Graduate Follow-Up in the US Air Force Family Practice Residency Programs

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Between June 30, 1973, and June 30, 1982, 216 family physicians completed residency training in family practice residencies sponsored by the US Air Force. The primary purpose of this study was to measure the adequacy of the graduates' residency training program. One hundred seventy-nine (83 percent) of the graduates responded to an extensive eight-page survey. The study assessed all Air Force program graduates as a whole as well as each program separately.

Seventy-four percent of the respondents are still in the Air Force. All but one are board certified, and 19 have been recertified. Of the 179 respondents, 37.0 percent are involved in teaching medical students of family practice residents, only 5.0 percent are dissatisfied with their present hospital privileges, 43.5 percent felt that their residency training was superior to that provided by civilian family practice residency, 53.7 percent felt the training was equal, and 2.8 percent felt the training was inferior. Practice satisfaction and continuing medical education needs were also addressed in the study.

Ten years have passed since the US Air Force graduated its first family practice residents. The Air Force has sponsored family practice residencies at six of its hospitals with five programs still operating. Between June 30, 1973, and June 30, 1982, 216 family physicians completed residency training from programs at Andrews AFB, Washington, DC; Carswell AFB, Texas; Eglin AFB, Florida; Scott AFB, Illinois; Travis AFB, California; and Wright-Patterson AFB, Ohio (discontinued in 1979).

The primary objective of the family practice residency programs in the Air Force has been to train physicians to give comprehensive primary health care to active duty and retired service members and their dependents. There have been no published data to date as to how well these physicians have been prepared for their family practice roles compared with their civilian counterparts.[1-9] The purpose of this study was to evaluate the Air Force family practice residency programs as a whole as well as each program separately.

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Methods

Each residency program was contacted, and a list of the names and current addresses of their graduates, if known, was requested. Because of the frequency of military moves and the exiting of graduates from the service by retirement or voluntary separation upon completion of training commitments, tracking early graduates was difficult.

Of the 216 family physicians contacted, 179 (83 percent) responded to an extensive eight-page survey. Responses were kept anonymous. There were 150 respondents to a first mailing of the survey and 29 to a second mailing one month later. The survey data obtained were analyzed by a microcomputer.

The first section of the questionnaire dealt with demographic data, practice characteristics, and hospital privileges. Evaluation of preparation for practice in the multiple medical and surgical disciplines as well as practice management was then assessed and compared with the respondent's identified continuing medical education (CME) needs. Civilian practice characteristics and factors in deciding civilian practice location of all respondents were likewise requested. The final section of the survey was directed to determining the areas of satisfaction and dissatisfaction with residency training, the practice of family medicine in the Air Force, and other aspects of the physician's life.

In many instances respondents left several of the survey questions blank. The figures and percentages presented are based upon the actual number of responses to each individual question. Correlation of the responses from this study with the results of previous similar civilian studies was not attempted.

Results

The percentage and number of respondents by program were as follows: Andrews 87 percent (53/61), Carswell 91 percent (29/32), Eglin 75 percent (18/24), Scott 77 percent (37/48), Travis 68 percent (13/19), and Wright-Patterson 91 percent (29/32).

Demographic Data

On examination of the demographic data, 88.1 percent were white (not of Hispanic origin), 6.2 percent were black, 3.4 percent were Hispanic, and 2.3 percent were of Asian background. Ninety-five percent of the respondents were married, and the average length of marriage was 10 years. Three percent had never been married, and 2 percent had been divorced or separated. Eighty-nine percent had MD degrees, and 11 percent held DO degrees. All but one respondent was board certified, and 19 (11 percent) had been recertified.

Field of Practice

One hundred sixty-two (90.5 percent) still consider family practice to be their primary specialty, while 7 (3.9 percent) consider flight surgery, 3 (1.7 percent) consider emergency medicine, and 7 (3.9 percent) consider other specialties as their primary specialty. Eleven (6.1 percent) of the respondents were currently in or had completed other residencies, while 7 (3.9 percent) were in or had completed fellowship training.

Nature of Practice

Of the 179 respondents, 132 (74 percent) were still on active duty, and 47 (26 percent) were in civilian practice. Table 1 gives a breakdown of the 178 who answered the question regarding their current practice setting.

Of those 47 physicians presently in private practice, 16 (34 percent) have established practice in an area similar to that where the physician or spouse resided during the first 15 to 20 years of life. Their practices were either less than 50 miles (38 percent), 50 to 100 miles (5 percent), or greater than 100 miles (57 percent) from their last active duty assignment. Table 2 lists the laboratory or procedural services offered in the offices of the 40 respondents. Most of the respondents use

Table 1. Current Practice Setting of US Air Force Family Practice Residency Graduates

Type of Practice	Respondents	Percentage
Fee-for-service practice		
Solo	14	7.9
Partnership	7	3.9
Single-specialty group	6	3.4
Multispecialty group	5	2.8
Other		
Health maintenance organization	1	0.6
Full-time teaching—medical school	3	1.7
Full-time teaching—community medicine	4	2.2
Military	132	74.2
National Health Service Corps	0	0
Emergency room	3	1.7
Other	3	1.7
Total	178	100

problem-oriented medical records, but few use family trees (genograms), family folders, or data retrieval systems (eg, E-book) in their practices.

Of those 132 physicians presently on active duty, 22 (16.7 percent) were residency faculty members. Table 3 provides a breakdown of time utilization for the residency faculty and nonresidency faculty physicians.

Table 2. Office Laboratory and Procedural Services Offered by Respondents in Private Practice (n = 40)

Service	Respondents	Percentage
Urinalysis	40	100
Resting electrocardiogram	32	95
Pregnancy testing	37	92.5
Complete blood count	27	67.5
Audiometric testing	24	60
Pulmonary function tests	24	60
X-ray	23	57.5
Blood chemistries	17	42.5
Exercise electrocardiogram	10	25

Hospital Privileges

In addressing the size of the primary admitting hospital for those in military practice, it was found that 3 (2.3 percent) practiced in hospitals with over 300 beds, 22 (16.8 percent) in hospitals with 151 to 300 beds, 47 (35.9 percent) in hospitals with 51 to 150 beds, and 59 (45 percent) in hospitals with under 50 beds. Those in civilian practice had admitting privileges in hospitals with bed sizes of over 300 beds in 16 (34.1 percent) of the cases, in hospitals with 151 to 300 beds in 11 (23.4 percent), in hospitals with 51 to 150 in 12 (25.5 percent), and in hospitals with under 50 beds in 8 (17 percent).

Nine (5 percent) of the graduates were dissatisfied with their present hospital privileges, although 21 stated that they had been denied some privileges requested. Of the 21 denied privileges, 18 were denied privileges for intensive care and coronary care units or complicated obsetetrics, including cesarean sections, as the primary surgeon.

Table 3. Average Time Utilization for Residency and Nonresidency Faculty

Activity		Percentage	
		Residency Faculty	Nonresidency Faculty
Direct patient care		42.4	81.0
Teaching		35.1	2.2
Administration		19.8	16.4
Research		2.6	0.4
	Total	100.0	100.0
Ambulatory patient care		87.9	85.6
Inpatient care		12.1	14.4
	Total	100.0	100.0

Table 4. Surgical-Obstetrical Services Provided

Service	Civilian Practice (n = 47) No. (%)	Military Practice (n = 132) No. (%)
Vaginal delivery	25 (53.2)	106 (80.3)
Cesarean section (primary surgeon)	5 (10.6)	20 (15.2)
Cesarean section (assistant)	22 (46.8)	100 (75.8)
Tubal ligation	3 (6.4)	27 (20.5)
Vasectomy	16 (34.0)	103 (78.0)

Table 4 illustrates the difference in several of the surgical-obstetrical services provided by respondents.

Practice Preparation

In evaluation of preparation for practice, the graduates were asked to select responses of underprepared, adequately prepared, or overprepared for 60 subject areas involving medical and surgical specialties, practice management, and family and community medicine issues. Reflecting all respondents, Table 5 shows the percentage response for each category.

The highest incidence of overprepared responses was noted in newborn care (4 percent). The primary residency training deficiency areas were rehabilitative medicine, developmental disorders and learning problems of childhood, trauma and fracture care, forceps and cesarean deliveries, practice management, and community medicine.

The graduates were asked to indicate their three

Table 5. Graduate Evaluation of Residency Training as Preparation for Practice

Subject Area	Percentage of Graduates Who Feel		
	Underprepared	Adequately Prepared	Overprepared
Care of common clinical problems (eg, fatigue, headache, ill-defined complaints)	3.4	94.9	1.7
Providing health maintenance	7.4	90.3	2.3
Use of common drugs	1.1	97.7	1.1
Family structure and function	14.2	83.5	2.3
Psychosomatic problems	15.3	81.8	2.8
Psychosocial components of major medical illness	12.5	84.7	2.8
Proficiency in physician-patient relations	5.7	93.2	1.1
Personal and professional growth	29.9	70.1	0
Referral and consultation process	6.8	91.5	1.7
Arranging for continuing education	25.0	75.0	0
Allergy	20.5	77.3	2.3
Cardiology	15.9	83.5	0.6
Dermatology	8.0	91.5	0.6
Gastroenterology	4.6	94.3	1.1
Hematology	26.1	73.9	0
Infectious disease	10.2	89.2	0.6
Nephrology	36.9	63.1	0
Neurology	21.8	77.6	0.6
Pulmonary	3.4	93.8	2.8
Radiology	6.3	93.8	0
Rehabilitation	67.6	32.4	0
Rheumatology	24.4	75.6	0
Newborn care	7.4	88.6	4
Well-baby care and child development	3.4	93.8	2.8
Developmental disorders	36.0	62.9	1.1
Learning problems of childhood	51.7	48.3	0
Acute childhood illnesses	0	98.9	1.1
Chronic childhood illnesses	13.6	86.4	0
Uncomplicated delivery	2.8	96.1	1.1
Forceps delivery	47.2	51.7	1.1
Cesarean section	52.9	47.1	0
Gynecologic medical management	5.2	94.2	0.6
Gynecologic surgical management	32.0	66.9	1.1
Office surgery and procedures	6.2	93.8	0
General surgery	18.9	80.0	1.1
Emergency surgery	30.8	69.2	0
Ophthalmology	15.3	84.7	0
Otolaryngology	6.3	93.7	0
Urology	8.5	91.5	0
Trauma	41.2	58.8	0
Fracture care	51.7	48.3	0
Tubal ligation	48.0	51.5	0.5
Stages of human development	23.0	75.9	1.1
Behavior disorders	17.7	79.5	2.8
Psychiatric disorders	21.0	77.3	1.7
Counseling skills	21.0	78.4	0.6

Table 5. Graduate Evaluation of Residency Training as Preparation for Practice (Continued)

Subject Area	Percentage of Graduates Who Feel		
	Underprepared	Adequately Prepared	Overprepared
Assessing community health needs	55.9	43.5	0.6
Using community health resources	42.6	56.8	0.6
Exercising community leadership	49.4	50.6	0
Understanding hospital organization and function	46.9	53.1	0
Obtaining hospital privileges	37.5	61.9	0.6
Medical and local priorities	38.7	61.3	0
Relationship with other physicians	11.3	88.1	0.6
Legal aspects of family practice	48.3	51.7	0
Organization of practice	60.5	39.5	0
Personal issues	50.0	50.0	0
Financial management and business records	77.4	22.0	0.6
Office management	72.2	27.8	0
Clinical records	23.2	76.3	0.6
Estate planning	85.2	14.8	0

most significant continuing medical education needs. The five most common responses were orthopedics, emergency care and advanced cardiac life support, cardiology, general internal medicine, and obstetrics.

Personal and Professional Satisfaction

An examination of the satisfaction and dissatisfaction of various aspects of the physicians' lives was undertaken looking at the group that was in civilian practice vs those still in the Air Force. Table 6 displays the number and percentage of responses. The neutral or no response percentages are not entered in the table.

Family Practice in the Air Force

When asked why a military residency was chosen over a civilian residency, the responses were financial (49.2 percent), quality of training (36.9 percent), civilian residency not an option (34.6 percent), location (18.4 percent), American Osteopathic Association recognition of military residencies (4.5 percent), and other (9.5 percent). Some respondents chose more than one reason, and percentages are based upon total responses for the 179 surveys. The quality of training compared with that provided by civilian family practice residencies was felt to be superior by 43.5 percent, equal by 53.7 percent, and inferior by 2.8 percent of the graduates.

In describing the last assignment while on active duty or the present assignment if still on active duty, 34 percent stated they were practicing in a family practice module, 20 percent were in a residency facility, 19 percent were in a primary care (general medicine) clinic, 10 percent were in flight surgery, 2 percent were in the emergency room, and 15 percent were in other categories (primarily a combination of the above).

When the graduates were asked why they would or did leave the Air Force, the top five reasons for leaving the Air Force for all respondents were personal and family needs not fulfilled (58 percent), frequency of moves (54 percent), low in-

Table 6. Personal and Professional Satisfaction

Aspect	Satisfaction		Dissatisfaction	
	Civilian No. (%)	Military No. (%)	Civilian No. (%)	Military No. (%)
Professional life	40 (85.1)	104 (78.8)	5 (10.6)	19 (14.4)
Practice arrangement	37 (78.7)	77 (58.3)	8 (17.0)	40 (30.3)
Income	36 (76.6)	76 (57.8)	6 (12.8)	24 (18.2)
Community life	43 (91.2)	90 (68.2)	2 (4.3)	20 (15.2)
Family life	38 (80.9)	99 (75.0)	4 (8.5)	16 (12.1)

come (47 percent), not being allowed to practice family medicine (46 percent), and inadequate ancillary personnel (46 percent).

Discussion

The ten-year experience of Air Force residency-trained family physicians has been positive in light of 99.4 percent of the graduates obtaining board certification and 90.5 percent of the graduates still identifying family practice as their primary specialty. In addition, only 5 percent of the graduates are dissatisfied with any of their present hospital privileges.

Care must be taken in interpretation of the data in that each of the Air Force residencies functions independently rather than as a part of a network. They are operated under the same family practice residency guidelines as civilian family practice programs. Many of the questions in the survey were purposely taken from previous civilian studies to give continuity in surveyed data.[4,5,9] Correlation of this study to civilian practice studies, however, has not been attempted.[1-9] Care must also be taken in interpretation of the civilian practice data of those who have left the military because of the limited number of military family practice residency graduates in private practice. The varied utilization of the Air Force family practice residency graduate precludes typifying those still on active duty.

The graduates as a whole have been adequately prepared for practice. Although the graduates are well trained for the primary care needs of the Air Force, the Air Force appears to be negatively affecting the retainability of its family physicians by not allowing them to practice family medicine, as reported by 46 percent of the respondents. The status of family medicine in the Air Force has not yet been sufficiently addressed, but should be pursued in a different forum and correlated with Army and Navy data when these are available.

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