visibility of physician assistant training and credentialing issues in the medical community to stimulate their input into the policy development process.

A physician assistant has been tentatively defined in state law as a "...person qualified by training, education or experience to perform selected acts or functions in the practice of medicine or osteopathy under

the direction of a (licensed) physician..."¹ For this survey, this definition was modified to include any personnel who assist or collaborate with the physician in providing patient care, which means that nurses with additional training who are functioning in expanded roles were also included in the population. In this paper the term "physician extender" is used as a label for this expanded definition.

The rationale for expanding the definition to include both specialized nurses, who generally have masters degrees, and nurse practitioners was that while they may not be covered under the new legislation, their functions may be very similar to those of the physician assistants. Information on their impact on the delivery and cost of health care may be helpful in deciding what types of physician extenders should be trained in light of the goals for producing physician extenders.

The list of physician extenders was obtained from members and staff of the Advisory Commission on Physician Assistants, Wayne State University's Health Nurse Clinician program and the University of Michigan's Clinical Nursing Specialist program. The list of physicians supervising the physician extenders was obtained from the above sources as well as from the physician extenders when they were contracted for the telephone interview.

In the next section methodology will be discussed. The results of the survey of Michigan physician extenders will then be presented in eight parts: Chapter I is an analysis of the distribution of population, physicians, and physician extenders within the state of Michigan. Chapter II concerns the characteristics of physicians who supervise physician extenders. This information is compared with the total population of physicians practicing in Michigan. Chapter III deals with characteristics of physician

¹Act No. 312, Public Acts of 1972, approved by the Governor January 1, 1973.

extenders who are currently practicing in the state. Chapter IV analyzes the utilization of physician extenders in Michigan, and Chapter V assesses the effect on the physician's practice of hiring a physician extender. Chapter VI presents findings on the satisfaction expressed by the physicians and the physician extenders. Chapter VII looks at the market for physician extenders and their plans for the future. Finally, in Chapter VIII, policy recommendations are developed for the state based upon the survey data.

METHODOLOGY

The data were collected from the population of physician extenders and their supervising physicians using a combination of a factual questionnaire and a telephone interview. The factual questionnaire was mailed out with an explanatory letter and a schedule of the questions to be asked during the telephone interview. This was followed up by a telephone call to answer questions and to set a time for the telephone interview.

The physician extender questionnaire was designed to ascertain the demographic characteristics of the extender (age, sex, location, salary, etc.) as well as to indicate generally how the extender spends his time, the type of tasks he performs, and the degree of supervision under which he performs various tasks. The interview schedule contained open-ended questions which focused on the extender's job market; the role he plays in non-patient-care tasks and in patient management; and the extender's opinions on the factors which limit his independence and the full utilization of his skills, on the adequacy of his training, and on the extent to which patients accept his professional judgment.

Fifty-four physician extenders, or 81% of the population of 67, responded to the survey. Both the factual questionnaire and the telephone interview were completed by 75% (49) of the population and five extenders responded to the telephone interview only. The reasons for non response to the survey may be seen in Table 1. Nineteen potential respondents were excluded from the population because six were still in training, ten did not function as physician extenders, and three had left the state.

Through either the questionnaire or the interview, the type of physician extender was determined for the 54 respondents. The population included six types of extenders: eighteen physician assistants, nine nurse practi-

TABLE 1

SURVEY POPULATION AND RESPONSE RATE

<u>PHYSICIAN EXTENDERS</u>	<u>TOTALS</u>	<u>SUB-TOTALS</u>	<u>%'s</u>
TOTAL POPULATION	67		
RESPONSES	54		81%
COMPLETE		49	73%
INTERVIEW ONLY		5	
NON-RESPONSES	13		
CHOSE NOT TO PARTICIPATE		2	
LATE RESPONSES		2	
COULDN'T BE LOCATED		4	
UNKNOWN		5	
EXCLUDED FROM POPULATION	19		
STILL IN TRAINING		6	
NOT IN P.E. ROLE		10	
LEFT THE STATE		3	
PRETESTED:	2		
<u>PHYSICIAN SUPERVISORS</u>			
TOTAL POPULATION	39		
RESPONSES	38		97%
COMPLETE		29	74%
INTERVIEW ONLY		6	
FACTUAL ONLY		3	

tioners, twelve health nurse clinicians, nine clinical nursing specialists, two primarily performing technical functions, and four classified as "other." This last category was comprised of prison medical personnel.

The physician factual questionnaire also was designed to obtain demographic data (age, sex, work setting, specialty, etc.) and other data on the characteristics of the physician's practice (e.g., number of patients seen, age of patients, number of other staff). Questions were also included on quantitative changes in his practice since hiring the extender (e.g., changes in number of patients seen, changes in net revenue). The telephone interview concentrated on qualitative changes in the physician's practice (changes in scope or thoroughness, etc.) and on the physician's satisfaction with the extender (adequacy of training for tasks the physician desires the extender to perform, willingness to hire additional personnel of this type, etc.).

Thirty-nine physicians were included in our population of supervisors of physician extenders. Twelve of the physician extenders were not paired with a supervising physician either because the physician(s) did not respond to the questionnaire or because the extender was in an institutional setting where no physician supervisor was easily identifiable. Ratios of extenders to physicians varied considerably in the study (e.g., four extenders/one physician, one extender/four physicians etc.).

Responses were received from 38 (97%) of the supervising physicians. Twenty-nine physicians (74%) answered both the factual questionnaire and the telephone interview; three responded to the factual only, and six responded to the telephone interview only.

CHAPTER I

DISTRIBUTION OF PHYSICIAN EXTENDERS WITHIN THE STATE

One possible effect of the production and use of physician extenders is that they will bring more care to areas which are underserved by physicians. In this connection, the location of the physician extenders in the survey was compared to the population and physician densities in the state.

The hatched and striped areas in Figure 1 represent counties with high physician/population ratios. Figure 2 shows the location of physician extenders; each physician extender is represented by a dot. It is easily seen that most of the physician extenders are located in counties with high population/physician densities. There are, however, a few physician extenders scattered in counties with lower ratios. There are no physician extenders in the upper peninsula and only one in the upper half of the lower peninsula (this is a county with a high population/physician ratio).

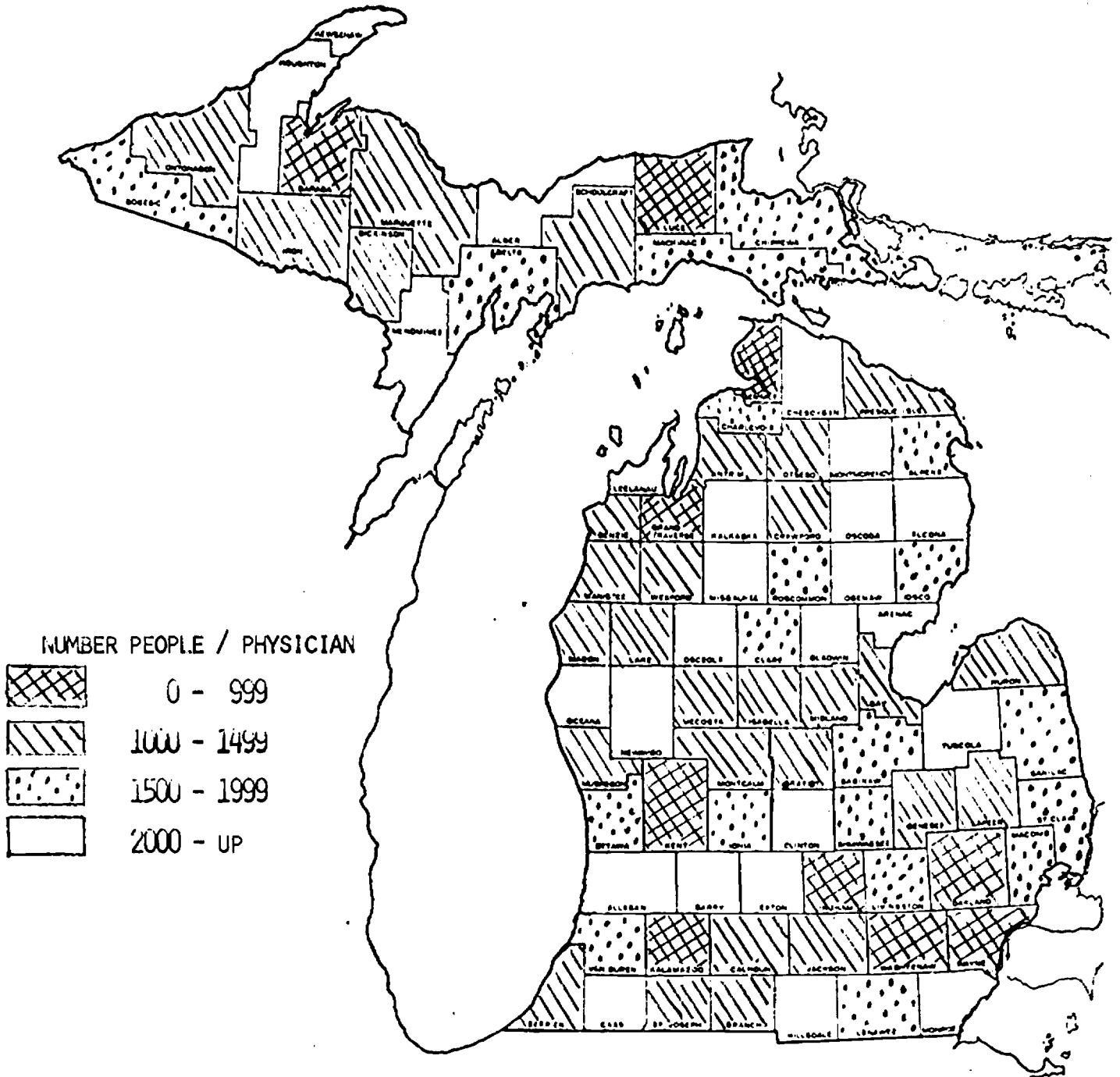
At present, physician extenders are not locating in rural areas nor are they locating in dense urban areas, except for a few who are employed in one institution in an urban area. As shall be discussed later in this paper, it appears that the major factors determining a physician extender's location are location of the training program and site of the preceptorship as well as an interest on the part of the physician in using an extender. If one of the purposes of the legislation on physician extenders is to encourage the location of extenders in rural or urban areas which are underserved by physicians, this movement could be accelerated in several ways.

First, programs for extenders should be located in areas which are in need of health care. Second, to encourage students to locate in these areas, schools should be required to place a proportion of their graduates in

FIGURE 1

DISTRIBUTION OF POPULATION AND PHYSICIANS BY COUNTY
MDs AND DOs IN ACTIVE PATIENT CARE

POPULATION / PHYSICIAN RATIOS = # PEOPLE PER ONE PHYSICIAN



SOURCE: POPULATION PROJECTIONS OF COUNTIES OF MICHIGAN, RESEARCH DIVISION, BUREAU OF PROGRAM AND BUDGET, EXECUTIVE OFFICE, STATE OF MICHIGAN, DECEMBER 1972, AND PHYSICIAN DATA FROM THE HEALTH MANPOWER SURVEY (MCHS), CENTER FOR HEALTH STATISTICS, DEPARTMENT OF PUBLIC HEALTH, JUNE 1973. RATIOS WERE COMPUTED.

underserved areas for preceptorships, either in a private practice or in an institutional setting. Third, physicians should be educated in the use of extenders. Some extender programs should be linked with the medical schools in the state so that extenders and physicians learn to work together. This joint program should also encourage the placement and training of both physicians and physician extenders in outpost situations. Finally, the type of credentialing system developed for the state could affect the supervision required for physician extenders. If increased care in rural areas is the goal of this policy, then the possibility of physician extenders providing care under remote supervision (for example, by radio or television communication) should be considered.

CHAPTER II

CHARACTERISTICS OF PHYSICIANS SUPERVISING PHYSICIAN EXTENDERS

The factual questionnaire for physicians was designed to determine the characteristics of the physician's practice. These questions focused on the type of practice and the physician's specialty. The data provide information on the environment in which physician extenders are currently utilized.

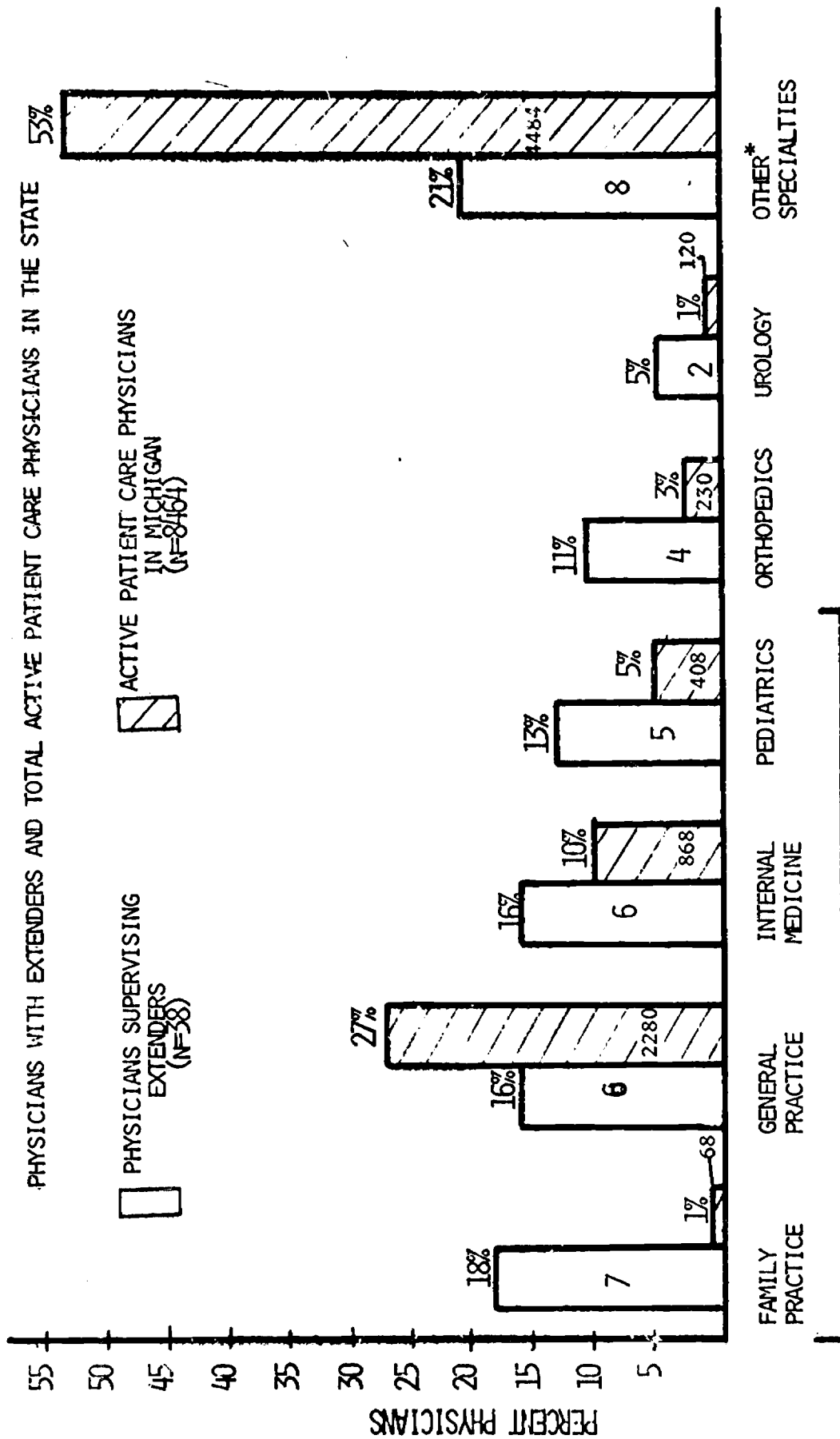
A comparison of the specialty distribution of physicians in the state and the physicians in our sample is shown in Figure 3. Because of the large difference between the numbers of physicians supervising physician extenders and the total population of physicians in the state, figures are given in percentages. A wide distribution of specialties among physicians is seen in Figure 3; these specialties were aggregated into a primary care category and into another including all other specialties. The primary care category was defined as general practice, family practice, internal medicine, pediatrics, and obstetrics-gynecology.

As can be seen in Figure 4, our sample is roughly representative of the primary and non-primary care specialty distribution of the total physician population in Michigan. However, primary care supervising physicians represented a higher proportion of our sample (66%) than the total state population of primary care physicians (49%). Likewise, our sample included a smaller percentage (34%) of non-primary care physicians supervising physician extenders than the total of state non-primary care specialists (51%).

Figure 5 depicts the physicians' type of practice. There were few respondents in solo practice, but almost half (43%) of the supervising physicians were in private practice (solo or group). The rest are pri-

FIGURE 3

PHYSICIAN SPECIALTY DISTRIBUTION



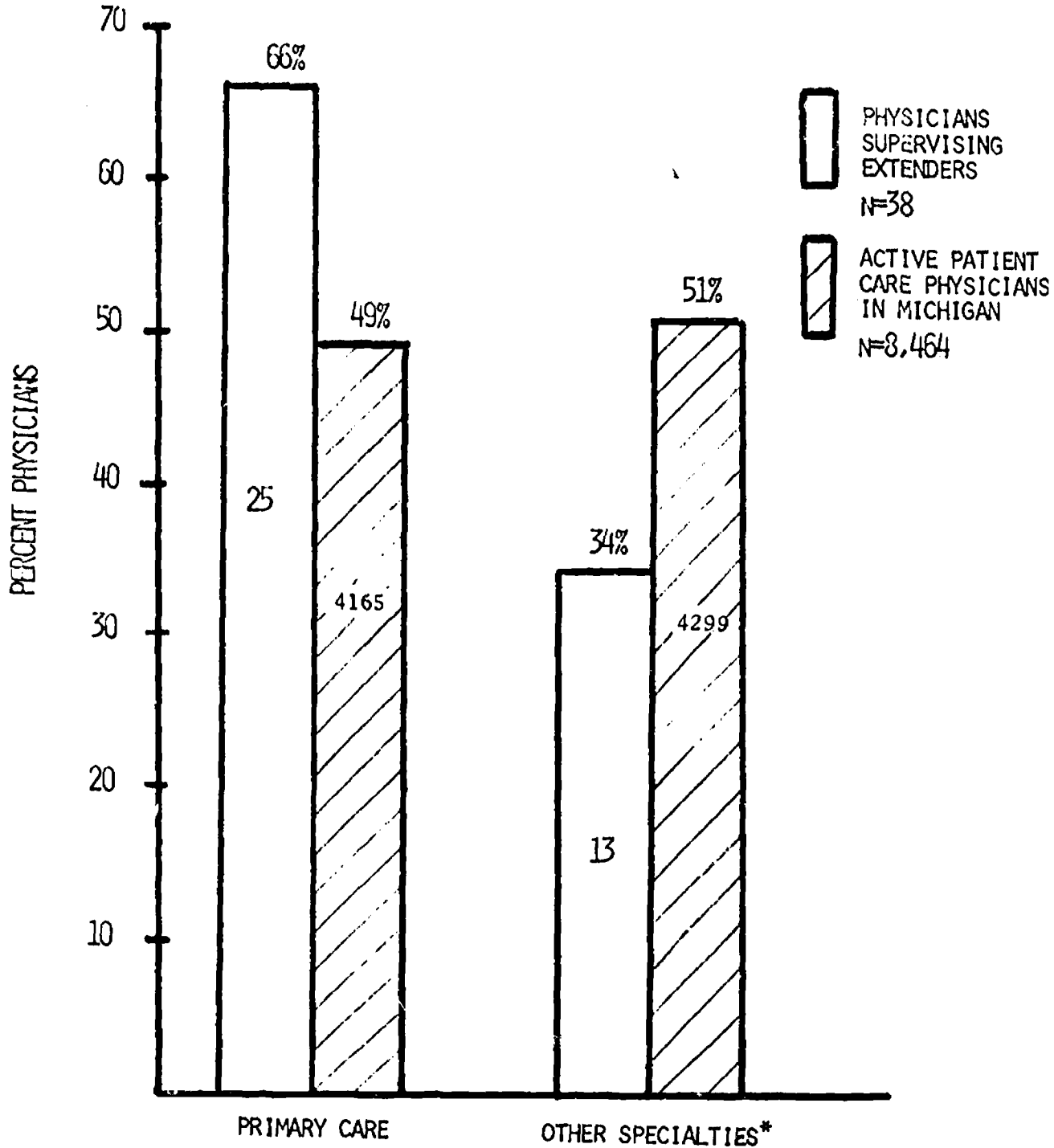
*OTHER SPECIALTIES INCLUDE ANESTHESIOLOGY, CARDIOVASCULAR DISEASE, HEMATOLOGY, NEPHROLOGY, NEUROLOGY, AND RADIOLOGY.
 ONE OF THE PHYSICIANS WITH EXTENDERS IS IN OBSTETRICS-GYNECOLOGY, A PRIMARY CARE SPECIALTY

SOURCE: MICHIGAN PHYSICIAN DATA FOR FIGURES 3 AND 4 ARE FROM THE HEALTH MANPOWER SURVEY (MCHIS), CENTER FOR HEALTH STATISTICS, MICHIGAN DEPARTMENT OF PUBLIC HEALTH, 1975.

FIGURE 4

PHYSICIANS IN PRIMARY AND NON-PRIMARY CARE SPECIALTIES

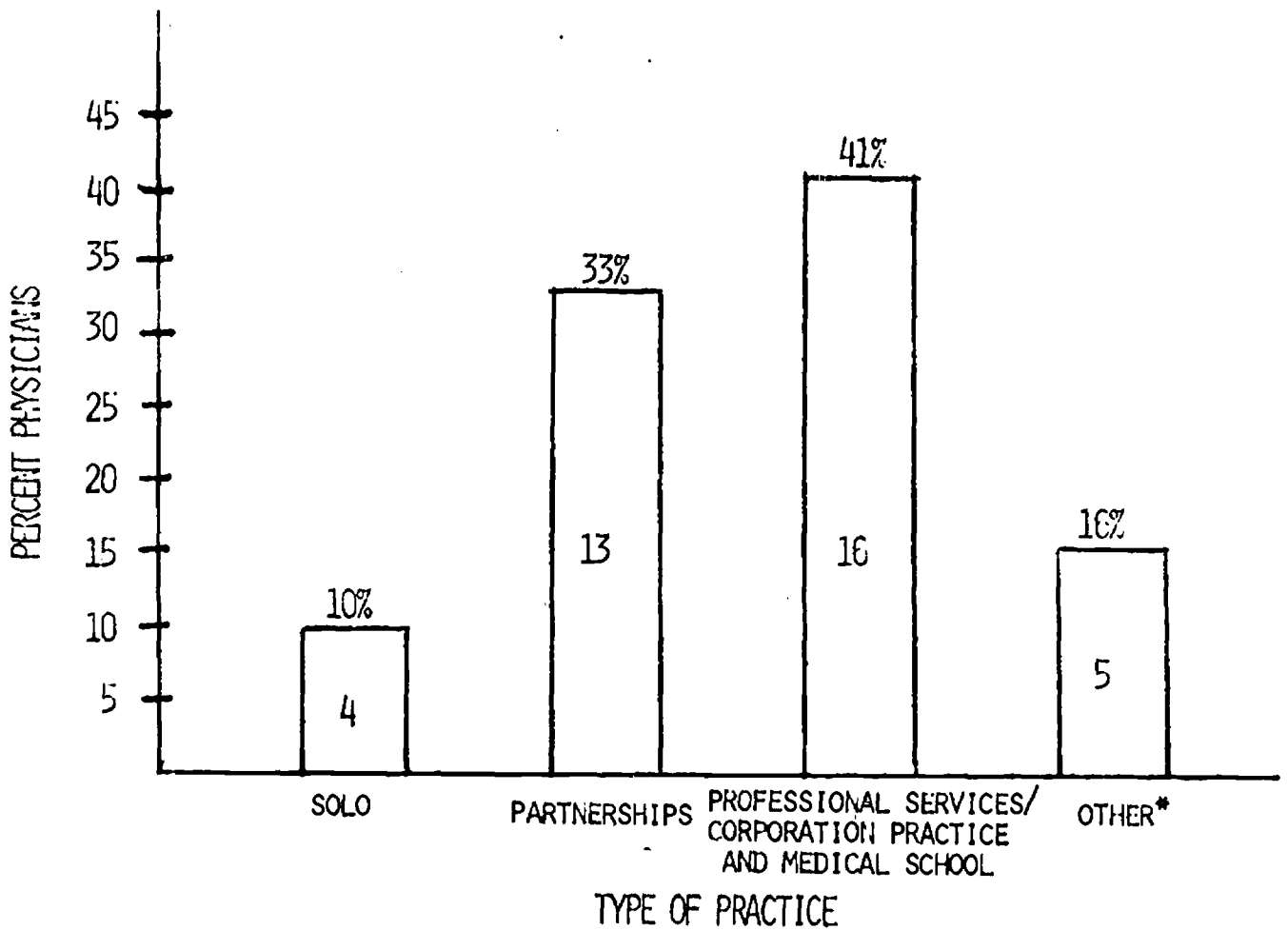
PHYSICIANS WITH EXTENDERS AND TOTAL ACTIVE PATIENT CARE PHYSICIANS
IN THE STATE



*INCLUDES ORTHOPEDICS, UROLOGY, ANESTHESIOLOGY, CARDIOVASCULAR DISEASE, HEMATOLOGY, NEPHROLOGY, NEUROLOGY, AND RADIOLOGY.

marily included in the professional and corporation practice category (41%), which includes hospital-related practices. These data suggest that physicians in private practice and those in institutional practice are equally disposed to hiring physician extenders.

FIGURE 5
PHYSICIAN SUPERVISORS BY
TYPE OF PRACTICE



*INCLUDES GOVERNMENT; FEDERAL, STATE, LOCAL, E.G., PRISONS; AND CONSULTING

N = 39

CHAPTER III

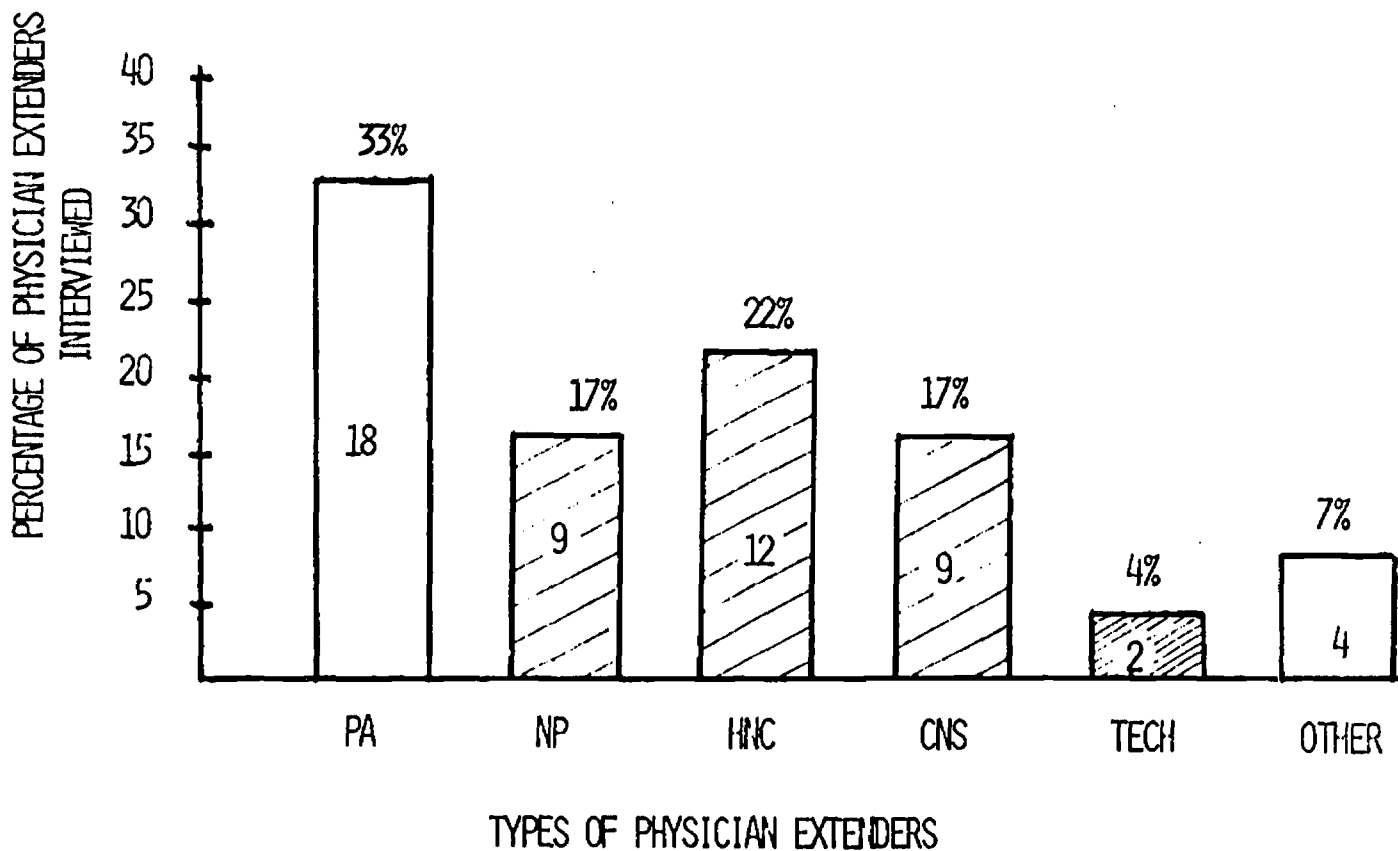
CHARACTERISTICS OF PHYSICIAN EXTENDERS

Six basic types of physician extenders were included in the survey: the physician assistant, the nurse practitioner, the health nurse clinician, the clinical nursing specialist, personnel involved in primarily technical functions, and those involved in all other categories (see Figure 6). These job titles were given by the physician extenders, and were not titles assigned by the survey team.

For statistical purposes, these categories were collapsed into three groups. The first group, the physician assistants, included graduates of formal PA programs (e.g. Duke, Alabama, Marygrove, etc.), assistants with military training, and the "other" category which was comprised of prison medical personnel who perform physician assistant functions but who have little formal training. The second group included all expanded nursing roles (nurse practitioners, health nurse clinicians, and clinical nursing specialists). It may be that nurse practitioners function differently from the other two types of nurses in our study and that their role may closely approximate that of the physician assistant, however since there were only 9 practitioners in our study separate analysis of this group was not usually possible though some aspects of their uniqueness will be pointed out later. The third group consisted of 2 technical extenders. One of these extenders is in a neurological specialty, and the other had limited training in several specialties. Because of the small number in this category, technical personnel were disregarded in most analyses.

The representation of minorities within physician extender roles is illustrated in Figure 7. The top graph shows the distribution of physician extenders by type and sex. There are more males in physician assistant roles

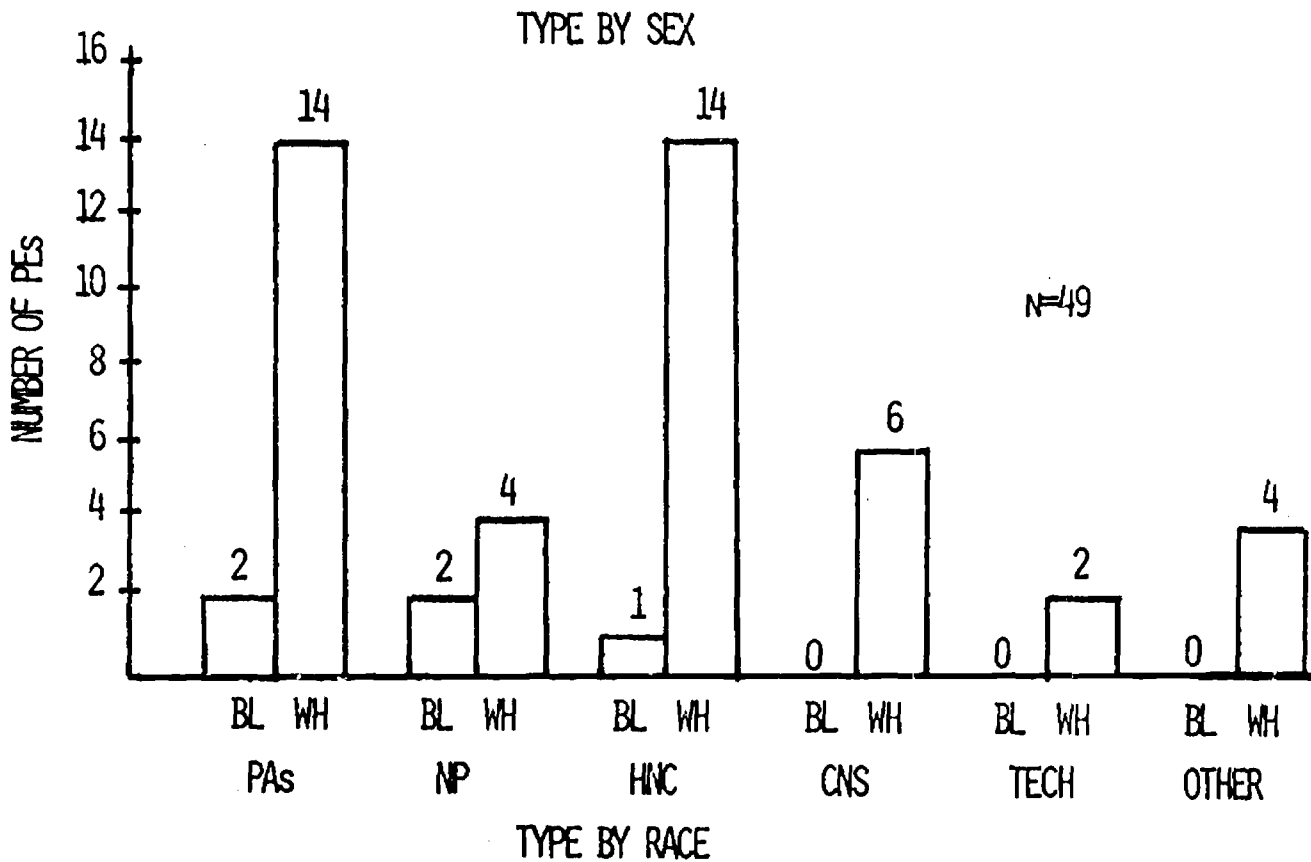
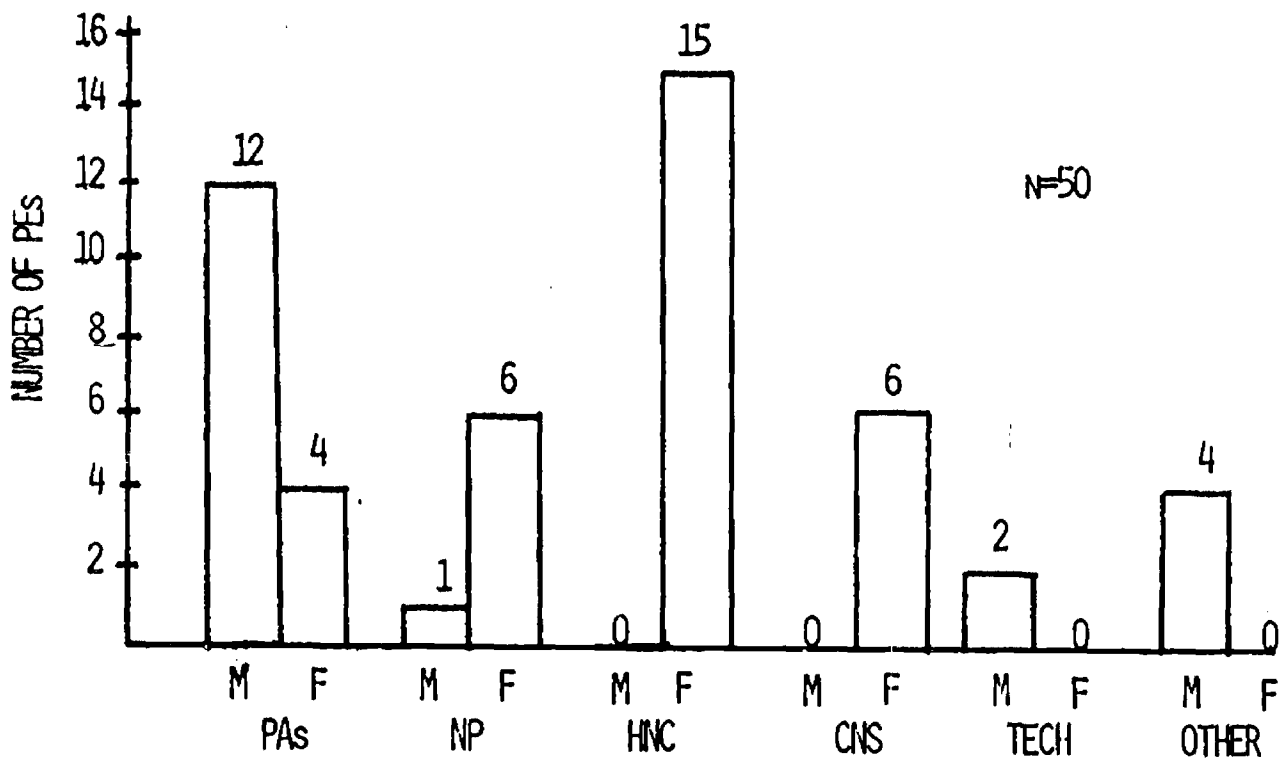
FIGURE 6
TYPES OF PHYSICIAN EXTENDERS



PA: PHYSICIAN'S ASSISTANT
NP: NURSE PRACTITIONER
HNC: HEALTH NURSE CLINICIAN
CNS: CLINICAL NURSING SPECIALIST
TECH: TECHNICAL PERSONNEL

FIGURE 7

PHYSICIAN EXTENDERS BY SEX AND RACE



and more females in nursing roles. The chart on the lower half of Figure 7 shows that there are many more whites than blacks in both physician extender roles. These data suggest that sexual and racial stereotypes are developing for the physician assistant and expanded nursing roles. If this trend is to be halted, training programs must alter their recruitment and admission policies to encourage greater racial and sexual mix in the entering students.

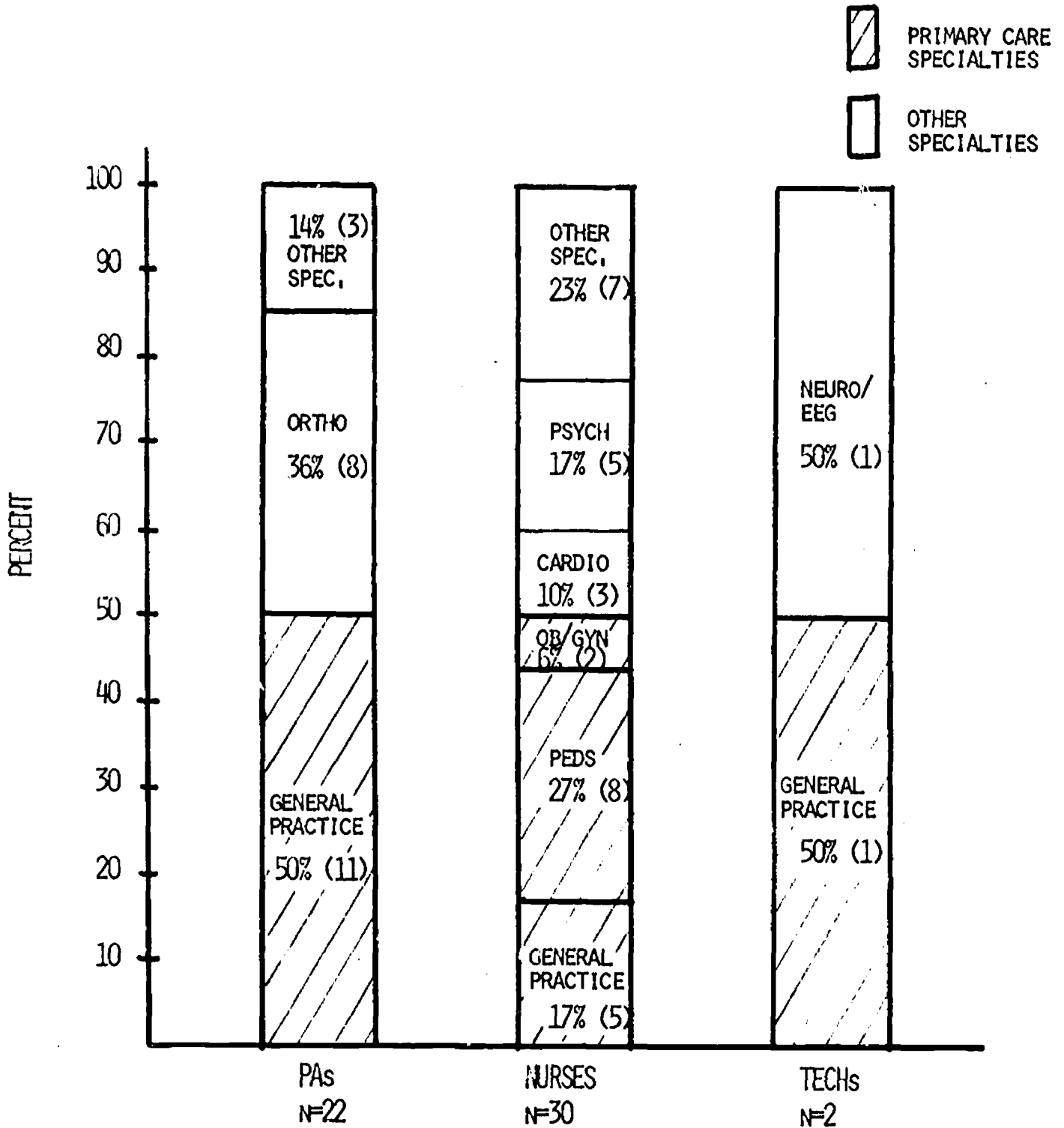
The specialties of physician extenders are shown in Figure 8. The specialties of the extenders were divided into non-primary care and primary care specialties. The latter includes extenders in general practice, general internal medicine, pediatrics and obstetrics-gynecology. Physician assistants and nurses in expanded roles are equally divided between primary and non-primary care specialties. Orthopedic physician assistants make up 38% of the assistants and were the only type of assistant which had been graduated in Michigan at the time of this study.

The primary work settings of the physician assistants and nurses are shown in Figure 9. A few of the extenders function in more than one setting, but for most the primary setting was easily determined during the telephone interview. Fifty percent of the physician assistants were working in private offices. This is in agreement with the 1972 AMA study which found that half of the 585 physician assistants surveyed were employed in private offices and half in institutional settings.² On the other hand, nurses are primarily (77%) in clinics or hospitals. Of the seven nurses in private offices, five are nurse practitioners in pediatrics, a primary care specialty. Though our population of nurse practitioners is small (9 nurses), the data suggest that

²AMA, Department of Health Manpower, Division of Medical Practice, "1972 Survey of Operational 'Physician Assistant' Programs: Numbers Graduated and Employed," unpublished report.

FIGURE 8

TYPE OF EXTENDER BY SPECIALTY

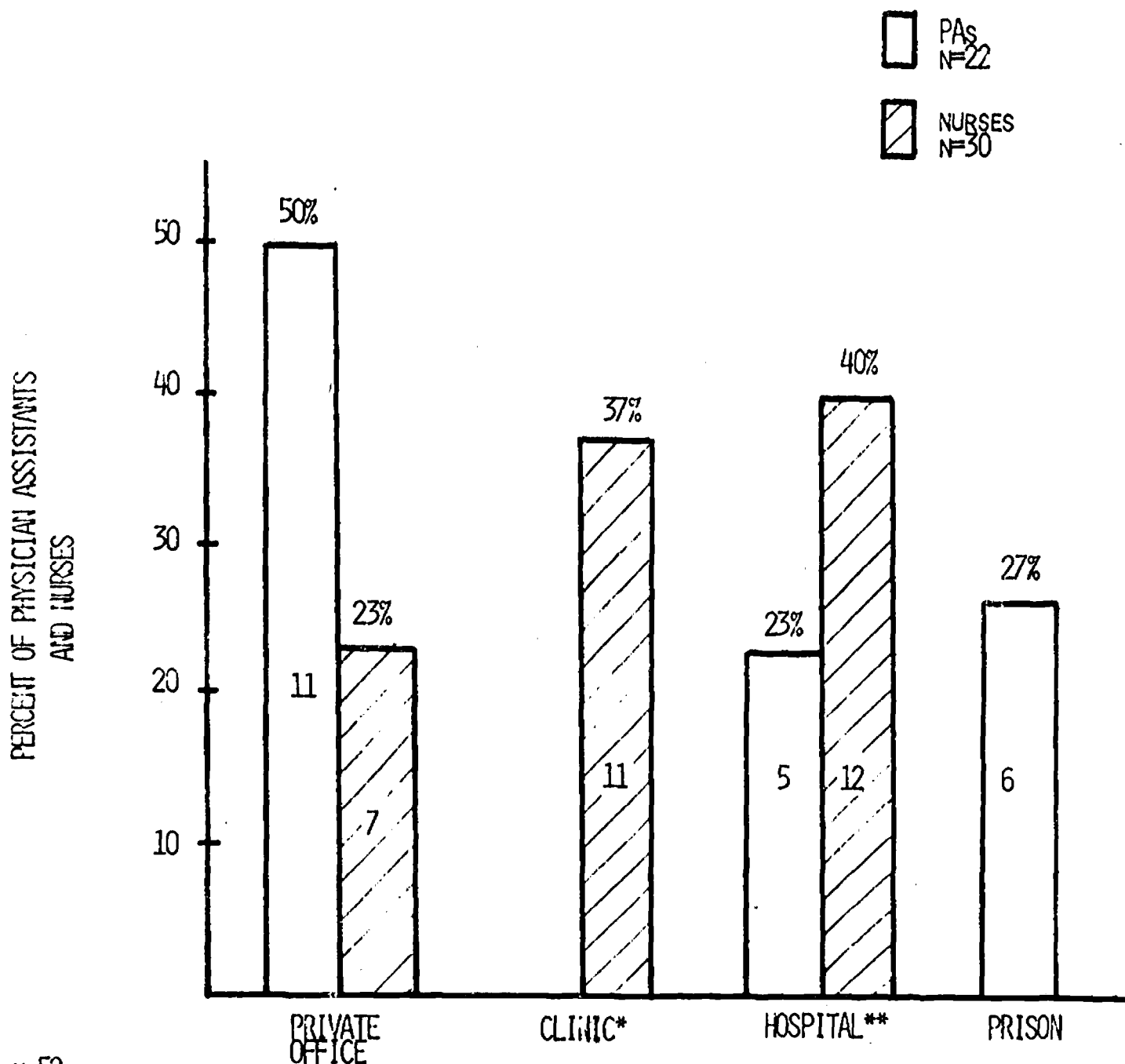


PAs OTHER SPECIALTIES INCLUDE RADIOLOGY, UROLOGY AND SURGERY.

NURSES OTHER SPECIALTIES INCLUDE HEMATOLOGY, NEPHROLOGY, PULMONARY DISEASE, GENERAL SURGERY, PUBLIC HEALTH, AND UNSPECIFIED.

FIGURE 9

PRIMARY WORK SETTINGS OF
PHYSICIAN ASSISTANTS AND NURSES



N=52

*CLINIC CATEGORY INCLUDES PUBLIC HEALTH, LARGE GROUPS OF DOCTORS, AND OUTPATIENT CLINICS. SOME NURSES IN OUT-PATIENT CLINICS MAY ALSO SEE IN-PATIENTS, BUT THE OUT-PATIENT CLINIC WAS THE MAIN THRUST OF THEIR PRACTICE.

HOSPITAL PERSONNEL MAY SPEND SOME TIME IN OUT-PATIENT CLINICS OR EMERGENCY ROOMS.

nurse practitioners are much more likely than other nurses in expanded roles to practice in private offices. Perhaps this is because they are involved in primary care.

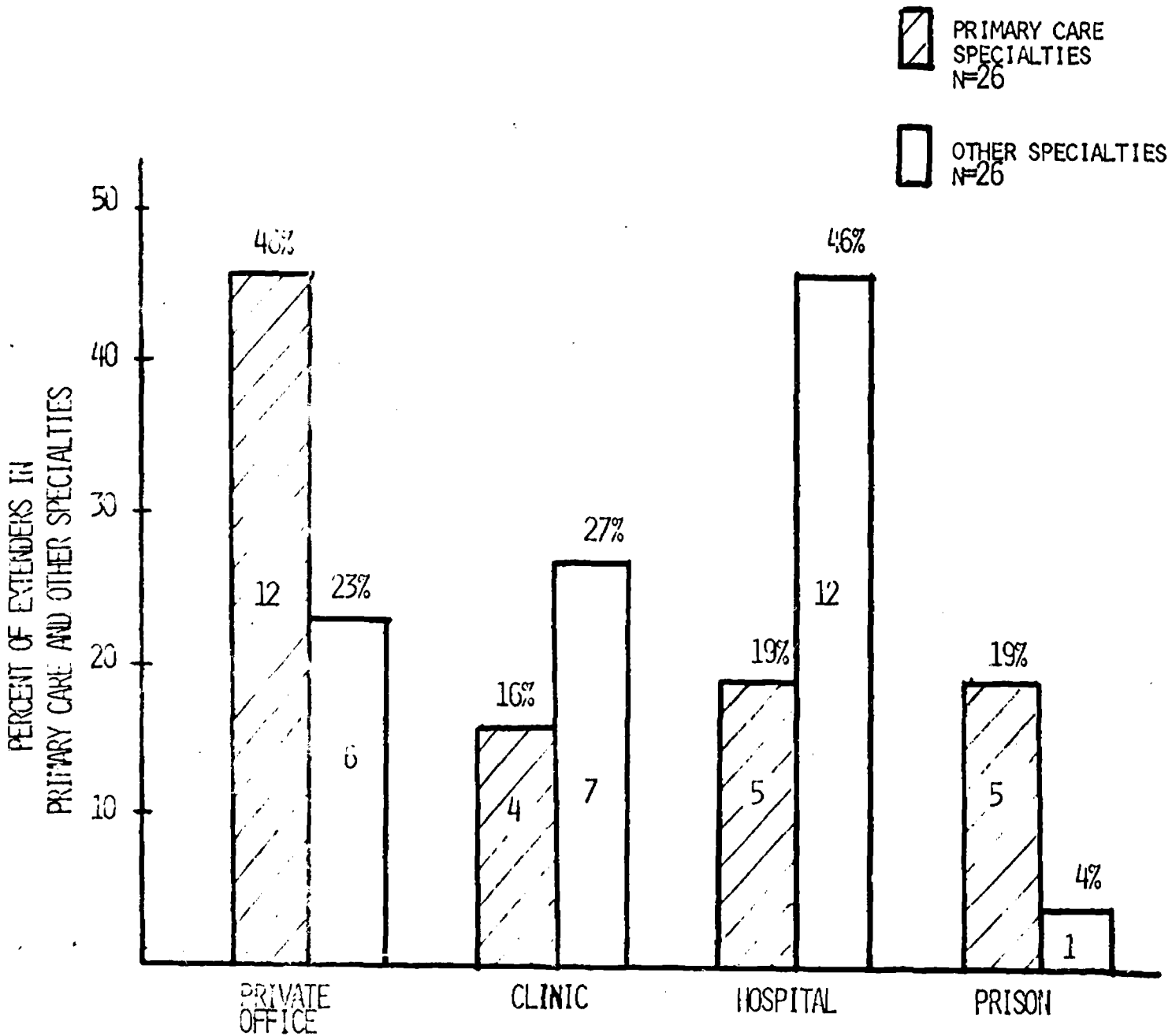
Figure 10 shows the work settings of assistants and nurses in primary and non-primary care specialties. Forty-six percent of the extenders in primary care were working in private offices. Of the extenders in non-primary care specialties, 46% are in hospitals and 27% are in clinics. Three of the six specialty extenders in private practice are orthopedic assistants who are not using their specialty skills, two are working in another specialty (neurology) and one is in a general practice. Tentatively it appears that primary care specialists are working in private practices while those in other specialties are working in institutional settings.

The type of training obtained by the physician extenders is shown in Table 2. Most physician assistants and nurses have undergone formal training. Formal training for this population includes: masters degrees in an expanded nursing role; degrees from physician assistant programs, usually a two-year program which sometimes followed a nursing diploma or bachelors degree; and nurse practitioner programs which are of four-month duration and follow a nursing diploma.

One thought behind the creation of the physician assistant role was that it would be a career pathway for military medical personnel so that their training would not be lost to and could be utilized in the civilian sector. Only three of the physician assistants received all of their professional training in the military. However, thirteen other extenders indicated that they had had some military training prior to their formal professional training. These extenders included eleven physician assistants, one nurse, and one technician. Thus, while the military is not a direct supplier of all physician extenders, the military medical experience was a predisposing

FIGURE 10

WORK SETTING OF PHYSICIAN EXTENDERS
IN PRIMARY CARE AND OTHER SPECIALTIES



N=52

TABLE 2

PROFESSIONAL TRAINING PROGRAM
BY TYPE OF PHYSICIAN EXTENDER

TYPE OF EXTENDER	FORMAL	ON-THE-JOB TRAINING ¹	MILITARY ²	OTHER ³	TOTAL
PA	14		3	5	22
NURSE	27	3			30
TECH				2	2
TOTAL	41	3	3	7	54

¹ON-THE-JOB TRAINING INCLUDES NURSES WHO HAVE AN LPN, AN RN OR A BSN BUT WHO ARE BEING TRAINED TO PERFORM TASKS OUT-
SIDE OF THE TRADITIONAL NURSING ROLE.

²MILITARY INCLUDES ONLY THOSE TRAINED EXCLUSIVELY IN THE MILITARY; 11 OTHER PHYSICIAN ASSISTANTS, 1 NURSE AND 1 TECH
ALSO HAD MILITARY TRAINING PRIOR TO THEIR FORMAL TRAINING.

³OTHER INCLUDES VARIOUS ASSOCIATE DEGREES AND CERTIFICATES USUALLY COMBINED WITH PAST MILITARY MEDICAL EXPERIENCE.

factor for over half of the physician assistants.

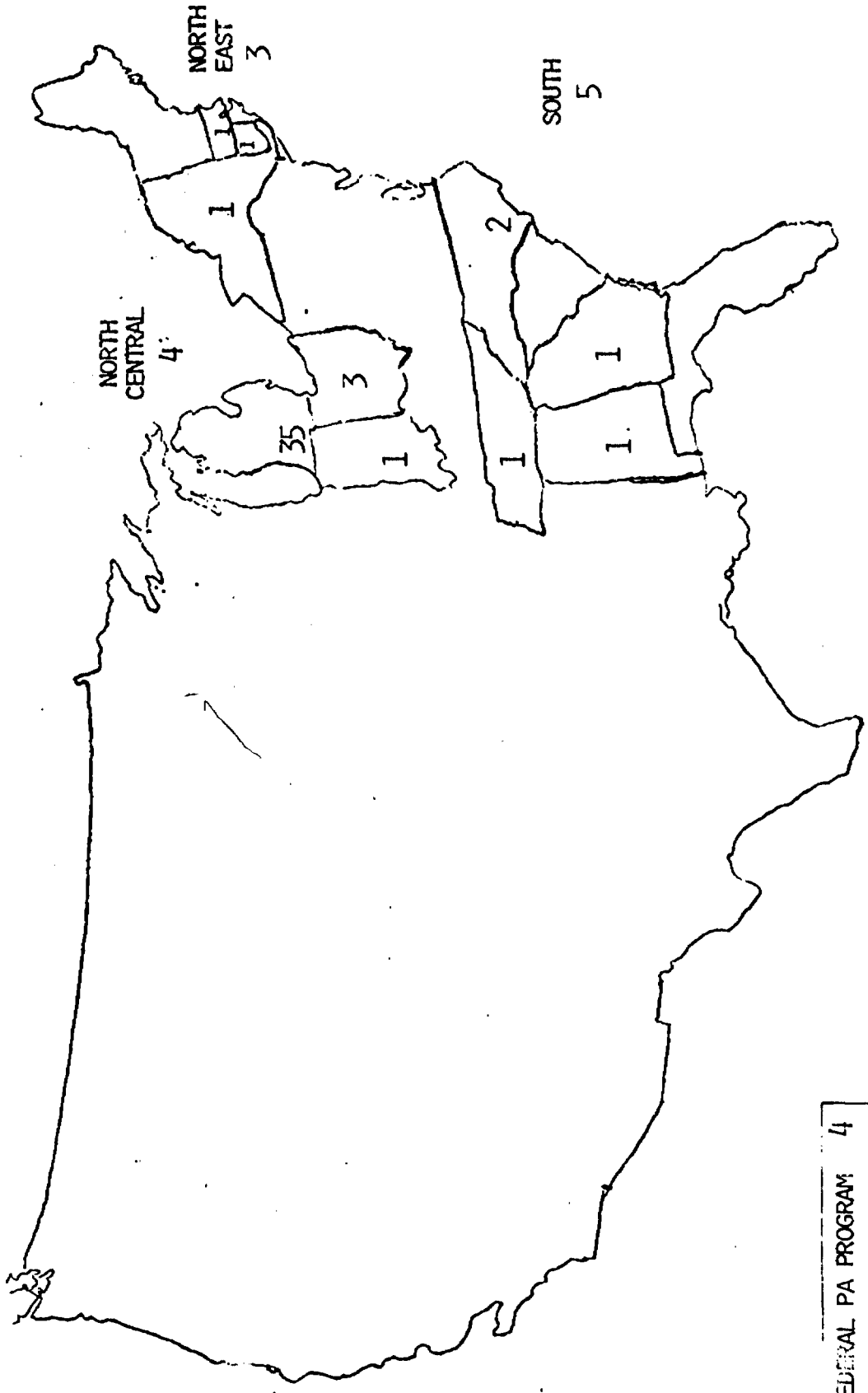
The location of the extenders' professional training is shown in Figure 11. Most of the physician extenders obtained their education in Michigan. This finding is influenced by the inclusion of the twelve health nurse clinicians, nine clinical nursing specialists and eight orthopedic assistants in our study, all of whom were trained in Michigan. There may be little incentive for physician assistants trained outside of the state to locate here since there is no clear definition of their status in the state; however, our survey provided no data on this point.

The salary ranges by type of physician extender, by specialty and by primary work setting are illustrated in Figure 12. Nearly all (85%) of the extenders are salaried employees, only 6% are on a fee-for-service basis and close to 5% are on hourly wage. The nurses' salaries primarily range between \$12,000 and \$16,000 with a median salary of \$14,000, though two nurses are earning less than \$10,000. Physician assistants' salaries are slightly lower than nurses and are concentrated in the range between \$10,000 and \$14,000 with a median salary of \$11,500. However, two physician assistants are earning more than \$20,000. Both technicians in the study are also earning over \$20,000 which can be attributed to their seniority and administrative roles.

Charts B and C in Figure 12 show the distribution of extender salaries by specialty and primary work setting. Two thirds of the physician extenders in non-primary specialties are earning salaries in the \$12-15,999 ranges, but extenders in primary care specialties are much more widely distributed. As seen in Figure 10, there is a fairly high correspondence between primary care and private practice and between other specialties and institutional settings. Thus, in Chart C, the salaries of two-thirds of the extenders

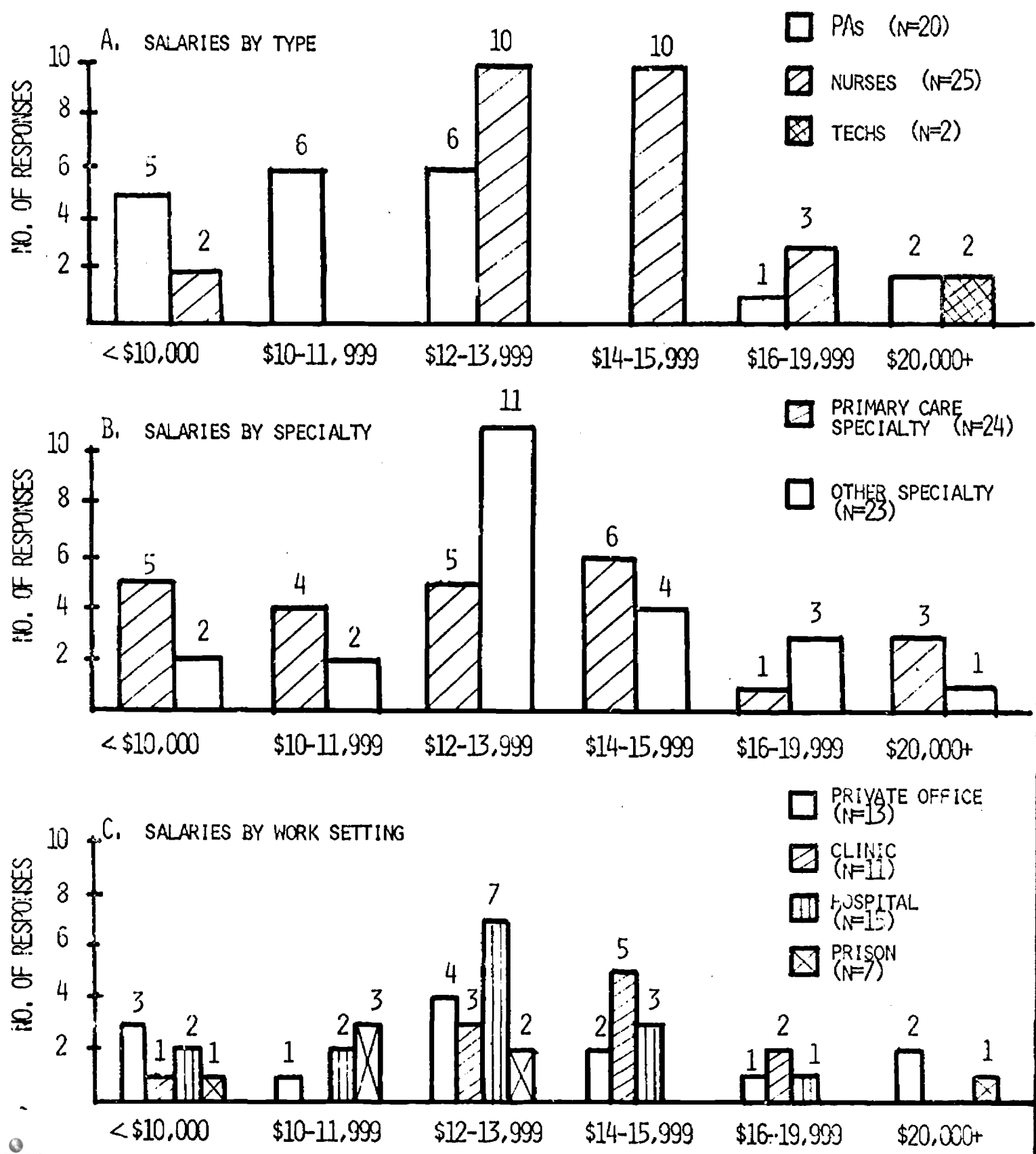
FIGURE II

PHYSICIAN EXTENDERS : LOCATION OF TRAINING



FEDERAL PA PROGRAM	4
MILITARY	3

SALARIES BY TYPE, SPECIALTY, AND WORK SETTING



working in hospitals and clinics are also concentrated in the \$12-15,999 ranges while those in private offices are more widely distributed.

CHAPTER IV

UTILIZATION OF PHYSICIAN EXTENDERS

Several studies have been or are now underway to examine how physician extenders are and should be utilized. Given the rather limited nature of this particular survey, comprehensive and indepth analysis of all of the aspects of physician extender utilization was not possible. What the survey has attempted to do is to provide an overview of the type of activities performed by the physician extender in both office and patient management, and to try to relate these tasks where possible to various factors in the background of the extender, such as training and education.

Specifically, this section will first focus on the proportion of time extenders spend in several broad categories of work and the role which the extenders see themselves as playing in office and patient management. Second, the specific kinds of tasks physician extenders perform, the degree of supervision under which they perform them are examined. The relationship between the type of physician extender, his/her education and background, and the types of tasks performed are also explored. Finally, the conditions either of the patient, the visit or the practice which might affect the degree of discretion allowed the physician extender are evaluated.

Time Allocation and Role

The physician extenders were asked in the factual questionnaire to indicate the percent of time they spent in six functional categories: administration, patient care, information and counseling, technical and laboratory tasks, and other functions. Examples for these categories given in the physician extender questionnaire were as follows:

Patient Care: diagnosis, examinations, treatment, patient history, etc.

Information and Counseling: information about child care, interpreta-

tion of doctor's instructions, etc.

Administrative/clerical: inventory and supply, insurance forms, etc.

Technical: immunizations, vision and hearing screening, anthropometric measurement, etc.

Laboratory: blood count, urinalysis, throat culture, etc.

Other Activities: specified by the respondent and included conferences, supervision, surgery, education, etc.

It was found that physician assistants and nurses spend little of their time in administrative, technical or laboratory functions (see Figure 13-C, D, E). Extenders spend most of their time in patient care and information counseling activities. Nurses have more "other" types of activities than physician assistants, and this is because of the greater number of nurses who teach or who are in hospital supervisory or management positions.

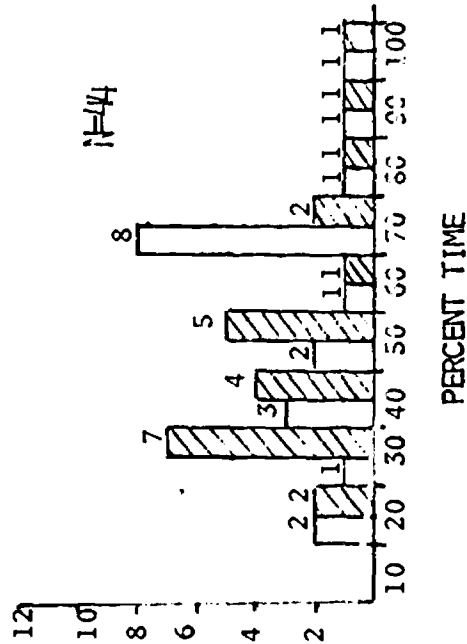
It can be seen in Figure 13-A that, on the average, most nurses spend between 30 to 50% of their time in patient care as defined above. In comparison, nearly half of the physician assistants indicated that they spend at least 70% of their time in patient care. In contrast, Figure 13-B shows that information and counseling is predominately a nursing function, and not a physician assistant function. No physician assistant spends more than 20% of his time in tasks of this nature, while all but one of the nurses spend between 30 and 70% of their time in information and counseling. This might explain why the nurses indicated they spent slightly less of their time in direct patient care.

Because information and counseling can be considered to be part of the patient care function, these two types of tasks were combined and were analyzed by type of extender (Figure 14). It was found that all but one nurse spends 50% or more of her time in this more expanded definition of patient care and that most nurses spend 80% or more of their time in these two capacities. Only three physician assistants (15%), however, spent more

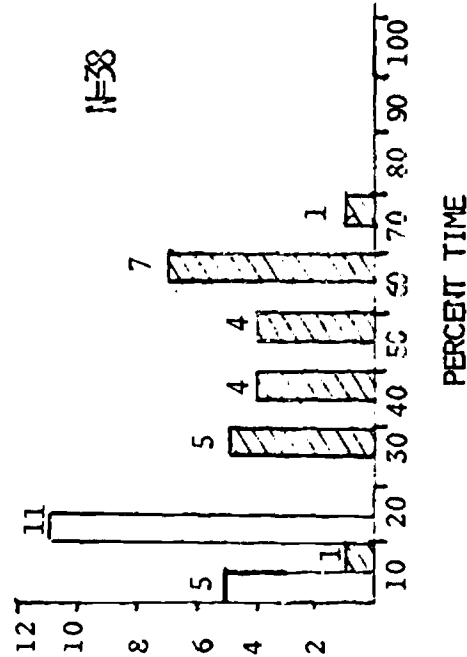
FIGURE 13
PHYSICIAN EXTENDERS TIME ALLOCATED
TO VARIOUS DUTIES

□ PA
▨ NURSE

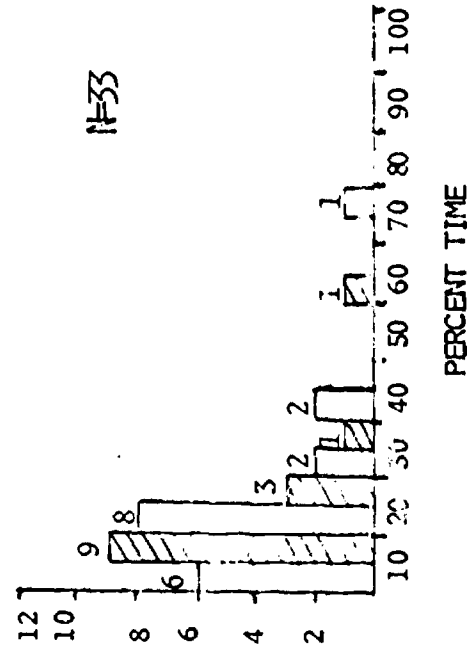
A. PATIENT CARE



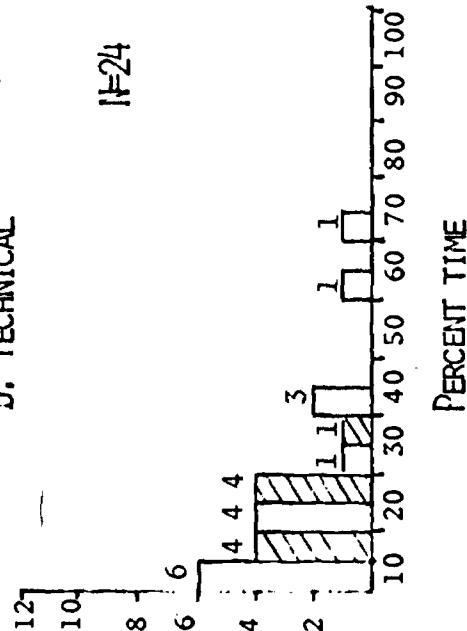
B. INFORMATION AND COUNSELING



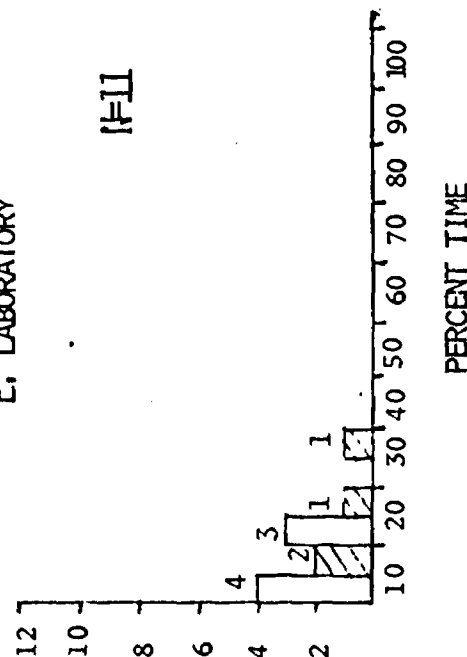
C. ADMINISTRATION



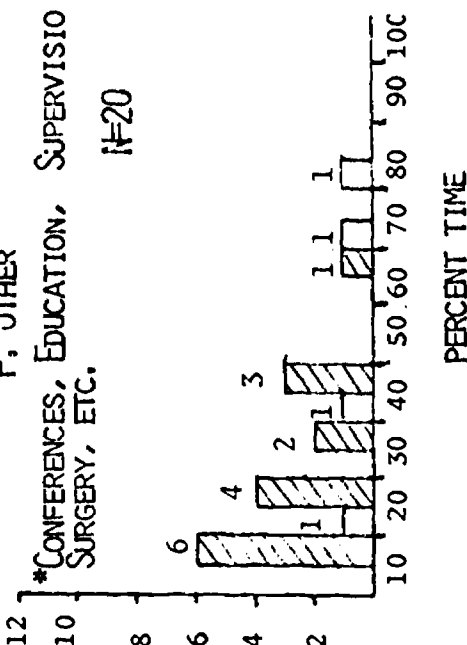
D. TECHNICAL



E. LABORATORY



F. OTHER*



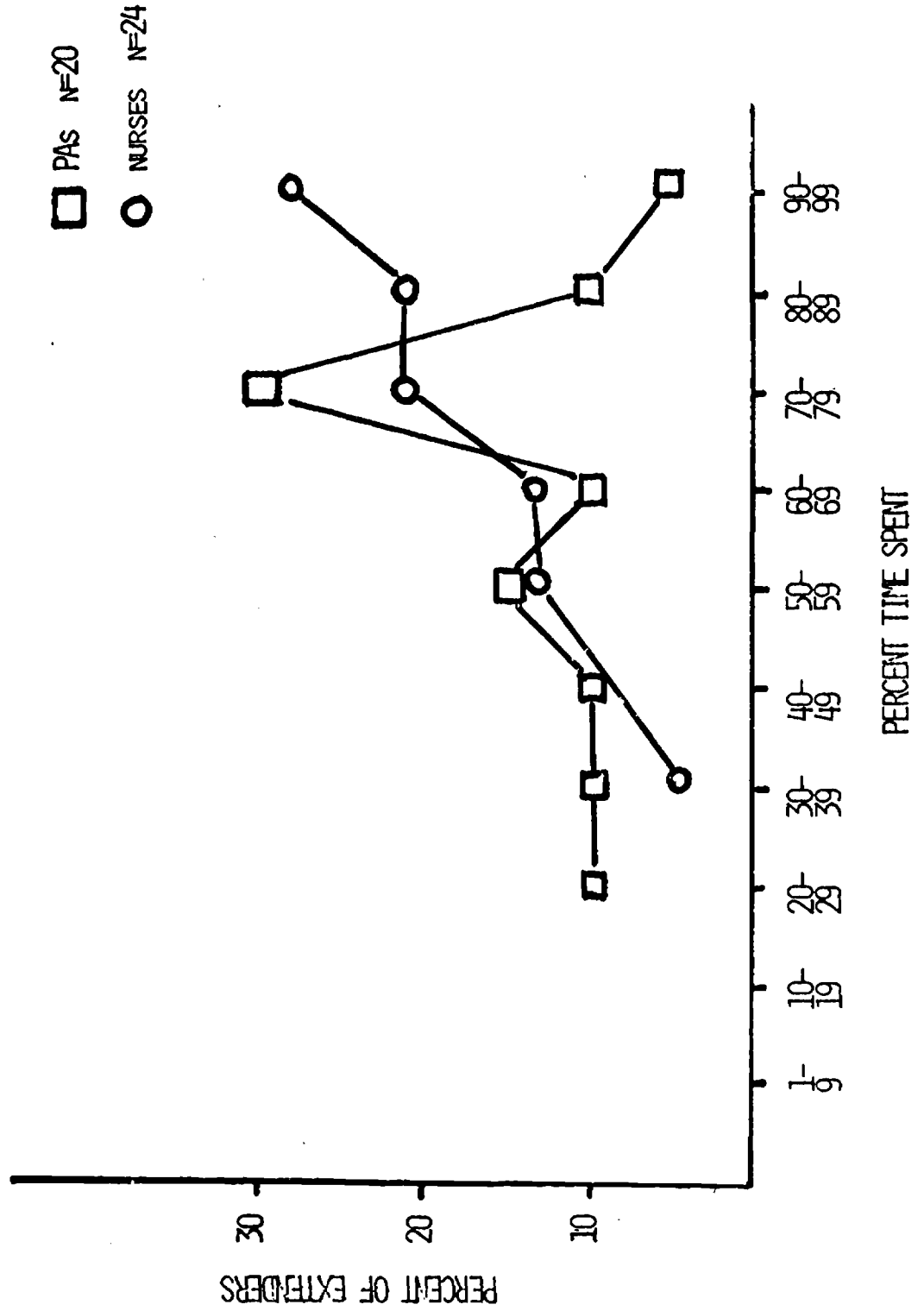
PERCENT TIME

PERCENT TIME

PERCENT TIME

FIGURE 14

PERCENT TIME IN PATIENT CARE AND INFORMATION AND COUNSELING
BY PHYSICIAN ASSISTANTS AND NURSES



than 80% of their time in these two combined activities. These data indicate first that the physician extender is primarily involved with broad patient care activities rather than office management activities as defined in this analysis. Secondly, physician assistants of all physician extenders spend slightly less time in direct patient care than nurses, the remainder of time being spent in more technical or administrative types of duties. These activities, however, may contribute as much to the productivity and efficiency of the care provided by the practice as the nurses contribute in direct patient care.

In the telephone interview the physician extenders were asked what role they played in the management of patient care (scheduling and routing of patients for single visits, multiple visits during an episode of illness, and continuing or preventive health care) and in office management (business functions including filling out of insurance forms). The extenders used four terms (assisting, substituting, complementing, and collaborating) to describe their role in these areas. Based on the information provided by the extender and our own synthesis of the various concepts involved, the following definitions were developed by the research group:

Assist: the physician extender works closely with the physician under direct supervision, and helps the physician to perform patient care and office management tasks; this results in relatively small increases in the productivity of the physician.

Substitute: the physician extender, with or without direct supervision performs tasks which the doctor would otherwise have to do; this represents a significant increase in the productivity of the physician.

Complement: the extender acts in either an assisting or substituting capacity, but adds a significant new dimension to the tasks which would not be there without the extender.

Collaborate: the extender works with the physician on a peer level and has professional responsibility for the tasks performed whether done to assist, substitute, or complement the physician.

Responses, however, were not based upon these definitions.

Of the physician extender respondents, 90% reported some role in management of patient care. Thirty-six percent said they assisted and 19% said they substituted for the physician in patient care management. Twenty-seven percent believed they collaborated with and 8% perceived their role as complementary to the physician in the management of patient care. Those who responded that they collaborated or complemented the physician were the nurses in expanded roles. Traditionally, nursing encourages the role of the nurse as a complement to or collaborator with the physician. It is unknown, however, how many physician assistants might have classified themselves as collaborating or complementing the physician had the definitions presented above been provided to them.

Physician extenders were also asked in the interview about their role in office management or business tasks. Only 21% of the assistants felt they had a role in office management. Of this 21%, half felt they assisted and half felt they substituted for the physician in office management. These findings are consistent with the low percentage of time the extenders reported allocating to administrative functions and serve to underscore the overall importance of patient care activities in the job of the extender.

Task Analysis

As stated previously, a complete analysis of all tasks being performed by physician extenders was not possible in this limited, pilot survey. Because of this fact, a limited sample of tasks was used to provide a rough indication of the type and difficulty of work being done by the various categories of extenders as well as the supervision received while performing this work. The sample of tasks was the same as used by the American Academy of Physician Assistants in a survey conducted in 1973.³

³American Academy of Physician Assistants, "The Physician Assistant: How the PA Sees his Place in Medicine," Patient Care, August 1, 1973, p. 14.

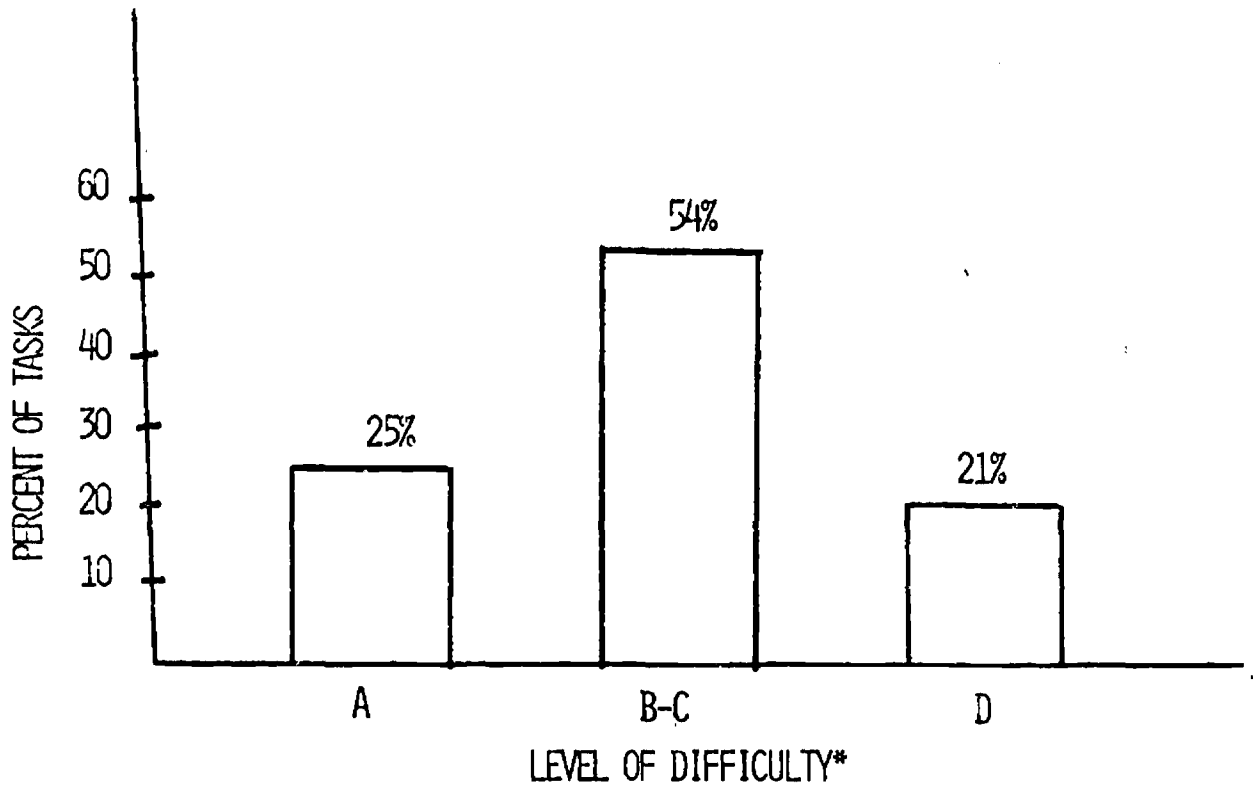
In our survey, physician extenders were asked to indicate the amount of supervision experienced in the performance of each task on this list (direct or indirect supervision, extender would initiate, or does not perform). The degree of difficulty of these tasks was rated independently by four faculty members of the School of Public Health at the University of Michigan. The faculty group was comprised of two physicians, one Ph.D. registered nurse involved in education, and one public health nurse. Tasks were rated on a four point scale: A, being the least difficult and D, the most difficult. Tasks for which there was substantial disagreement were eliminated from further analysis as being too vague or subject to possible misinterpretation by the respondents; and the B and C rated tasks were collapsed into one medium-difficulty category.⁴ A list of these tasks, their scoring as to degree of difficulty, and the percent of physician extenders performing these tasks are included in Appendix II. After eliminating the contentious tasks, 28 tasks remained for which there was agreement. A list of the tasks included in the analyses following and their distribution with respect to difficulty is presented in Figure 15 and Table 3.

Performance or non-performance of these tasks was examined by type of physician extender, education level, and work setting. Most extenders performed the A level, or least difficult, tasks and generally a higher percentage of physician assistants than nurses performed them. No correlation was found between performance of the "A" tasks and education level or work setting.

For B-C level tasks, that is, those of medium difficulty, there was little difference in performance of tasks by level of education or work

⁴"Substantial disagreement" was defined as any situation where two or more raters disagreed, or where one rater disagreed by more than one level of difficulty (i.e. three ratings of "C" and one rating of "A").

FIGURE 15
DISTRIBUTION OF SURVEYED
TASKS BY DEGREE OF DIFFICULTY



*FOUR FACULTY MEMBERS OF THE SCHOOL OF PUBLIC HEALTH RATED EACH TASK FOR DIFFICULTY. THE GROUP WAS COMPRISED OF 2 PHYSICIANS, 1 REGISTERED NURSE AND 1 PUBLIC HEALTH NURSE.

TABLE 3

LIST OF TASKS BY DEGREE OF DIFFICULTY AND PERCENT OF PHYSICIAN EXTENDERS PERFORMING

A LEVEL	B LEVEL	C LEVEL
% OF EXTENDERS PERFORMING	% OF EXTENDERS PERFORMING	% OF EXTENDERS PERFORMING
FILL OUT INSURANCE FORMS	ADMINISTER MEDICATION TO PATIENT	PERFORM AND INTERPRET RECTAL EXAMINATIONS
24%	70%	39%
TAKE BLOOD PRESSURE OF ADULT PATIENTS	GIVE INJECTIONS/IMMUNIZATIONS	ARRIVE AT AND RECORD A PROVISIONAL MEDICAL DIAGNOSIS
92%	74%	71%
PERFORM URINANALYSIS	INTERPRET PHYSICIANS' INSTRUCTIONS	PERFORM LUMBAR PUNCTURES
42%	98%	4%
DO INVENTORY AND SUPPLY TASKS	PREPARE AND SUTURE LACERATIONS	ADMINISTER NERVE BLOCKS
42%	36%	11%
ORDER ROUTINE LAB TESTS	FOLLOW UP SUTURE PROCEDURE AND REMOVE SUTURES	COVER FOR PHYSICIAN IN EMERGENCY ROOM
72%	64%	28%
APPLY DRESSINGS AND BANDAGES	GIVE MINOR MEDICAL ADVICE OVER THE TELEPHONE	INTERPRET ECG TRACINGS
77%	80%	29%
TAKE ECG TRACINGS	GIVE MINOR MEDICAL ADVICE IN THE PRACTICE SETTING	
	MAKE HOME VISIT WHEN DIAGNOSIS IS CHRONIC	
	38%	
	PUT ON CASTS	
	29%	
	APPLY TRACTION	
	21%	
	MAKE MATERNITY HOSPITAL VISITS	
	42%	
	PERFORM THROAT CULTURE ANALYSIS	
	38%	
	ADMINISTER SUBCUTANEOUS LOCAL ANESTHESIA	
	78%	
	REFER PATIENTS TO SOCIAL AGENCIES OR OTHER HEALTH CARE FACILITIES	
	70%	
	INITIATE ENTRY INTO HEALTH CARE SYSTEM (IN-PATIENT, EXTENDED CARE FACILITY, ETC.)	

setting, but there did seem to be some correlation between performance and extender type. Assistants and nurses both performed the following tasks: administering medication, giving immunizations/injections, interpreting physicians' instructions, giving minor medical advice, and initiating entry into health care systems. Only assistants put on casts and applied traction, and primarily physician assistants prepared and sutured lacerations, removed sutures, performed throat culture analysis, and administered local subcutaneous anesthesia. Only nurses, on the other hand, gave minor medical advice over the telephone and made home visits when diagnosis was chronic; these two tasks may be considered to be traditional nursing tasks.

Few physician extenders performed those tasks which were classified as most difficult; the only exception was arriving at and recording a provisional medical diagnosis which assistants and nurses equally reported performing. For other tasks of "D" difficulty, more physician assistants than nurses reported performing them. There was no correlation with performance of these tasks and education level; the extenders in prisons and in private offices most frequently reported performing these difficult tasks.

The physician extenders also reported the degree of supervision under which they performed the tasks. Though physician assistants performed A and D level tasks more frequently and B-C level tasks equally with nurses, nurses performed tasks of all levels of difficulty with more independence than did the physician assistants. Thus, while physician assistants generally perform a wider variety of tasks, nurses more often initiate tasks on their own, no matter what degree of difficulty.

Except for a few B-C level tasks, there is no correlation between level of supervision and level of education for any tasks. Generally, work setting

is a better predictor of both performance and independence than is level of education. Physician extenders in clinics and prisons functioned with less supervision in this study than did extenders in private offices and hospitals. There is less correlation of supervision and work setting for A and D level tasks, the easier and more difficult tasks, than there is for B-C level or moderate difficulty tasks.

As a measure of their discretion or supervision in patient care, physician extenders were asked if nine conditions would have an effect on their independence (Table 4). The most significant influence on the amount of supervision or discretion allowed a physician extender is the severity of a patient's condition. It was found that 80% of all respondents believed the severity of the condition would influence the degree of discretion or supervision while 20% felt that it would not. The physician extenders were evenly divided on the questions of whether or not the age of a patient or an acute condition would have an effect on their supervision or discretion. These findings suggest that many areas are open to the physician extender and that it is not the situation, but rather the medical problem which influences his discretion or supervision.

TABLE 4
CONDITIONS AFFECTING
PHYSICIAN EXTENDER SUPERVISION

CONDITION	% RESPONSES	
	POSITIVE	NEGATIVE
AGE	46	54
SEX	28	72
SEVERITY	80	20 *
ACUTE CONDITIONS	52	48
CHRONIC CONDITIONS	37	63
FIRST VISIT	41	59
REPEAT VISIT	37	63
DROP IN VISIT	25	75
LOCATION OF VISIT	26	74

*SEVERITY IS THE ONLY CONDITION WHICH AFFECTS THE
AMOUNT OF SUPERVISION OR DISCRETION.

CHAPTER V

EFFECTS OF A PHYSICIAN EXTENDER ON THE PHYSICIAN'S PRACTICES

The quantitative and qualitative impacts of the physician extender as expressed by the physician will be discussed in this section. The quantitative effects include changes in the size of the practice, in the number of patient visits, and in the net revenue of the practice. Qualitative changes include differences in the tasks the MD does, the thoroughness with which he does them, and differences in the scope of the practice.

There are problems in attempting to measure the productivity of a practice. All aspects must be taken into account, for changes in one area may affect the amount of change that is possible in another. For example, one may not be able to increase simultaneously both quality of care and volume of service. Furthermore, one product of the use of physician extenders is a better utilization of the physician's skills. This may or may not be accompanied by actual quantitative or qualitative changes in the practice.

Before looking at these effects, some background information should be considered. The patient load of both the physician and his extender, and the relationship of the extender to the physician in terms of patient visits, provide an overview of the volume of service in these practices.

Physician Patient Load

Of 32 physician responses, nearly 50% spent five days per week seeing patients. Another 25% saw patients six days a week. Thirty of the supervising physicians saw an average of 31 patients per day; but the distribution was skewed with 60% seeing fewer than this.

Thirty-two physicians reported on the percentage of their week spent in patient care in the office. The responses form two clusters, with 35%

spending from 21 to 40% of their week in this way, and 41% spending from 61 to 80% of their time in this capacity. On the average, these physicians spent 55% of their time in office patient care. Twenty-seven physicians reported on time spent in hospital patient care. Seventy-four percent spent from 11 to 30% of their time in this way, with an average of 25%.

Physician Extender Patient Load

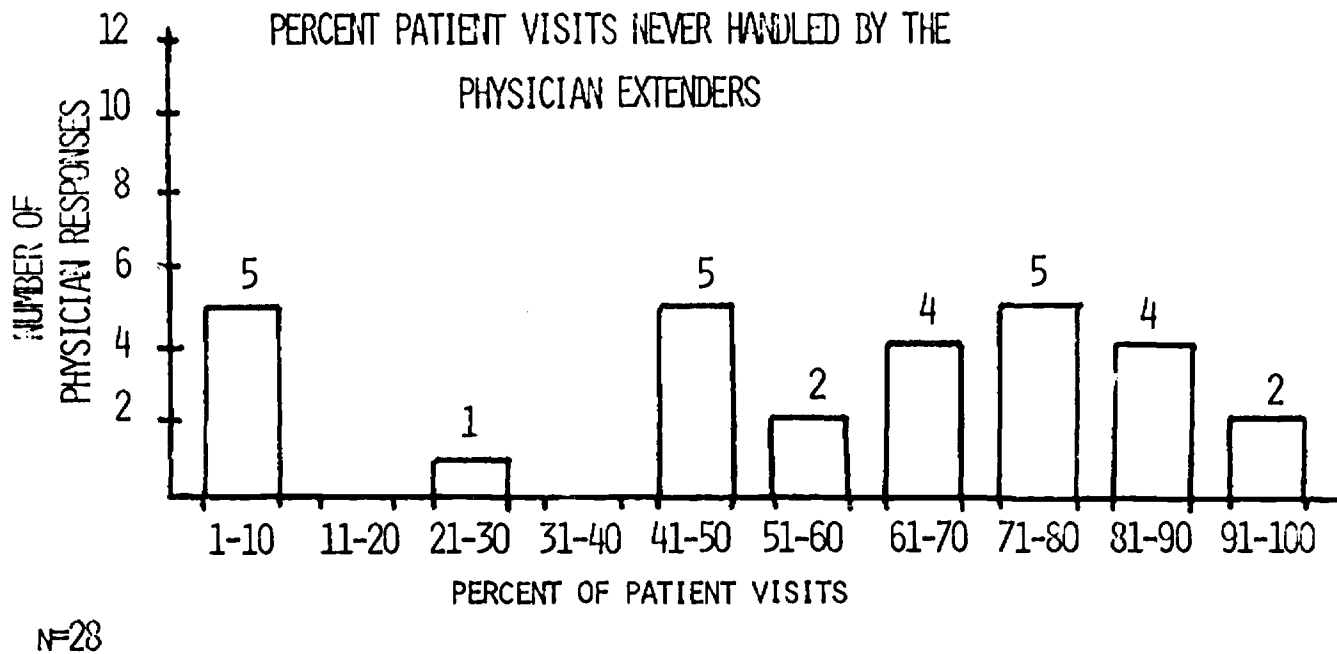
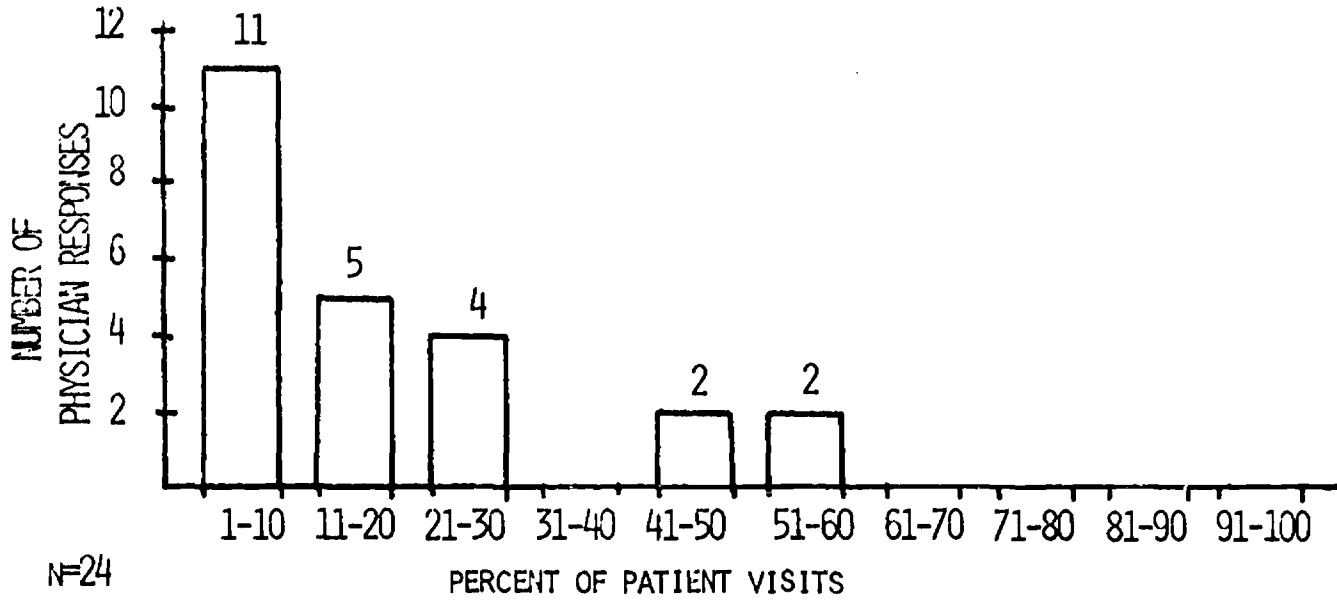
As expected, the majority of physician extenders saw patients five days a week (70% of 46 responses). Eight physician extenders, or 15% saw patients only two or three days a week. These were usually nurses functioning in dual roles, where an expanded patient care role was combined with a supervisory, administrative, or teaching position. Another six extenders saw patients six or seven days per week.

Physician extenders tended to see fewer patients per day, with an average of 21, than did physicians. Most (79%) saw 25 or fewer patients per day. Almost half, 19 out of 42 respondents, saw ten patients or fewer; ten extenders, or 24% saw from 11 to 20 patients; and four physician extenders saw from 21 to 25 patients per day. Only nine, or 21% saw more than this, with responses scattered up to 75 patients per day.

To help define the physician extender's role in and contribution to the practice, the physicians were asked what percentage of patient visits were seen only by the extender and what percentage were never seen by the extender (Figure 16). The physicians generally agreed that the percentage of patient visits handled only by the extender was fairly low. Of 24 physicians who responded, almost half indicated that the physician extender alone handled only 10% or less of the patient visits. Another 38% said the physician extenders handled from 11 to 30%. And a few physicians estimated that their physician extenders handled from 41 to 60% of patient visits. Six of the

FIGURE 16

PERCENT PATIENT VISITS HANDELED ONLY
BY THE PHYSICIAN EXTENDERS



physicians also specified that the physician extenders did consult with the physicians on the visits they handled.

In addition, since eleven physician extenders worked with no specific physician supervisor, we have no data on how many visits they alone handled. These are mostly nurses in clinics and hospitals, where it is much more difficult to determine the proportion of their contribution in terms of volume. Extenders in these roles may be handling a larger percentage of their patients independently, which would tend to even out the distribution, but there are no specific data on this.

Physicians varied widely on the percentage of patient visits which they handled without the physician extender. More than one-third (11) of the 28 respondents indicated that from 71 to 95% of the patient visits were not seen by physician extenders. An equal number said that the physician extender alone handled up to 50%. These latter were evenly divided between physicians who reported that only up to 10% of patient visits were not seen by the physician extender, and those who responded that 41 to 50% of patient visits were not seen by the physician extender.

In cases where few patient visits were handled without the physician extender, the extenders probably did the preliminary work-up and referred the patient to the physician with a provisional diagnosis or assessment. There may be various reasons for the high number (70-95% in some practices) of patient visits never seen by the extender. Perhaps the extender was used in only one of the physician's settings, or for certain types of patients or specific kinds of care. In some of these cases, the physician extender may have been handling this portion (5-30%) of the physician's practice very independently.

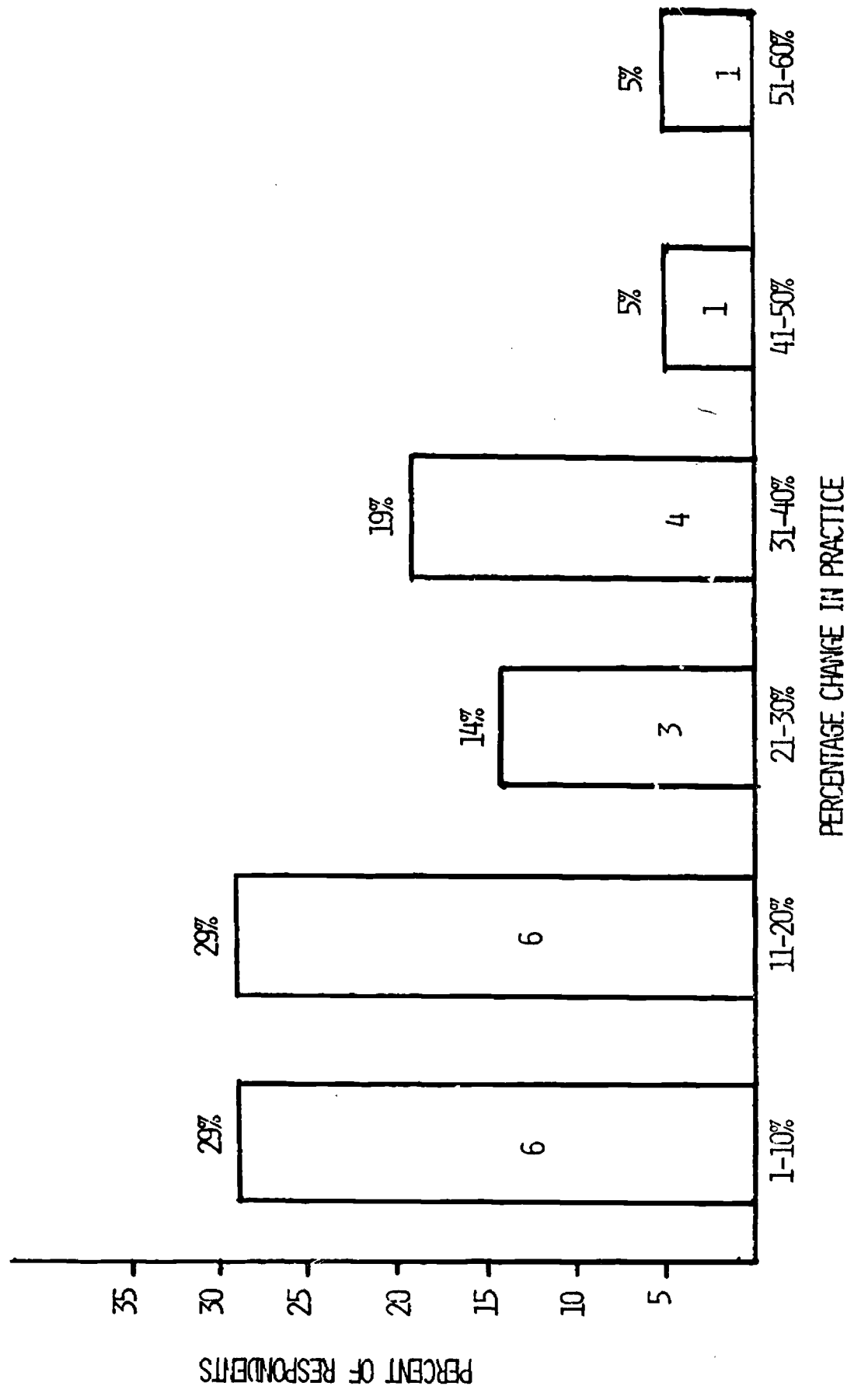
Quantitative Changes

It should be noted here that the measures given of quantitative and qualitative changes in the practices are provisional indicators. Many of the physician extenders in the survey were relatively new in their positions, and it was difficult for their physician supervisors to estimate the extent of any changes. A number of the physicians were not able to answer. And in addition, no data were available on the qualitative and quantitative effects of the 11 extenders who had no specific physician supervisor. Thus, reported increases in volume of practice may be minimal. They are a measure not of the potential of physician extenders to increase services, but of the current situation only. As the extenders grow and develop in their roles, it is reasonable to assume that their effects on the practices will grow also.

Practice Size

Figure 17 shows the physicians' perceptions of the magnitude of increase in their practice sizes as a result of the physician extenders. The largest group of responses (12 out of 21) were evenly divided between those who said that the extender increased their practice from 1 to 10%, and those who perceived the increase to be from 11 to 20%. Seven physicians gave estimates of increases ranging from 21 to 40%, and only two physicians gave higher percentages. In other words, 72% estimated increases of over 10%, but fewer than half (43%) perceived increases of over 20%. In a question on the factual questionnaire concerning total number of patients in the practice, 28 physicians responded: nineteen (68%) reported an increase in practice, eight (20%) reported no effect, and one reported a decrease of 51-55%. In general, the physician extenders were seen to be making a contribution in increasing the volume of practice, and although

FIGURE 17
PERCENTAGE DIFFERENCE IN PRACTICE SIZE
AS A RESULT OF THE USE OF A
PHYSICIAN EXTENDER



N=21

the extent of this contribution varied considerably, it was significant in many cases.

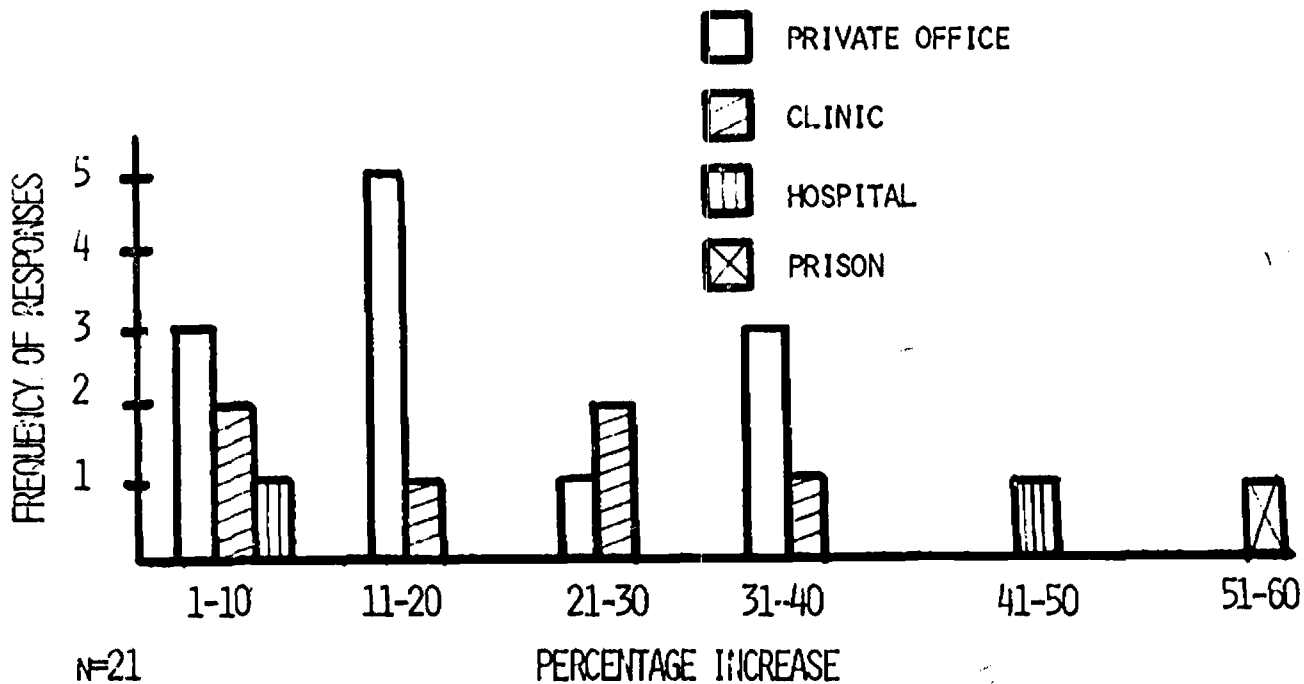
Some of the physicians who reported increases qualified their estimates in two ways. Three physicians whose practices had increased by less than 20% noted that they felt the quality of care given to their patients had improved. Another five physicians reported that their own workload had actually increased. Nevertheless, two of these (from the same practice) reported low increases in volume, and one physician in a prison reported a high increase. The other two reported no increase in practice. This was due either to time spent in supervision and consultation, or to the provision of more comprehensive care.

Although there are several cases where more than one physician in our survey worked with the same physician extender, in only one case did more than one physician in a particular practice estimate the increase in the practice. In that instance, four physicians perceived three different percentage increases, which were averaged and then counted as one response. These differences in perception point up the difficulties in collecting accurate data in this area. They may also indicate differing physician attitudes on the role, utilization, and contribution of a physician extender.

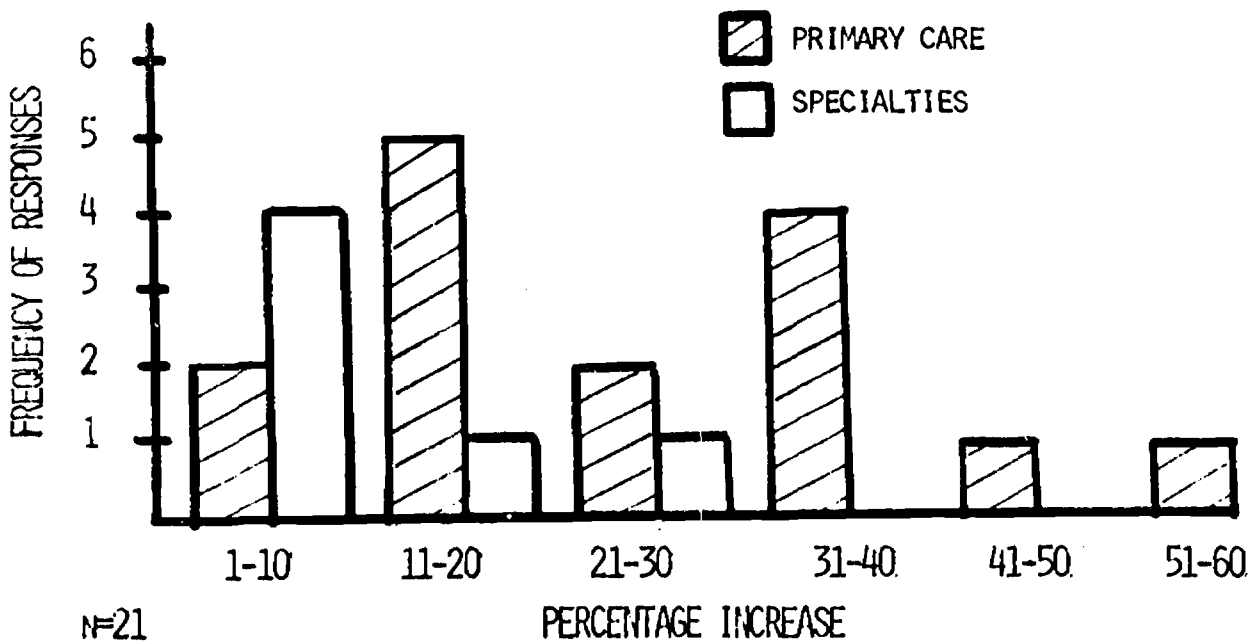
The reported increases in practice were broken down by principal work setting of the physician extender, and by the specialty of the physician (Figure 18). The range of increases varied widely for all three major settings. The fact that more physicians whose extenders work in private offices reported increases in their practices is most likely due to the difficulties of ascertaining such data in clinics, and particularly in hospital settings. In addition, physician extenders in institutional settings are, in many cases, nurses who emphasize complementary care for patients, rather than the pro-

FIGURE 18

PERCENTAGE DIFFERENCE IN PRACTICE SIZE BY PRINCIPAL PHYSICIAN EXTENDER WORK SETTING



PERCENTAGE DIFFERENCE IN PRACTICE BY PHYSICIAN SPECIALTY



viding of basic medical care to increasing numbers of patients. Also, many of those do not have one particular physician for whom they work, as discussed previously. In other instances, the setting itself may impose certain constraints which limit the contribution of the physician extender with respect to quantity.

Increases in practice by specialty were considered in terms of primary care and other specialties. Many more physicians in primary care (15 out of 21) reported increases in their practice, and the increases were higher than those reported for specialties. Primary care physicians averaged an increase of 27%. The six specialty physicians averaged increases of only 12%, with two-thirds falling at the 10% level or below. However, as Figure 10 in Chapter III shows, specialist physicians and extenders tend to be working more in hospitals and clinics, and the difficulties in obtaining data for these settings have already been discussed.

Office Visits

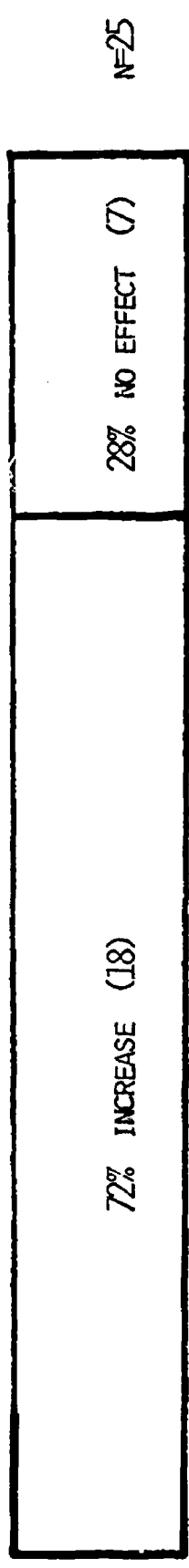
Two further components of increases in practice were explored in the factual questionnaire (Figure 19). Physicians in 18 practices, or 72%, indicated an increase in the number of patients visiting the office per week, as a result of the use of a physician extender. Seven (28%) said there was no effect. Of those who indicated an increase, only eight reported percentage figures, which varied widely. Over half of these however, gave increases of over 35%.

Physicians in nine practices indicated an increase in the number of patients per week that they see personally. Most of these gave percentage figures of under 25%. In seven practices there was a reported decrease in this figure, and in ten practices no effect was reported.

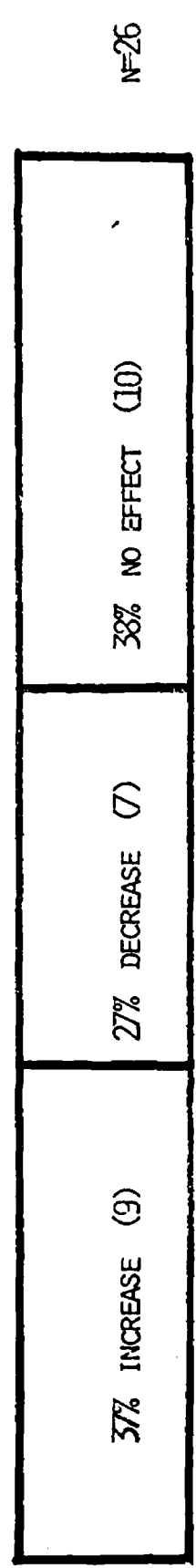
These increases in total number of patients in the practice, in the

FIGURE 19

CHANGE IN NUMBER OF PATIENTS VISITING OFFICE PER WEEK



CHANGE IN NUMBER OF PATIENTS PER WEEK
SEEN PERSONALLY BY PHYSICIAN



number of patients visiting the office per week, and in the number of patients seen personally by the physician suggest increased productivity and improved use of resources as the result of hiring a physician extender. It should be noted that a decrease in the number of patients seen personally by the physician does not necessarily mean a decrease in productivity. It may indicate that one of the benefits of the physician extenders is that they free the physicians so that they can spend more time with difficult cases and less time with routine care. This constitutes a better use of the physician's skills and should result in improving quality of care.

Qualitative Changes

To appreciate more fully the effects of a physician extender, several questions in the telephone interview were designed to ascertain qualitative changes in the practices from the physician's point of view. They were asked how the addition of a physician extender changed the pattern of tasks, the thoroughness or amount of time spent on particular tasks, and the addition of new tasks or changes in the scope of practice.

Task Pattern

Generally, changes in task pattern and thoroughness are closely related. In total, 36 physicians responded to these questions, most giving multiple answers. Changes in task pattern begin with the delegation of certain types of tasks to the physician extender.

<u>Type of Task Delegated</u>	<u>No. of Physicians Delegating Each Type</u> (N = 32 physician respondents)
Routine Tasks	25
Physical Exams	17
Technical Tasks	12
Patient Counseling	9
Office Tasks	2

A few physicians reported changes such as fairly independent handling of chronic or routine cases by the extender, all in specialty areas.

As a result of delegating these tasks, the physicians were able to use their time and skills more effectively. Thirty-two physicians reported the following effects on the quality of care provided for their patients.

<u>Qualitative Changes in Practice</u>	<u>No. of Physicians Reporting</u> <u>Each Change</u> (N = 32 physician respondents)
Increased Careful Diagnosis	12
Increased Time for Patient Consultation	11
Increased Physician Time on Difficult Cases	10
Increased Accessibility of Physician	5
Increased Coordination of Care	5

Of the 32 physicians who reported qualitative changes, six also reported an increase in the number of patients, and seven reported a decrease in physician workload. This seems to indicate that it is not only possible to increase the volume of services without a reduction in quality of care, but that both quality and quantity can be improved simultaneously.

Another kind of change in task pattern was reported by several physicians. In these cases, the addition of a physician extender affected the tasks of other personnel in the setting. Two physicians in hospital settings reported that physician extenders freed the interns and residents from technical and routine tasks in one case and from well-baby monitoring in the other. This allowed them to spend more time in consultation and in areas requiring judgmental skills, such as diagnostic procedures.

A pediatrician in private practice noted that the presence of a pediatric nurse practitioner in his office tended to upgrade the roles of all the nurses in the setting. In some hospital and clinic settings, health

nurse clinicians and clinical nursing specialists functioned as coordinators of care and staff educators, improving the functioning and efficiency of other health care personnel.

Scope of Practice

When physicians were asked if the addition of an auxiliary had changed the scope of their practice 19 out of 34 respondents (56%) answered in the affirmative. Five reported additional services offered. In some cases, this meant the addition of technical or specialty tasks within the setting, such as X-ray, inhalation therapy, or allergy testing. In two primary care specialties (Pediatrics and Obstetrics/Gynecology), specialized functions of the physician extender resulted in the practice of preventive medicine and provision of more comprehensive care. However, most physicians answered this question in terms of an increase in the quality of care in general (7), or an increase in the volume of services (8).

Changes in Net Revenue

One further effect that the addition of a physician extender may have is a change in the net revenue of a practice. Forty-eight percent of the responding physicians indicated an increase in their net revenue (11 out of 23). Another 39% (9) reported no effect, and three reported an actual decrease in net revenue. Of the physicians reporting increases, only four reported percentage figures; and most of these were increases of 10% or less.

However, these findings on the changes in net revenue are tentative. In most cases, the physician extenders had not been functioning in their settings long enough for physicians to ascertain with any certainty the effects on their net revenue, particularly in terms of the magnitude of the effects. The physicians who reported a decrease in their net revenue did not perceive physician extenders as cost effective. This situation should improve with

time, as the physician extenders and physicians adjust to changing roles and work out efficient task patterns.

Other factors can affect the question of practice income. One physician in a clinic setting felt that physician extenders would not be cost effective unless they were willing to put in the kind of hours that a physician does--or at least to work more than a 40-hour week.

Also, the various types of physician extenders have varying effects on revenue. Some expanded nursing roles emphasize care that is complementary to that provided by the physician. This type of extender has a different effect on revenue than one who provides substitutive services; that is, one who takes over certain aspects of care from the physician. Furthermore, substitutive services are more likely than complementary care to be acceptable for reimbursement by third-party payors.

Our findings are limited by the difficulty of measuring the revenue effects of extenders in institutional settings. While it is important that the cost effectiveness of physician extenders be determined, this task was not considered to be within the scope of this survey. Variations in type of physician extender, work setting, and care provided, together with additional problems of reimbursement and third-party payment policies, are all factors that will require further attention in attempts to establish the cost effectiveness of physician extenders. In the meantime, indications are that physician extenders in general are economically viable. In view of the practice size increases reported by physicians, it is probable that revenues will rise.

In summary, it is clear that physician extenders are having positive effects on the practices in which they work. Physicians strongly indicated both increases in the volume of services and improvements in the quality of care

given to their patients. In many cases, physicians felt that their time and skills were now being used more appropriately, and this has resulted in their general satisfaction with the physician extenders.

CHAPTER VI

PHYSICIAN EXTENDERS' AND PHYSICIANS' SATISFACTION WITH THE EXTENDER ROLE AND TRAINING

In this section the satisfaction of the physician extenders and their supervising physician are examined in regard to the physician extender role and the quality and scope of the physician extenders' training. Suggestions were also elicited from the physicians on how the extender role could be improved. The results on satisfaction presented in this section should be viewed as tentative findings since many extenders have been in their role for a short time, and both they and the physicians are still adjusting to their roles.

No direct measure of the physician extenders' satisfaction was taken because it was believed that proxy measures would be at least as accurate as a direct measure. One measure of satisfaction was the extent to which extenders perceived their professional judgement to be accepted by their patients. Ninety-six percent of the physician extenders believed that all or most of their patients accepted their professional judgement. No differences were found in perceived patient acceptance between the physician assistants and the nurses in expanded roles. The physician extenders probably derive some degree of satisfaction from feeling that their professional judgement was accepted by the patients they are serving. This high level of confidence in the acceptance by patients may also be a factor in the general confidence of the extenders in their roles.

Another proxy measure of satisfaction was the extent to which the physician extender believes he is using all of his skills. In the telephone interview the extenders were asked whether or not all their skills were being fully used. Figure 20, A, shows that overall, 63% or 32 of the physician extenders

FIGURE 20

PHYSICIAN ASSISTANTS' AND NURSES' PERCEPTION
OF THE EXTENT PROFESSIONAL SKILLS ARE UTILIZED

A. ALL SKILLS ARE FULLY UTILIZED

37% (18) YES	63% (32) NO	ALL PEs N=50
18% (4) YES	82% (18) NO	PAs N=22
50% (14) YES	50% (14) NO	NURSES N=28

B. SOME SKILLS ARE NOT USED AT ALL

69% (22) YES	31% (10) NO	ALL PEs N=32
84% (16) YES	16% (3) NO	PAs N=19
54% (7) YES	46% (6) NO	NURSES N=13

C. SOME SKILLS ARE NOT FULLY USED

79% (24) YES	21% (8) NO	ALL PEs N=32
63% (12) YES	21% (8) NO	PAs N=19
92% (12) YES	8% (1) NO	NURSES N=13

felt that their professional skills were not fully used. Eighteen (82%) physician assistants and 14 (50%) nurses reported under-utilization. Perhaps there is greater opportunity to apply professional skills in expanded nursing roles than in physician assistants roles.

The physician extenders, who replied that their skills were not being fully utilized, were then asked two more questions: were some skills not used at all, or were some skills being used, but not as fully as they should be. Figure 20, B, shows that 69% (22) of the respondents felt that some professional skills were not being used at all. More physician assistants (16) than nurses (7) felt that some skills were never used. However a higher proportion of the nurses, 92% (12), than physician assistants, 63% (12), felt that their skills were not used to their fullest (Figure 20, C).

It appears that while nurses are using more of their skills, they are not using them as fully as the physician assistants. Fewer physician assistants are performing all the tasks that they were trained to do, but more are performing up to their ability on tasks delegated by the physician.

The physician extenders were asked to indicate primary reasons for non-use or partial use of their professional skills and multiple responses were recorded for these answers. Of the sixteen assistants who reported non-use of skills, nine said that these skills were inappropriate to the setting or to the physician's specialty. For example, two orthopedic assistants are working in neurology, a third orthopedic assistant is in a general practice, and a military trained assistant cannot use skills such as lumbar puncture in the primary care clinic in which he works. Only three assistants mentioned legal problems as a reason for non-use of skills; however, five assistants said that the physicians do not ask them to do certain tasks which could be related to actual or perceived legal problems with the assistant role. As

discussed later in this section, physicians indicated legal barriers to be the primary reason for not delegating tasks for which the extender was trained.

Physician assistants mentioned these same three reasons (inappropriate skills, physicians' not asking, and legal barriers) when asked why some skills were only partially utilized. In addition, competition with interns was given as a barrier to full utilization, particularly for specialist assistants whose primary work setting was a teaching hospital.

Nurses were not as concerned as physician assistants about the non-use of skills. However, the nurses who did report such underutilization agreed with the assistants that inappropriate skills and the physicians' not asking were barriers. A few nurses working in institutions said that an unwillingness on the part of head nurses to accept nurses in expanded roles prevented them from utilizing all skills. In addition, nurses expressed the belief that some skills were not being used because their new role is only beginning to develop.

The reasons nurses gave for partial use of skills were: the physician's not asking, skills inappropriate for the setting or specialty, reimbursement problems (such as third party reimbursement for an extender's visit to a nursing home), and competition with interns. As before, a few nurses felt this underutilization was temporary because their roles were still developing. Legal barriers were mentioned by only two nurses, both of whom were nurse practitioners trained in obstetrics and who find themselves prohibited from performing deliveries under the current Michigan practice acts.

Physician extenders were also asked whether their training had prepared them for their current position. Most, 69%, of the extenders said their training had been adequate. More nurses (79%) felt their training to have been

adequate than did physician assistants (64%). Possibly this finding is influenced by the higher level of education of the nurses, most of whom have a masters degree while the assistants' training is much more varied in length. Also, this finding is probably related to the lack of satisfaction implied by the physician assistants' responses that some of their skills were not being used at all.

In conclusion, nurses are using more of their skills and are slightly more satisfied with their training than are physician assistants. On the other hand, physician assistants feel their skills which are being used are being more fully used than do the nurses. Perhaps these findings are influenced by the differences in the way these two extenders function. The nurses in expanded roles spend much of their time in information and counseling while the physician assistants are more involved in other patient care areas in which they "compete" with the physicians. Depending on the preference of the individual physician, the assistant might never be able to perform certain tasks unless the demand on the practice increased and the physician was forced to delegate these tasks. Though physician extenders feel they are underutilized, the physicians supervising the extenders seem to be highly satisfied with their extenders and with the extender role in general.

The satisfaction of the supervising physicians with the extender can be seen in their willingness to hire additional extenders (which is discussed in the next chapter), and in their answers to a question on how the extender role could be improved. Twelve physicians commented on how the extenders' training programs could be improved, but these criticisms were so varied that no common suggestion emerged. Twelve physicians expressed a need for the removal of the legal barriers and confusion concerning the assistant role, and twelve physicians indicated the need to educate primarily the medical

community, and secondly the consuming public, to understand the assistant role. Nine supervising physicians were completely satisfied with the extender role based upon their experience. Physicians supervising extenders indicated satisfaction with the extender role, and pointed to larger societal problems as being obstacles to the effectiveness of physician extenders.

CHAPTER VII

THE PHYSICIAN EXTENDER'S CURRENT JOB MARKET AND CAREER PLANS

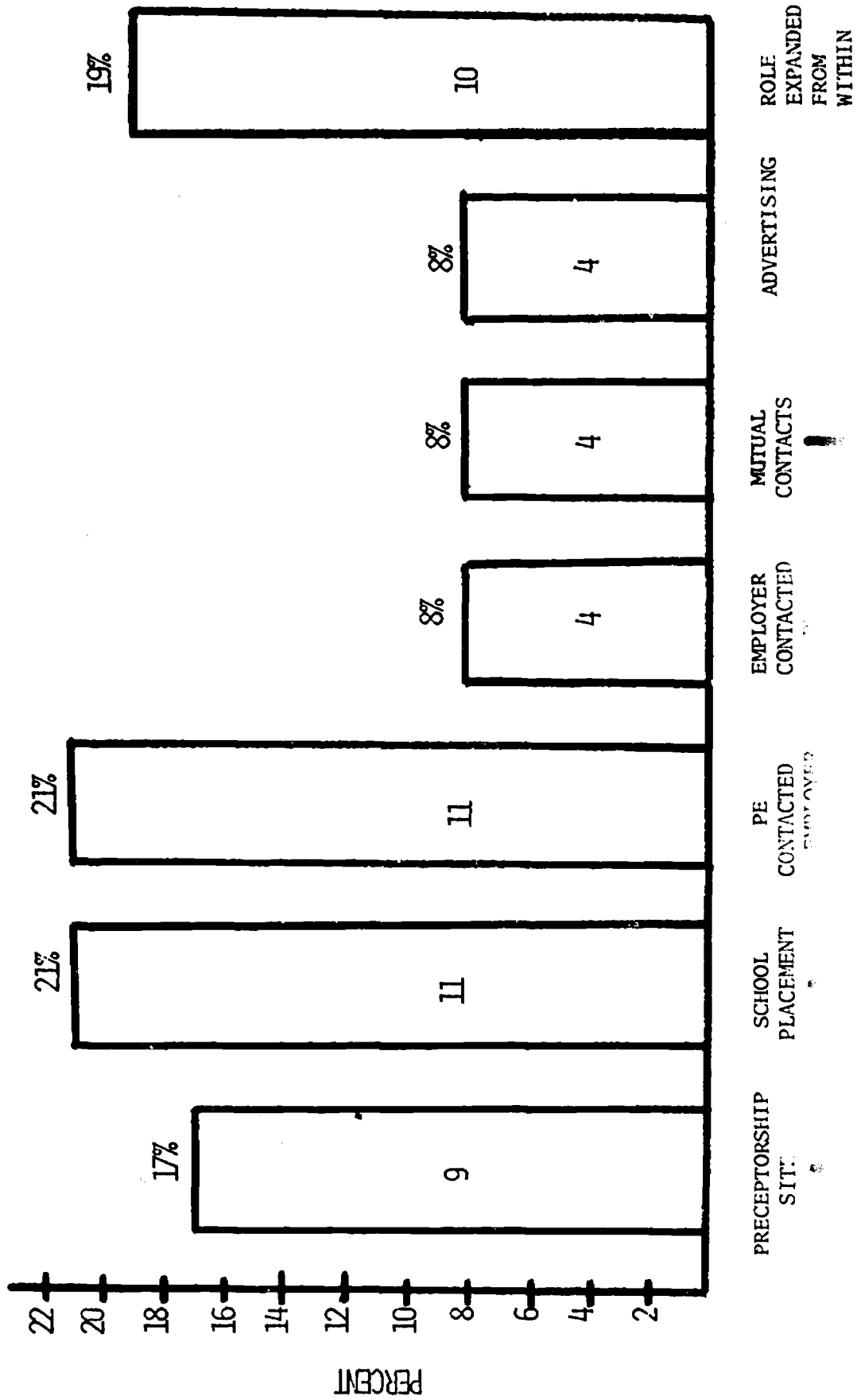
In this chapter the physician extender job market will be analyzed to see what factors currently influence the location of the extenders. The way physician extenders find jobs and the reasons behind their choosing the present one will be examined. To get an idea of what kind of career ladders physician extenders pursue, the career plans of the extenders will also be explored. Last, the motives of the physicians in hiring an extender, the reasons for hiring a particular type, and the physician's willingness to hire additional extenders will be looked at.

The development of the various physician extender roles is so new that there is no formal job market as yet. Over one-third of the extenders (38%) found their present positions through their training programs (Figure 21). This includes extenders who were hired by their physician preceptors from the field-training portion of their program and placement activities of the school.

About 20% of physician extenders contacted the physicians or hospitals themselves. In some cases the extender contacted his or her future employer through another physician assistant or through colleagues of physicians with whom the extender had worked. In four cases, the employers contacted the physician extenders and offered them positions and an equal number of extenders found jobs through mutual connections. Thus, about 37% of physician extenders found jobs as a result of personal and professional contacts, or by applying to hospitals and clinics, which is roughly equal to those who found jobs through their training programs.

Only four extenders found their positions through advertising. Two physician assistants in a prison responded to newspaper ads placed by the employing institution, and another in the Federal prison system responded

FIGURE 21
METHOD OF FINDING PHYSICIAN EXTENDER JOBS



to a Civil Service announcement. This suggests that the prison systems have the most formalized channels for employment. The Federal system also has its own physician assistant training program and sends trainees out to prisons for field placement. There is one such physician assistant in Michigan. The fourth physician assistant in this group placed an ad in the AMA Journal, and considered several positions before coming to Michigan.

In a final 19% of the cases, roles were upgraded from within. This occurred most often with nurses, some of whom were given additional on-the-job or formal training and then took on expanded nursing functions and patient care responsibilities. Alternatively, nurses with additional training created new roles in hospitals or clinics in order to utilize their training and skills more fully.

Although most physician extender positions have been found through the training program or through professional contacts, a more formal job market will evolve. Educating the physician community in the state regarding the role and potential of physician extenders could expand the market for extenders.

Physician extenders were also asked whether or not they considered other jobs at the time they were hired for their present one, and what factors affected their decision. Fifty-two percent of the physician extenders considered other positions. Fourteen of these extenders said they chose their present job over others because it offered the chance to fully utilize their skills. Other reasons mentioned were high salaries and preferences for a specialty, setting, or geographic area. Nine of the physician extenders who did not consider other jobs also indicated that they believed the position offered a chance to fully utilize their skills. For these physician extenders, preference for a specialty and familiarity with a doctor or a setting played major roles in decision making. Higher salaries were mentioned by only five

of these extenders.

Another area explored was the physician extenders' plans for the future which sometimes included several options. Almost half of the extenders (46%) planned to remain in their present positions for an indefinite time. Most of these also expressed an interest in further development of their roles through continuing education, the addition of new skills, and gaining acceptance and legal clarification of their roles.

Seven extenders indicated a desire to continue in physician assistant or extended nursing roles, but had plans for relocation or hopes of a change in practice setting that would allow greater use of their skills. About half of the extenders (48%) were also interested in further formal education and training, and in earning certification or academic degrees. Twenty-five percent planned to attain an academic degree at the Bachelor's, Master's or Doctoral level. Eight of these planned work in the basic or health sciences, and five in related fields such as social work, child development, psychology, and public health. Nine extenders (17%) planned further training in health professions or extender roles. It is often supposed that the physician assistant's role will become a pathway to medical school, but this is not supported by our data. Two nurse practitioners, one of whom is a nurse-midwife, and one physician assistant hoped to enter medical school. Other training desired by extenders with little formal training was in the area of nursing or formal physician assistant training.⁵

Only four physician assistants had plans for physician assistant certification at this time. Only two planned to take the certification examination

⁵ Those extenders desiring nursing training were primarily military-trained extenders who were interested in an RN or an LPN, and the on-the-job trained nurse practitioners who were interested in formal practitioner training. Some extenders had not decided between physician assistant or nursing training as their choice.

for physician assistants in primary care given in December 1973. This, however, may reflect more on the requirements for eligibility; only graduates of approved formal physician assistants or nurse extender programs were allowed to take the exam and this excluded many of the state's extenders who had military or on-the-job training or who had graduated from unapproved programs (one of whom hopes for certification at some point). Physician assistants in specialties were also not included. One physician assistant plans to become certified by the specialty board for his field of work.

Of the physician extenders interested in developing careers in teaching, research, administration or supervising, over half, most of them nurses, plan to combine teaching with continued patient care. Several extenders--again, most are nurses--are currently functioning in dual roles, combining patient care with teaching, supervision or administration. They see this as an ideal way to combine their interests and have a greater positive influence on health care.

Turning to the physician side of the job market, 60% of the physicians reported that they did not have other applicants for the extender position. This lack of competition for jobs reflects the lack of a formal job market discussed previously.

The physicians had various and often multiple reasons for hiring a physician extender. A heavy practice load, frequently due to a lack of sufficient doctors in the area, was mentioned by almost half of the respondents. An academic interest in the role was also commonly cited (about 30%). By an academic interest, the physicians meant that they were interested in the concept of physician assistants, nurse practitioners or nurse clinicians, and were therefore willing to hire an extender in order to encourage the development of these roles. Some of these physicians had been involved in

one of the training programs in the state.

Many physicians expressed their reasons for hiring an extender in terms of what they wanted the extender to do. This was stated in general terms, such as general patient care tasks, technical tasks, or particular kinds of patient care (e.g., well-baby care or chronic maintenance). Relatively few physicians cited an increase in quality of care or in practice size as a motive for adding this type of personnel. The improvements and increases discussed in Chapter V would thus appear to be somewhat unexpected benefits for many physicians.

Reasons for hiring were then considered in relation to the type of extender hired and the extender's work setting. A heavy physician workload and the desire for an extender to fulfill a wide patient care role were cited by physicians supervising both physician assistants and nurses. However, physicians hired more physician assistants than nurses for technical and routine tasks; whereas nurses were hired exclusively over physician assistants for special kinds of care, i.e., well-baby care and chronic maintenance. Also more physicians who hired nurse extenders did so because of academic interest or exposure to the role.

With regard to work setting, a heavy workload, a wide extender role, technical functions, and routine tasks were cited as reasons for hiring an extender by physicians in private practice. Physicians in a hospital or clinic setting primarily indicated an academic interest in the extender role.

Regarding the future demand for physician extender roles, evidence of the satisfaction of these physician supervisors is seen in their willingness to hire additional extenders. Fifty-four percent (19) of the physicians said they would be willing to hire an additional physician extender, and another 27% (8) answered that they would be willing but probably would not be able to

due to financial and setting constraints. All but two of these physicians said they could foresee hiring no more than one more extender.

Finally, with regard to the type of extender, eleven physicians would hire a physician assistant, five preferred a pediatric nurse practitioner, three favored a health nurse clinician, and one wanted a technical person. Familiarity with one type of extender seemed to preclude consideration of other types. One physician working in a family practice group particularly liked the combination of a physician assistant and a pediatric nurse practitioner. The fact that clinical nursing specialists and health nurse clinicians were not mentioned or were seldom mentioned is because most of them are working with several physicians; therefore, their employers or supervisors were not included in the survey. Seven physicians did not reveal what type of extender they would hire. Nevertheless, this willingness of 81% of the physician supervisors to consider hiring additional extenders does indicate high satisfaction, particularly with the physician assistant and nurse practitioner roles.

CHAPTER VIII
POLICY IMPLICATIONS AND RECOMMENDATIONS⁶

In relating survey findings to future planning for physician extenders in Michigan, five issues must be considered.

1. Lack of Primary Care Services

a. The Problem:

- Trend towards increased specialization.
- Decline of primary care physicians in Michigan.
- Priorities of the health care system favor specialists and specialty care.
- National Health Insurance could increase the demand for primary care services by as much as one third.

b. Survey Findings:

1. Primary care physicians have a greater tendency to hire physician extenders than specialists (Figure 4, pp. 11-13).
2. 50% of the physician extenders surveyed are in primary care and 50% are specialists; the latter will not help augment the supply of primary care services (Figure 10, pp. 22-23).
3. Specialist physician extenders tend to work in institutional settings, which precludes increasing the efficiency of private practice and which precludes amelioration of distributional inequities (Figure 10, p. 23).
4. Nurse practitioners are usually employed in private practice settings (p. 19).

⁶Presentation to the Advisory Commission on Physician Assistants, Michigan Department of Public Health, Lansing, Michigan, May 28, 1974, Dr. Irene Butter, James Chesney, Gigi Bosch, and Ann Webster of the Health Manpower Policy Studies Group.

5. 3 out of the 8 Orthopedic physician assistant graduates are not practicing orthopedics which suggests that the existing specialty Physician Assistant Training Program is not responsive to needs in Michigan (p. 22).

c. What The Commission Can Do

The Commission is to be commended for concentrating its efforts on Physician Assistants to the Primary Care Physician.

1. The Commission should recommend and approve training programs for physician extenders for primary care vs. approval of training programs for specialists.
2. Review and evaluation process of training programs should emphasize production and placement of graduates in areas of demonstrated need, e.g. in Michigan, for Primary Care, and in Private Practice.
3. Training programs should be required to find preceptorships with Primary Care Physicians and in ambulatory care settings.
4. Nurse Practitioner training programs constitute a quick and relatively inexpensive strategy to increase the supply of primary care services.
5. If the State is to fund physician extender training programs only primary care programs should be subsidized and loan forgiveness programs might be considered.
6. Primary care physicians should be given a major role in the training programs.

2. Geographic Maldistribution

a. The Problem

- Rural and Inner City areas are lacking in some resources
- In rural and inner city areas some populations have lim-

ited access to existing health care facilities.

b. Survey Findings

1. Physician Extenders locate in counties with high Physician/Population ratios (Figures 1 and 2, pp. 8-9).
2. Physician Extenders in Michigan tend not to locate in rural areas (Figures 1 and 2).
3. Some Michigan Physician Extenders have located in inner cities in institutional settings (p. 7).

C. What The Commission Can Do

1. Training programs should be approved for locations in or near areas they are intended to serve.
2. Training programs should be required to place students in preceptorships in underserved areas.
3. Content of training should be designed to include rural and inner city health care because different health care problems manifest themselves in rural, inner city, and suburban populations.
4. Selection and recruitment policies should be oriented to individuals likely to be willing to serve in underserved areas.
5. Promote the training of physicians and physician extenders together during medical school for team practice and for practice of Physician Extenders in outpost situations.
6. Last but most significant, regulations with respect to supervisory requirements should include provisions which allow for remote supervision for Physician Extenders in outpost situations and satellite clinics.

3. Malutilization of Physicians

a. The Problem:

- Physicians perform many routine services and repetitive tasks which do not require their extensive training and clinical expertise.
- Productivity of physicians can be increased substantially by allowing Physician Extenders to assume some of physicians' responsibilities.
- Increasing physician productivity is a quicker and less expensive alternative to increasing the number of physicians. The challenge is to train and utilize Physician Extenders so as to facilitate maximal increases in productivity without sacrifices in quality.
- Constraints:
 1. Physicians do not always know how to use Physician Extenders.
 2. Physicians may "trade off" increased productivity for leisure time.
 3. Physicians may delegate only few tasks, may duplicate functions of the extender, and may spend substantial amounts of their time supervising.
 4. Physicians may be hesitant to assume legal responsibility for Physician Extenders.

b. Survey Findings: (Qualifications: survey was small and physician extenders in Michigan are fairly new. Therefore, delegation may grow over time.)

1. What Physician Extenders Do:

- They spend most of their time on patient care and information and counseling (Figure 14, p. 30-33).
- They contribute to 20-80% of visits (Figure 16, p. 42-44).
- They handle 10-30% of routine visits independently (Figure 16, p. 44).
- Employment of Physician Extenders resulted in a 10-20% increase in volume of visits (Figure 17, p. 45-47).
- Potential for productivity increases resulting from employment of physician extenders, as shown in another study, is 50-75%.⁷
- Largest productivity increases have occurred in primary care because of large volume of routine services (Figure 18, p. 47-49).

2. Tasks Performed by Physician Extenders:

Michigan Physician Extenders are providing the services spelled out on pp. 2 and 3 of "The Proposed Criteria"⁸ (Table 3, p. 37 and Appendix II). Some of these services are provided more frequently by Physician Assistants and others more frequently by Nurses (pp. 38-39).

⁷Golladay, F.L., M. Miller and K. Smith, "Allied Health Manpower Strategies: Estimates of the Potential Gains from Efficient Task Delegation," Medical Care, 11: 457-469, 1973.

⁸Michigan Advisory Commission on Physician Assistants, "Proposed Criteria for the Education and Training of the Assistant to the Primary Care Physician," working draft circulated April 29, 1974. Adapted from: "Essentials of an Approved Educational Program for the Assistant to the Primary Care Physician," established by the American Medical Association Council on Medical Education in collaboration with the American Academy of Family Physicians, the American Academy of Pediatrics, the American College of Physicians, and the American Society of Internal Medicine, adopted by the AMA House of Delegates, December, 1971.

3. Underutilization of Physician Extenders

- 63% of the Physician Extenders felt that their skills were underutilized. Nurses (92%), more often than PAs, reported some skills were not fully utilized (Figure 20, p. 56-58).
- Many of the Physician Extenders had considerable experience and background in health care and some may be overtrained for their present roles (Figure 20, p. 56-59).
- Physician Extenders perceived legal barriers to their full utilization (p. 58-59).

4. Physician satisfaction with their Physician Extenders

- 54% of the Physician Supervisors expressed the desire to hire one additional Physician Extender (p. 67).
- An additional 27% of Physician Supervisors are very satisfied but do not currently perceive a need for additional Physician Extenders in their practices (p. 67-68).

c. What The Commission Can Do

1. To avoid the construction of legal barriers to efficient task delegation the Commission should adopt broad and flexible guidelines and regulations which will not inhibit the realization of productivity increases.
 - Promote training programs which prepare Physician Extenders to function independently in certain areas.
 - Avoid the development of task lists which severely restrict the functions of a Physician Extender (let us not replicate the California regulations which include task

lists and produced a large exodus of PAs).

- The Commission should adopt supervision requirements which allow the Physician to utilize the Physician Extender at his own discretion.
- 2. The Director of the Department of Public Health should be advised that an educational program directed to Primary Care Physicians on utilization of Physician Extenders is of great importance.
- 3. The Commission should recommend linkage between Physician Extender Training Programs and Medical Schools.
 - To provide early orientation to TEAM PRACTICE.
 - To train physicians for task delegation.
 - To provide for interphase of clinical preceptorships of medical students and Physician Extenders.
- 4. To fully utilize the potential of Nurses in expanded roles and to avoid underutilization of existing nursing skills the Commission should recommend revision of the Nurse Practice Act.
- 4. The Rising Cost of Health Care.
 - a. The Problem:
 - Escalation of health care prices is one of the foremost problems.
 - Cost inflation is likely to be exacerbated by the passing of National Health Insurance legislation if Supply responses lag behind Demand increases.
 - Inasmuch as manpower costs are a significant component of total health care costs a least-cost manpower strategy is important for cost containment.

b. Survey Findings:

Our Survey did not specifically address the issue of cost but since we know that this is an important concern of the Commission and since the Commission's recommendations will influence the economic viability of Physician Extenders in Michigan we developed a set of recommendations.

c. What The Commission Can Do

1. Training Programs should be as short as possible and should be cost-effective.

-- The longer the training period the higher are the opportunity costs, and the higher the salaries required to compensate for the investment in training.

-- Programs should be of optimal size so as to minimize the per student cost.

2. At the present time, Nurse Practitioner Programs appear to be the shortest and least costly training programs. The Commission should explore the possibility of recruiting inactive Nurses into Nurse Practitioner Programs as a least cost strategy toward increasing primary care services.

3. The Physician Extender strategy is more likely to result in cost curtailment if Physician Extenders are trained to provide services which substitute rather than services which complement physician services.

4. The Commission should carefully consider the cost implications of supervisory regulations because the more time Physicians have to spend on supervising Physician Extenders the smaller the likelihood of cost containment.

5. The Commission should examine reimbursement policies with

respect to

- a. Utilization of Physician Extenders.
- b. Impact on cost of medical care.

5. Quality of Health Care

a. The Problem:

To prevent that the introduction of Physician Extenders dilutes the quality of care and produces a two-class health care system.

b. Survey Findings:

1. The qualitative changes Physician Supervisors observed in their practices as a result of Physician Extenders are increases in (p. 52):
 - Careful diagnosis.
 - Time for patient consultation.
 - Physician time on difficult cases.
 - Accessibility of Physicians.
 - Coordination of care.
2. The training and introduction of Physician Extenders into a practice has spillover effects on Physicians and other personnel in the setting in that it updates their skills and knowledge and in that it raises awareness of the activities carried on in the practice (p. 52).

c. What The Commission Can Do

1. The Commission is advised to take into account assurance of "continued" competence as opposed to one-time, initial entry competence. The Health Manpower Policy Studies Group's ongoing study of alternative state credentialing mechanisms will delineate which approval processes are most likely to

facilitate assurance of continued competence. This study should be completed by the end of this year.

APPENDIX I

QUESTIONNAIRE AND INTERVIEW FORMS FOR
PHYSICIAN EXTENDERS AND PHYSICIANS

MICHIGAN HEALTH MANPOWER SURVEY UTILIZATION OF PHYSICIAN EXTENDERS Physician Extender Questionnaire

Name: _____

Location: _____

1. What is your position title? _____

2. Date of birth: _____ / _____
Month Year

3. Sex: Male Female

4. Race: American Indian Black Spanish sur-named American White
 Oriental Other _____

5. Education

GENERAL EDUCATION

<u>A. Name & Location of Institution (City, State)</u>	<u>Major</u>	<u>Degree</u>	<u>Year</u>
<small>(College, University, other Post-secondary Ed.)</small>			

B. FORMAL PROFESSIONAL EDUCATION which qualifies you for your current position:

<u>Subject Areas</u>	<u>Program Name</u>	<u>Length of Program</u>	<u>Institution</u>
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C. ADDITIONAL TRAINING (informal) AND EXPERIENCE (e.g., medic) which qualifies your for your current work.

<u>Type of Activity</u>	<u>Years</u>
-------------------------	--------------

6. Number of weeks worked in last 12 months: _____ (include paid vacations as work time)
7. Number of days per week you see patients: _____
8. Average number of patients seen per day: _____
9. How do you divide your time among your various job related duties?
(Complete either column. Columns should add up to total hours worked per week or 100 per cent.)

	<u>Hours per week</u>	<u>OR</u>	<u>% Week</u>
<u>Administrative/Clerical</u> (for example, inventory and supply, insurance forms, etc.)	_____		_____
<u>Patient Care</u> (for example, diagnosis, examinations, treatment, patient history, etc.)	_____		_____
<u>Information and Counseling</u> (for example, information about child care, interpretation of doctor's instructions, etc.)	_____		_____
<u>Technical</u> (for example, immunizations, vision and hearing screening, anthropometric measurements, etc.)	_____		_____
<u>Laboratory</u> (blood count, urinalysis, throat culture analysis, etc.)	_____		_____
<u>Other</u> (specify) _____	_____		_____
	Total hrs/wk, _____		100%

10. Listed below are ranges for total income before taxes. Please check the box which corresponds to your income range.

- | | |
|--|--|
| 1. <input type="checkbox"/> Less than \$10,000 | 4. <input type="checkbox"/> \$14,000 to \$15,999 |
| 2. <input type="checkbox"/> \$10,000 to \$11,999 | 5. <input type="checkbox"/> \$16,000 to \$19,999 |
| 3. <input type="checkbox"/> \$12,000 to \$13,999 | 6. <input type="checkbox"/> \$20,000 and Over |

11. How are you reimbursed for your services? (Check more than one if appropriate.)

- Fee for service (Please note the fee schedule under which you are working.)
- Salary
- Other: (specify) _____.

12. What Fringe benefits do you receive?

- None
- Profit Sharing
- Life Insurance
- Health Insurance
- Disability Insurance
- Malpractice Insurance
- Continuing Education Allowance
- Transportation Reimbursement
- Retirement
- Overtime
- Lodging
- Other
(specify) _____

13. Do you carry any personal malpractice insurance? ___ Yes ___ No.
 If Yes, how much coverage do you have? \$ _____
 With which company? (optional) _____

14. In the following section, a series of specific tasks are listed. Check the appropriate column indicating the amount of supervision you experience for each task. Direct supervision means here that the physician extender would check with the physician for all but routine tasks.

	<u>Perform Under Direct Supervision</u>	<u>Perform Under Non-Direct Supervision</u>	<u>Initiate Without Doctor's Instruction</u>	<u>Do Not Perform</u>
-Take a detailed patient history	_____	_____	_____	_____
-Perform and interpret rectal examinations	_____	_____	_____	_____
-Perform audiometric tests	_____	_____	_____	_____
-Arrive at and record a provisional medical diagnosis	_____	_____	_____	_____
-Fill out insurance forms	_____	_____	_____	_____
-Choose medications for patient upon arrival by physician approval	_____	_____	_____	_____

14. continued

	<u>Perform Under Direct Supervision</u>	<u>Perform Under Non-Direct Supervision</u>	<u>Initiate Without Doctor's Instruction</u>	<u>Do Not Perform</u>
-Administer medication to patient	_____	_____	_____	_____
-Give injections/immunizations	_____	_____	_____	_____
-Interpret physician's instructions	_____	_____	_____	_____
-Arrive at and record a provisional non-medical diagnosis	_____	_____	_____	_____
-Prepare and suture lacerations	_____	_____	_____	_____
-Follow up suture procedure and remove sutures	_____	_____	_____	_____
-Take blood pressure of adult patients	_____	_____	_____	_____
-Take blood pressure of infants	_____	_____	_____	_____
-Perform physical examinations of well patients	_____	_____	_____	_____
-Perform physical examinations of sick patients	_____	_____	_____	_____
-Perform urinalysis	_____	_____	_____	_____
-Provide counseling for non-medically related problems	_____	_____	_____	_____
-Do inventory and supply tasks	_____	_____	_____	_____
-Perform lumbar punctures	_____	_____	_____	_____
-Administer nerve blocks	_____	_____	_____	_____
-Order routine lab tests	_____	_____	_____	_____
-Give minor medical advice over the telephone	_____	_____	_____	_____
-Give minor medical advice in the practice setting	_____	_____	_____	_____
-Make home visit when diagnosis is chronic	_____	_____	_____	_____
-Make home visit when diagnosis is acute	_____	_____	_____	_____
-Put on casts	_____	_____	_____	_____
-Apply traction	_____	_____	_____	_____
-Perform tonometric tests	_____	_____	_____	_____
-Make maternity hospital visits	_____	_____	_____	_____

	<u>Perform Under Direct Supervision</u>	<u>Perform Under Non-Direct Supervision</u>	<u>Initiate Without Doctor's Institution</u>	<u>Do Not Perform</u>
-Cover for physician in emergency room	_____	_____	_____	_____
-Assess family psychosocial resources	_____	_____	_____	_____
-Perform throat culture analysis	_____	_____	_____	_____
-Apply dressings and bandages	_____	_____	_____	_____
-Give blood transfusions	_____	_____	_____	_____
-Take ECG tracings	_____	_____	_____	_____
-Interpret ECG tracings	_____	_____	_____	_____
-Perform pelvic examinations	_____	_____	_____	_____
-Administer subcutaneous local anesthesia	_____	_____	_____	_____
-Refer patients to social agencies or other medical health care facilities	_____	_____	_____	_____
-Initiate entry into health care system (in-patient, extended care facility, etc.)	_____	_____	_____	_____

MICHIGAN HEALTH MANPOWER SURVEY
 UTILIZATION OF PHYSICIAN EXTENDERS
 Physician Extender Interview

Name: _____

Name of Physician: _____

1. Did you have any difficulty with the questions on the blue pages? ___ Yes ___ No.
 If Yes: What were the problems?

(Interviewer answers questions for the respondent at this point)

2. How did you find out about your present job?
- _____
- _____

3. Did you consider other opportunities at the time you took your present position?

No Yes

(a) What were they?

<u>Type of Position</u>	<u>Salary</u>
	\$ _____
	\$ _____
	\$ _____

(b) What were your principle reasons for choosing this position relative to these possibilities?

(c) What were the main reasons why you took your present job?

4. Generally, some one person has the overall responsibility for the management of a doctor's office (business functions, including filling out of insurance forms). Sometimes these functions are shared. What is your role in office management?

(If principal responsibility or shared, ask 4 (a).)

- (a) With respect to office coordination and management, do you feel that you are principally a substitute for the physician, or that you are assisting him/her?

5. Traditionally, the physician manages and coordinates the delivery of health care to his patients. Some of these functions, today, may be delegated to assistants, although the ultimate responsibility remains with the physician. What do you understand your current role to be in the management of patient care; specifically:

- (a) Scheduling and routing of patients through the office? (single visit)

- (b) What is your role in arranging and scheduling of care during an episode of illness? (more than one visit)

- (c) What is your role in arranging for continuing health care? (Including periods between episodes of illness.)

(ask 5 (d) only if the respondent answers in the affirmative to (a), or (b), or (c).

- (d) With respect to the management and coordination of health care for patients, do you feel that you principally substitute for the doctor, or rather that you assist him/her?

- 6. With respect to all the people in your office including the doctor, to whom do you give direction or instruction? (no names, just positions)

- 7. Similarly, from whom do you accept direction or instruction?

Now, we would like to talk a little bit more about the limits of the supervision and discretion that apply to you in your job. You have already indicated the amount of discretion and supervision related to a number of specific functions and activities in question #14 of the blue questionnaire. In the following questions we would like you to respond in respect to these three patient care areas: first, assessment and diagnosis; second, treatment; and third, counseling and instruction.

- 8. Would the age of the patient change the degree of discretion and/or supervision in any of the three areas mentioned above?

No Yes

Diagnosis/ Assessment	In what ways? 1. _____
Treatment	2. _____
Counseling/ Instruction	3. _____

- 9. Would the sex of the patient have an effect on the amount of discretion and/or supervision?

No Yes

Diagnosis/ Assessment	Explain. 1. _____
Treatment	2. _____
Counseling/ Instruction	3. _____

10. Would the severity of the condition have an effect on the amount of discretion and/or supervision in these areas?

No Yes

Explain:	
Diagnosis/ Assessment	1. _____
Treatment	2. _____
Counseling/ Instruction	3. _____

11. Would the nature of the condition (acute or chronic) have an effect on the amount of discretion and/or supervision that apply to you in your job?

No Yes

Explain:	
	<u>Acute</u>
Diagnosis/ Assessment	1. _____
Treatment	2. _____
Counseling/ Instruction	3. _____
	<u>Chronic</u>
Diagnosis/ Assessment	1. _____
Treatment	2. _____
Counseling/ Instruction	3. _____

12. Would the nature of the visit have any effect on the amount of discretion and/or supervision? (i.e., first visits, repeat visits, or drop-ins)

No Yes

Explain:	
	<u>First Visits</u>
Diagnosis / Assessments	1. _____
Treatment	2. _____
Counseling/ Instruction	3. _____

(12. cont.)

Diagnosis/ Assessment	<u>Repeat Visits</u> 1. _____
Treatment	2. _____
Counseling/ Instruction	3. _____
Diagnosis/ Assessment	<u>Drop-ins</u> 1. _____
Treatment	2. _____
Counseling/ Instruction	3. _____

13. Would the location of the visit have any effect on the amount of discretion and supervision. (for example, in an outpatient clinic, hospital, house call, or the physician's office?)

No Yes

Explain: _____

Diagnosis/ Assessment	1. _____
Treatment	2. _____
Counseling/ Instruction	3. _____

14. Do you feel that your professional skills are being fully utilized?

No Don't know Yes: Skip to question #15.

(a) Is this because some of the skills you have are not being used at all?

Yes No: Skip to 14 (c)

(b) Is this because of legal restrictions, because the physician doesn't request you to perform the tasks, because you feel that you lack experience, or something else?

(14 cont.)

(c) Are some of your skills being used, but not as fully as they should be?

Yes Don't Know ___

No: Skip to #15.

(d) Why is that ? (Interviewer see 14 (b).)

15. Do you feel that your professional judgement is accepted by all of your patients, most of your patients, or only some of your patients?

___ All ___ Most ___ Some

16. Thinking now about the future of your career, what do you feel is the next step in your professional advancement?

17. Do you feel that your training has prepared you adequately for your present position? ___ Yes ___ No ___ Don't know

18. What do you think were the strengths and weaknesses of your training program? (Give special reference to clinical and didactic instruction.)

19. What suggestions would you have for the improvement of the preparation and training for a position like yours?

Thank you

REMINDEE RESPONDENTS TO MAIL BLUE QUESTIONNAIRE
TO THE HEALTH MANPOWER POLICY RESEARCH GROUP

MICHIGAN HEALTH MANPOWER SURVEY
UTILIZATION OF PHYSICIAN EXTENDERS
Physician Questionnaire

Name: _____

Location: _____

1. Permanent Michigan Registration Number: # _____.

2. Date of birth ____/____/____.
Month Year

3. Sex: Male Female

4. Race: American Indian Black Spanish sur-named American White
Oriental Other (specify) _____.

5. Practice: Number of years in practice _____.

Type of Practice: Please check items describing your current status.

Solo Partnership Unincorporated group Professional service/
Corporation practice

Medical School State or Local Federal Government Consultant

Other (specify) _____.

Work Setting: Check items describing your current status.

Hospital Nursing Home College/University Public Health

Out Patient Clinic Private Office Emergency Service

Business/Industry Other (specify) _____.

6. Do you specialize in any particular field or fields? Yes No.
If Yes: Please Specify,

<u>FIELD</u>	<u>Board Status (check one)</u>		
	<u>NONE</u>	<u>BOARD ELIGIBLE</u>	<u>BOARD CERTIFIED</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

7. Number of weeks worked in last 12 months: _____.

8. Number of days per week you see patients: _____.

9. Average number of patients seen per day: _____.



10. Indicate the average number of hours per week worked in:

___ Patient care in office ___ Patient care in hospital ___ Teaching

___ Travel ___ Research ___ Administration

Other ___ (specify) _____.

11. How many of your patients are in the hospital per day, on the average? ___.

12. Check the age group comprising the largest proportion of your practice:

birth-5 5-14 15-24 25-49 50-64 65 and over.

13. Please give the number of medical support staff working for you.

- 1. ___ Registered Nurse
- 2. ___ Licensed Practical Nurse
- 3. ___ Physician's Assistant
- 4. ___ Medical Assistant
- 5. ___ Pediatric Nurse Practitioner
- 6. ___ Health Nurse Clinician
- 7. ___ Health Aides
- 8. ___ Technical
- 9. ___ Other (specify) _____

How many physicians share this staff with you? _____

14. What changes have occurred in your practice as a result of the use of the physician extender? (Check the appropriate box indicating increase or decrease, the amount, or no effect.)

Fill in the approximate percent of change.

A. Change in total number of patients in your practice:

increase decrease ___% No Effect

B. Change in the number of patients visiting your office per week:

increase decrease ___% No Effect

C. Change in the number of patients seen by you personally per week:

increase decrease ___% No Effect

D. Change in the net revenue of your practice:

increase decrease ___% No Effect

15. What do you feel is an appropriate starting salary for a physician extender?

\$ _____ Minimum \$ _____ Maximum

Cannot answer without more information. _____.

Thank you, Doctor

Please mail this form to the Health Manpower Policy Research Group in the attached envelope. If, however, any questions were not clear, keep the form for clarification during the telephone interviews

Name: _____

Name of Auxiliary: _____

MICHIGAN HEALTH MANPOWER SURVEY UTILIZATION OF PHYSICIAN EXTENDERS Physician Interview
--

1. Did you have any difficulty with the questions on the blue pages? ___ Yes ___ No.
If Yes: What were the problems?

(Interviewer answers questions for the respondent at this point)

2. When you decided to hire a physician extender, what were the principle reasons?

3. Why did you hire the particular type of auxiliary rather than some other type?

4. Did you have more than one applicant for the position ?

___ No Yes

What type or types? _____

The addition of any new staff usually expands the capacity of a physician's practice. We would like to explore three specific aspects of your practice concerning this: first, the effect of the additional personnel on the distribution of the tasks you do personally; second, the thoroughness with which you can perform specific tasks; and third, the number of new tasks that have been added to your practice.

5. On distribution, has the addition of these staff members changed the pattern of the tasks you do?

___ No Yes

How? _____

6. With respect to thoroughness, has the use of this auxiliary changed the amount of time you spend on particular tasks?

No Yes 

How? _____

7. Has the addition of this auxiliary changed the scope of your practice?

No Yes 

How? _____

8. Are there tasks you would like the auxiliary to perform but for which you know he/she is not trained?

No Yes 

What are they? _____

9. Are there tasks for which you know the auxiliary is trained, but he/she is not doing?

No Yes 

What are they? _____

9(a) Is this because of legal restrictions, your preference, or what?

10. What is the actual percentage difference in the size of your practice now as compared to what would be feasible without the auxiliary?

11. Approximately what percentage of your patient visits are handled only by the auxiliary? _____

12. Approximately what percentage of your patient visits are never seen by the auxiliary? _____

13. Would you be willing to hire additional auxiliaries?

No Yes

How many, which type, and for what reasons? _____

14. Finally, how do you think the effectiveness of physician extenders, in general, could be improved?

Thank You,
Doctor

REMIND RESPONDENTS TO MAIL BLUE QUESTIONNAIRE
TO THE HEALTH MANPOWER POLICY RESEARCH GROUP

APPENDIX II

Task List: Rating by Degree of Difficulty and Percent Performing

Tasks Included in Analysis	Difficulty Rating ¹				Averaged Rating	Percent Performing
	MD	MD	RN	RN		
Perform and interpret rectal examinations	D	C	D	D	D	39%
Arrive at and record a provisional medical diagnosis	D	D	D	D	D	77%
Fill out insurance forms	A	A	A	A	A	24%
Administer medication to patient	B	B	B	B	B-C	70%
Give injections/immunizations	B	B	B	B	B-C	74%
Interpret physician's instructions	C	A	C	B-C	B-C	98%
Prepare and suture lacerations	C	C	C	D	B-C	36%
Follow up suture procedure and remove sutures	B	B	B	C	B-C	64%
Take blood pressure of adult patients	B	A	A	A	A	92%
Perform urinalysis	A	A	A	A	A	42%
Do inventory and supply tasks	A	A	A	A	A	42%
Perform lumbar punctures	D	D ²	B	D	D	4%
Administer nerve blocks	D	D	2	D	D	11%
Order routine lab tests	A	A	A	B	A	72%
Give minor medical advice over the telephone	B	B	D	C	B-C	80%
Give minor medical advice in the practice setting	B	B	D	C	B-C	91%
Make home visit when diagnosis is chronic	B	B	D	C	B-C	56%
Put on casts	B	B	D	C	B-C	38%
Apply traction	B	C	2	B	B-C	29%
Make maternity hospital visits	B	B	D	C	B-C	21%
Cover for physician in emergency room	D	D	D	D	D	28%

Perform throat culture analysis	B	B	A	B	B-C	42%
Apply dressings and bandages	B	A	A	A	A	77%
Take ECG tracings	A	A	A	A	A	34%
Interpret ECG tracings	D	D	D	D	D	29%
Administer subcutaneous local anesthesia	C	C	C	C	B-C	38%
Refer patients to social agencies or other medical health care facilities	A	B	C	B	B-C	78%
Initiate entry into health care system (in-patient extended care facility, etc.)	A	B	C	C	B-C	70%
Tasks Not Included in Analysis						
Take a detailed patient history	B	A	D	D		94%
Perform audiometric tests	C	A	A	B		21%
Choose medications for patient on arrival by physician approval	C	B	D	D		67%
Arrive at and record a provisional non-medical diagnosis	D	A	D	D		89%
Take blood pressure of infants	C	A	A	C		33%
Perform physical examinations of well patients	B	B	D	D		76%
Perform physical examinations of sick patients	C	C	D ²	D		84%
Provide counseling for non-medically related problems	C	A	D	C		81%
Make home visit when diagnosis is acute	C	C	²	D		40%
Perform tonometric tests	B	B	D	C-D		17%
Assess family psychosocial resources	C	B	D	D		63%
Give blood transfusions	B	D	B	D		21%
Perform pelvic examinations	D	C	C	D		30%

1. Degree of difficulty of tasks was rated independently by four members of the School of Public Health at the University of Michigan. The group was composed of two physicians, one registered nurse involved in education and one public health nurse. Tasks were rated on a four point scale: A being the least difficult and D the most difficult.
2. Either no rating of difficulty or a provisional rating of difficulty was given these tasks by the physician or nurse because they felt these tasks should not be delegated and should be performed only by the physician.