Characteristics and Practice Patterns of Family Practice Residency Graduates in the United States

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Family practice is now past the decade mark as an approved specialty. Since family practice was recognized in 1969 as medicine's 20th primary specialty, family practice residency programs number 365 with nearly 6,500 residents in training, and more than 6,600 graduates as of July 1979. Thus, sufficient numbers have graduated to become a significant core-group of individuals with new educational experiences. These graduates were trained in different environments and educational settings from those of their predecessors. The whole approach to their training and education represents a philosophical basis for the specialty and is ingrained in the goals and objectives of the training experience.

Since a significant number of these physicians coming from different learning experiences are now in practice, it is time to begin to analyze what they are doing. What kind of impact will they have on health care? Are they practicing what they were trained to do? Will they stay in practice as family physicians? Is their practice similar to that of their predecessors? All of these questions and more need to be answered in order to make an adequate review of the first ten years of family practice residency programs.

A project was undertaken by the American Academy of Family Physicians (AAFP) in the summer of 1979 to begin to answer these questions. The first phase of this project was aimed at obtaining basic background information about these residency graduates as well as a data base of their present location and type of practice. A questionnaire was developed to obtain some of the initial information about where the graduates have elected to practice and their practice mode. Additional information has been sought regarding the impact of their education as well as external influences on their practice. The material presented in this report represents some of this basic information. More will be analyzed in the near future.

Survey Methods

Sampling techniques were considered inappropriate for the in-depth analysis planned. Because the names and addresses of all graduates of family practice residencies were not available, the study was limited to graduates of family practice residency programs between 1970 and 1978 who were diplomates of the American Board of Family Practice (ABFP). This target population included the names and addresses of 4,295 physicians who are based in the United States. The survey was mailed in the summer of 1979 and 3,302 physicians had returned questionnaires by January 1980 for a response rate of 76.9 percent. There were 281 physicians whose current practice encompassed the emergency room, military assignment, public health service, further training in family practice or another medical specialty, part-time practice only, or no current practice activity. Because the practices of these 281 physicians are markedly different from the remaining 3,021 family physician graduates they also were excluded from this analysis. All percentages listed below relate to the 3,021 physicians who comprise the respondent group of graduates of family practice residency programs between 1970 and 1978 who are United States based, diplomates of the American Board of

0094-3509/80/110767-12**\$**03.00 © 1980 Appleton-Century-Crofts

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	Number	Percent
Total	3,302	100.0
Family physician in practice	3,021	91.5
Military	148	4.5
Emergency room	66	2.0
Further training, not in family practice	30	0.9
Public Health Service	19	0.6
Practicing only part-time or not at all	13	0.4
Further training in family practice	5	0.2

Family Practice, and actively practicing in family medicine (Table 1).

Results

Demographic Characteristics

The median age of these graduates was 32.7 years, as would be expected for an expanding group that graduated from residency programs between 1970 and 1978. Approximately 7.1 percent of the graduates were women. This is a smaller percentage than that of women physicians in other specialties but the increase in the number of women who are entering family practice is very encouraging. Although the American Medical Association (AMA) reported that 9.4 percent of all federal and non-federal physicians in 1977 were female,¹ the AAFP in 1978 reported that only 4.3 percent of its active membership were women.² Some datagram researchers have noted that women are more likely to prefer other specialties to family practice.³ Recent data would seem to contradict these findings. Geyman and others⁴ have already noted the increasing number of women now choosing family practice as a specialty. This trend is further substantiated by recent data from the AAFP (According to annual surveys of family practice residency programs and graduating residents, American Academy of Family Physicians, Kansas City, Missouri, 1977-1979, unpublished data). There were 1,131 women in family practice residency programs in 1979, representing 17.4 percent of all family practice residents. First-year female family practice residents in the same year represented 19.7 percent of all first year residents in family practice programs. Current trends would indicate that one in five graduates of family practice residency programs will be a woman in the near future.

Approximately 6.9 percent of the respondents represent racial/ethnic minorities, a percentage that will be increasing in the next few years as more minority students enter family practice programs (Table 2). AAFP data indicate that 10.9 percent of all family practice residents in 1979 represented minorities (According to annual surveys of family practice residency programs and graduating residents, American Academy of Family Physicians, Kansas City, Missouri, 1977-1979, unpublished data).

Data were collected to analyze the relationship between the physicians and their spouses (Table 3). Approximately 86.8 percent of the respondents were married. Of those physicians who were married, 74 percent had spouses who now have a baccalaureate or graduate degree. This supports the general feeling that most physicians marry persons with more than average education. Approximately three in four married physicians (76.3 percent) had children at home, with the median number of children at home being 1.97. Although the majority of spouses of married physicians were not employed (63.8 percent), it is important to note that 36.1 percent were working. Most employed spouses were working in health related fields with 112 respondents reporting that their spouses were also physicians.

e 2. Demographic Characteristics of US Family Practice Reside Graduates		
fluenber Percant	Number	Percent
Total	3,021	100.0
Age (years)	12 10 empe	
Less than 30	163	5.4
30-34	2,105	69.7
35-39	598	19.8
40-44	104	3.4
45 or over	37	1.2
Not reported	14	0.5
Median		32.7 years
Sex		
Male	2,805	92.9
Female	216	7.1
Race		
White, not of Hispanic origin	2,791	92.4
Hispanic origin	43	1.4
American Indian/Native American	2	0.1
Asian or Pacific Islander	112	3.7
Black	41	1.4
Other	11	0.4
Not reported	21	0.7
Marital Status		
Never married	229	7.6
Married	2,623	86.8
Widowed	5	0.2
Divorced/separated	140	4.6
Not reported	24	0.8

The influence of family and spouse upon location of practice should not be overlooked in any study relating to the distribution of family practice graduates. This positive relationship has been previously shown in the selection by married physicians of communities in which to practice.⁵ A detailed analysis of this relationship resulting from this survey will be available soon.

Career Choice

Educators continually are probing and searching to determine at which point in the educational cycle career decisions are made. Research in this area has been utilized as a rationale for making experiences available during peak career choice years to influence specialty decisions.⁶ It is assumed that the earlier the experience with primary care the better the chance of recruitment into a primary care specialty. Although in this study the career choice question is subjective and may require a simplistic answer to a complicated question, the data nevertheless provide useful insights into career choice (Table 4).

One in five respondents (21.3 percent) indicated that he/she chose family practice as a career before attending medical school. Nearly 18.2 percent of the respondents indicated that they chose family practice in the pre-clinical years, 39.0 percent

	Number	Percent
Total	2,623	100.0
Highest Degree of Spouse		
High school or GED	138	5.3
At least 1 year college	534	20.4
Baccalaureate degree	1,183	45.1
Graduate degree	761	29.0
Not reported	7	0.3
Children at Home		
0 children	431	16.4
1 child	568	21.7
2 children	919	35.0
3 children	387	14.8
4 or more children	127	4.8
Not reported	191	7.3
Spouse Employed		
Full-time	429	16.4
Part-time	504	19.2
Not employed	1,673	63.8
Not reported	17	0.6
Total Employed Spouses	947	100.0
Physicians	112	11.8
Health related field	516	54.5
Non-health related field	309	32.6
Not reported	10	1.1

in the clinical years, and 21.2 percent after medical school. This last figure differs from the results of a recent study that indicated that nearly one half of all physicians choose their medical specialty after graduating from medical school,⁷ a figure obviously influenced by the subspecialization of some physicians.

Although several different types of experiences exist to expose medical students to a family practice situation, only the preceptorship with a family physician was examined in this study. Though preceptorships may be offered in pre-clinical years, the majority of them are offered or required during the clinical years. More than half of the respondents (57.1 percent) indicated that they had taken such a preceptorship. Of those respondents who took a preceptorship there was a direct relationship between the year(s) of preceptorship and the year of family practice specialty selection.

Medical Education

The majority of the respondents were graduated from a United States medical school with an MD degree between 1970 and 1974. Approximately 1.8 percent held a DO degree, and one in ten (10.4 percent) were graduated from medical school before 1970. Only 6.5 percent of the respondents are foreign medical graduates (FMGs), consistent with data reported in the Directory of Accredited Residencies which continues to show that family practice residencies have one of the lowest percentages of foreign medical graduates of any medical specialty⁸ (Table 5).

More than one half of the respondents (53.1 percent) completed a family practice residency program in 1977 or 1978. While this does skew the study toward recent graduates, it is only recently that family practice has produced these high num-

Table 4. Time of Family Practice Career Choice and Exposure to FamilyPractice in a Preceptorship			
	Number	Percent	
Total	3,021	100.0	
Career Choice in Family Practice			
Before college	308	10.2	
During college	334	11.1	
Medical school—1st year	265	8.8	
Medical school—2nd year	285	9.4	
Medical school—3rd year	663	21.9	
Medical school—4th year	516	17.1	
After medical school	639	21.2	
Not reported	11	0.4	
Preceptorship with a Practicing Family Physician During Medical School			
Preceptorship Taken	1,726	57.1	
1st and/or 2nd year (pre-clinical)	339	11.2	
3rd and/or 4th year (clinical)	1,140	37.7	
Both pre-clinical and clinical years	241	8.0	
Year not reported	6	0.2	
No Preceptorship taken	1,289	42.7	
Preceptorship Not Reported	6	0.2	

bers of graduating residents due to the increasing number of approved programs and available positions.

The majority of all respondents (72.0 percent) had spent three years in a family practice residency, although not necessarily in the same program during those three years, and 26.1 percent had spent two years in a family practice residency, for a total of 98 percent of the respondents having either two or three years of formal graduate medical education in family practice.

During the early years of family practice residencies, many residents obtained other training experiences before transferring into a family practice residency. These other training experiences for the most part consisted of internships. One in three respondents (34.2 percent) had an internship of one year. Less than one percent had spent one or two years in a general practice residency. An additional 7.1 percent indicated that they had spent one or more years in an approved residency other than family or general practice. Because respondents could indicate more than one formal graduate medical education program and were not asked to indicate during which program years their family practice training was obtained, it is not possible to further analyze this information.

Professional Location

The state and zip code of the professional address of each graduate were matched with a file provided by the Bureau of Health Manpower containing state, county, and zip code. This new file was then matched by county codes against the Area Resource file and the Physician Primary Care Health Manpower Shortage Area file of the Bureau of Health Manpower to determine relative location of graduates (Table 6).

Approximately 6.1 percent of the respondents were identified in counties which were wholecounty primary-care-physician manpower shortage areas. Another 47.1 percent of the respondents were working in counties which were partially

	Number	Percent
Total	3,021	100.0
Year of Graduation From Medical School		
Before-1965	38	1.3
1965-1969	275	9.1
1970-1974	1,960	64.9
1975-1977	739	24.5
Not reported	9	0.3
Medical Degree		
MD	2,967	98.2
DO	54	1.8
Location of Medical School		
United States	2,825	93.5
Foreign	196	6.5
Year Completed Family Practice Residency		
Program		
1970	24	0.8
1971	36	1.2
1972	80	2.6
1973	130	4.3
1974	211	7.0
1975	395	13.1
1976	540	17.9
1977	765	25.3
1978	840	27.8
One Year Internship	1,033	34.2
General Practice Residency		
One year	15	0.5
Two years	12	0.4
Family Practice Residency		
One year	41	1.4
Two years	788	26.1
Three years	2,175	72.0
Four years	13	0.4
Not reported	4	0.1
Other Residency	215	7.1

designated a shortage area; ie, part of the county was designated as a shortage area while the remaining portion of the county had a sufficient number of primary physicians. Since the Bureau of Health Manpower provided this data only on a county-wide basis, it was not possible to determine whether a respondent practiced in the part of the county designated as a shortage area. However, this information does agree with previous data collected by the AAFP on its active membership which indicated 5.0 percent practicing in whole county designations and 46.5 percent practicing in partial county designations.² Thus, based on health care shortage data, the graduates are practicing in areas which might be considered similar to those of their predecessors.

Table 6. Practice Location of US Family Practice Res	sidency Gradua	tes
willious most no pay includ s residence, process, and summe	Number	Percent
Total	3,021	100.0
Physician Primary Care Health Manpower Shortage Areas		
(August 1979 Codes)		
Whole county designated	183	6.1
Part of county designated	1,423	47.1
Not designated	1,273	42.1
Not reported	142	4.7
Human Resource Profile County Designations (1978 Codes) SMSA		
Core counties of greater SMSAs of 1,000,000 or more		
population	461	15.3
Noncore counties of metropolitan areas of 1,000,000		
or more population	254	8.4
Counties of metropolitan areas of 250,000 to 999,999	gan lengen sman	en ol handid.
population	721	23.9
Counties of metropolitan areas of 50,000 to 249,999	Stor Street Starter	
population	314	10.4
Non-SMSA		
Counties contiguous to SMSA and having 20,000 or less		
urban residents	248	8.2
Counties not contiguous to SMSA and having 20,000 or		
more urban residents	171	5.7
Counties contiguous to SMSA with less than 20,000 but	and has said	
greater or equal to 2,500 urban residents	270	8.9
Counties not contiguous to SMSA and having less than		
20,000 but not less than 2,500 urban residents	344	11.4
Counties having less than 2,500 urban residents,		
contiguous to SMSA	40	1.3
Counties having less than 2,500 urban residents, not	10	1.0
contiguous to SMSA	80	2.6
Not designated	118	3.9
	110	0.0
Number of Times After Graduation From Residency Program		
that Patient Population Has Changed	1	F4 F
0 times	1,557	51.5
1 time	1,012	33.5
2 times	346	11.5
3 times	78	2.6
4 times or more	15	0.5
Not reported	13	0.4

Another method of classifying physicians by location often used by the federal government is the Standard Metropolitan Statistical Area (SMSA) codes (Table 6). An SMSA is defined as "a group of contiguous counties featuring at least one central city of 50,000 inhabitants or more, or 'twin cities,' with a combined population of 50,000. In addition to the county containing such a city or cities, contiguous counties qualify as component parts of an SMSA if they are essentially metropoli-

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tan in character, and are economically and socially fused with the 'hub' or central city."9 However, several contiguous counties have been declared SMSAs by the federal government without meeting the definition. Although the classification of any population into SMSA vs non-SMSA should not be lightly classified as urban vs rural, it does provide some insights into where graduates are locating. More than one in three respondents (38.1 percent) located in a non-SMSA and approximately 58.0 percent located in an SMSA. It appears, however, that graduates of family practice residency programs are more likely to locate in non-metropolitan areas than their predecessors. The American Medical Association reported in December 1977 that 31.3 percent of office based nonfederal physicians in general/family practice were practicing in non-metropolitan areas vs 68.7 percent in a metropolitan area.¹ The American Academy of Family Physicians found in its active membership study in 1978 that 33.7 percent of active members were in non-metropolitan areas vs 66.3 percent in a metropolitan area.²

Examining present practice locations provides little information concerning the mobility of these respondents after leaving the residencies. When a resident completes training and enters practice, he or she may decide to move that practice based on experiences, personal desires, or completion of a service contract based on loans for medical school financing. One in two respondents (51.5 percent) had not changed his/her patient population since completing a residency, a statistic probably influenced by the fact that 53.1 percent of the respondents completed their residencies in 1977 or 1978. One in three respondents (33.5 percent) had changed their patient population only once, 11.5 percent changed it twice, and 3.1 percent changed it three or more times. Because this study is skewed more toward recent graduates due to their large numbers, longitudinal data must be collected to verify these results.

The important variables influencing a physician's choice of a first practice location have been investigated repeatedly. Many factors have already been identified as influencing this choice including individual background or personal influences, professional considerations, and community characteristics.¹⁰ This topic is currently being analyzed as the reasons behind the choice of first practice location of these respondents are examined. Several location variables are being correlated which include community size of spouse's early education, physician's early education, physician's residency program, and current practice. Also of interest is a comparison and/or correlation of state of medical education, residency program, and current practice. These and other location topics will be presented as soon as the analysis is completed.

Professional Activity

Family practice groups continue as the most popular practice arrangement for new graduates. Census data from the American Academy of Family Physicians indicate that 33.2 percent of 1977 graduating residents planned on entering a family practice group, and 30.2 percent of 1978 graduating residents also planned to enter a family practice group (According to annual surveys of family practice residency programs and graduating residents, American Academy of Family Physicians, Kansas City, Missouri, 1977-1979, unpublished data). The advantages of a group practice, such as available time away from practice for continuing medical education, time for family or vacation with coverage of patient population, as well as avoidance of initial practice start-up costs, probably have encouraged graduates to choose this practice route. Approximately 35.2 percent of the respondents to this survey practice in a family practice group (Table 7).

The initial expenses involved in opening a new practice may have deterred some recent graduates from choosing solo practice. AAFP data for 1977 indicate that only 14.5 percent of the graduates planned to enter solo practice, and only 13.6 percent of the 1978 graduates planned a similar practice (According to annual surveys of family practice residency programs and graduating residents, American Academy of Family Physicians, Kansas City, Missouri, 1977-1979, unpublished data). However, for one reason or another, many graduating residents appear to change their practice arrangements after several years in practice. This study found that 23.4 percent of the respondents are now in a solo practice.

Approximately 18.3 percent of the respondents practice in a two-person partnership and 12.8 per-

	Number	Percent	
Total	3,021	100.0	
Practice Arrangement			
Solo	706	23.4	
Two-person partnership	553	18.3	
Family practice group	1,064	35.2	
Multispecialty group	387	12.8	
Not applicable	294	9.7	
Not reported	17	0.6	
Median Salary (Net Income Before Taxes) For			
1978 by Year Family Practice Program Complete	d		
1970	*		
1971	\$60,000		
1972	\$54,122		
1973	\$53,393		
1974	\$50,724		
1975	\$46,302	State C	
1976	\$45,742		
1977	\$41,073		
1978	\$32,208		

cent practice in a multispecialty group. Approximately one in ten respondents (9.7 percent) indicated that the practice arrangement categories were not applicable to their practice.

Salary, which was defined as the net income before taxes, was examined for each residency completion year. Obviously the number of years in practice influences the salary earned by graduates. The median salary in 1978 of 1971 graduates was \$60,000 vs a median salary in 1978 of \$32,208 for 1978 graduates.

For those respondents who indicated some time spent in direct patient care, the mean percentage of time spent in ambulatory patient care, eg, office, clinic, home, emergency room, etc, was 82.8 (standard deviation = 13.5). The mean percentage of time spent in inpatient care, eg, hospital, was 15.7 (standard deviation = 11.7). These data are somewhat similar to other studies which indicate general or family practitioners spend approximately 78.0 percent of their time in direct patient care other than hospital rounds.¹¹ Of the 1,810 respondents who indicated that they spent some time teaching residents or medical students, 1,241 physicians (68.6 percent) indicated that they were preceptors, 366 physicians (20.2 percent) indicated that they were on medical school faculties, 850 physicians (47.0 percent) reported that they were on faculties of family practice residency programs, and 76 physicians (4.2 percent) reported that they were family practice residency directors. Such data indicate that these graduates provide a very committed group of individuals who are attempting to enhance family practice education.

Hospital Admission and Practice Privileges

In 1969 the American Academy of General Practice conducted a survey of its membership concerning satisfaction with hospital practice privileges.¹² This study is one of the few in the literature that documents the general or family practitioner's hospital privileges from the physi-

	Number	Precent
Total	3,021	100.0
Pediatrics	a strang and some	
Yes	2,795	92.5
No, have not applied	123	4.1
No, privileges denied	19	0.6
No hospital close by	33	1.1
Not reported	51	1.7
Special Unit (ICU, CCU, etc)		
Yes	2,683	88.8
No, have not applied	163	5.4
No, privileges denied	55	1.8
No hospital close by	52	1.7
Not reported	68	2.3
Family Practice		
Yes	2,817	93.2
No, have not applied	78	2.6
No, privileges denied	12	0.4
No hospital close by	51	1.7
Not reported	63	2.1
Medicine		
Yes	2,824	93.5
No, have not applied	99	3.3
No, privileges denied	12	0.4
No hospital close by	30	1.0
Not reported	56	1.9

cian's viewpoint. The study found that 96 percent of the respondents were satisfied with their hospital privileges, with only 4 percent indicating that they were unduly restricted. To document any change of attitudes in this area the American Academy of Family Physicians is planning a similar study in 1980.

This particular study deals not only with what residency graduates are permitted to do in hospitals but also why they do not have other privileges. Several studies have examined hospital privileges for family physicians from the hospital administrators' viewpoints.¹³⁻¹⁵ These studies, however, have not provided a national picture of hospital privileges as they are geographically restricted to an individual state or section of the country.

In some sections of the country there are some restrictions placed on hospital privileges for family physicians in obstetrics and surgery without regard to demonstrated skills and/or training. Because there is a perceived need to guard against the possible erosion of these privileges, such studies will continue to monitor the hospital privileges of family physicians.

Approximately nine in ten graduates reported that they had hospital admission privileges in pediatrics (92.5 percent), special units including intensive care and coronary care (88.8 percent), family practice (93.2 percent), and medicine (93.5 percent). Those physicians who did not have these admissions privileges were more than likely to have no hospital close by or to have chosen not to apply for the admission privileges (Table 8).

Admission privileges, as a single factor, do not measure the range of activities that graduates of family practice residencies are permitted to perform in a hospital or even want to perform there. If graduates do not have privileges in a particular

mail in Studios	Number	Percent
Total	3,021	100.0
Routine OB Care	and the Contents	
Yes	1,942	64.3
No-have no interest	839	27.8
No-lack of training	39	1.3
No-privileges denied	29	1.0
No—liability costs prohibitive	79	2.6
Not reported	93	3.1
Complicated OB Care		
Yes	1,136	37.6
No-have no interest	1,167	38.6
No-lack of training	338	11.2
No-privileges denied	109	3.6
No-liability costs prohibitive	120	4.0
Not reported	151	5.0
Cesarean Sections		
Yes	419	13.9
No-have no interest	1,417	46.9
No—lack of training	800	26.5
No-privileges denied	119	3.9
No-liability costs prohibitive	123	4.1
Not reported	143	4.7
Surgery First Assist		
Yes	1,879	62.2
No-have no interest	901	29.8
No-lack of training	68	2.3
No-privileges denied	30	1.0
No-liability costs prohibitive	43	1.4
Not reported	100	3.3
Minor Surgery		
Yes	1,210	40.1
No-have no interest	1,212	40.1
No—lack of training	340	11.3
No-privileges denied	67	2.2
No-liability costs prohibitive	80	2.6
Not reported	112	3.7
Major Surgery		
Yes	225	7.4
No-have no interest	1,694	56.1
No—lack of training	788	26.1
No-privileges denied	76	2.5
No-liability costs prohibitive	94	3.1
Not reported	144	4.8

area it may be because of lack of training, denial of privileges, lack of interest, or prohibitive liability costs. These questions were posed to the

graduates of family practice programs between 1970 and 1978, who are diplomates of the American Board of Family Practice (Table 9).

Approximately 64.3 percent of the respondents perform routine obstetric care, with approximately one in four (27.8 percent) having no interest in this area. Less than five percent indicated no privileges in this area because of lack of training, prohibitive liability costs, or privileges denied.

Complicated obstetric care is performed by about one in three respondents (37.6 percent). Even more respondents (38.6 percent) indicated that they do not do complicated obstetrics because they have no interest. One in ten (11.2 percent) indicated it is omitted from their practice because they had no training in this area. Of the remaining 7.6 percent, 4.0 percent reported that liability costs are prohibitive and 3.6 percent that privileges have been denied.

Cesarean sections are performed by 13.9 percent of the respondents. Nearly 47 percent indicated that they have no interest in this area and 26.5 percent indicated that they were not trained in this area. Approximately 8.0 percent indicated that liability costs are prohibitive or privileges have been denied.

During family practice residency training most of the graduates received enough experience to make them knowledgeable about surgical procedures. Approximately 62 percent indicated that they have surgery first assist privileges, with 29.8 percent indicating that they have no interest in obtaining this privilege. Less than 5 percent indicated lack of training, prohibitive liability costs, or denial of privileges.

The number of graduates having privileges in minor surgery equaled those who indicated no interest in these privileges (40.1 percent). Approximately 11.3 percent indicated no training in this area. Approximately 5 percent reported liability costs excessively prohibitive or privileges denied.

Only 7.4 percent of the graduates reported privileges in major surgery. However, more than one half the respondents (56.1 percent) indicated no interest in obtaining these privileges. Approximately 26.1 percent indicated no privileges for lack of training in this area.

It is important to discover what graduates of family practice residency programs are doing in their hospital practices, but it is equally important determine what factors influence these to privileges. The data are now being examined with respect to differences, such as geographical location, practice arrangements, year of residency

completion, and size of hospital. A more detailed analysis will be available soon.

Acknowledgement

The authors wish to acknowledge Christopher Robinson for assistance in statistical analysis.

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THE JOURNAL OF FAMILY PRACTICE, VOL. 11, NO. 5, 1980