

A National Survey on the Current Status of Family Practice Residency Education in Geriatric Medicine

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Background and Objectives: *The dramatic increase in the elderly population expected over the next few decades will place a heavy strain on the current health care system. Family practice residents need to be prepared to take care of this geriatric population. In this study, we document the past, current, and future trends of geriatric education in family practice residency programs.* **Methods:** *A survey was mailed to all family practice residency directors in the United States (n=471).* **Results:** *The response rate was 75%. Ninety-two percent of family practice residencies have a required geriatrics curriculum. Nursing homes, assisted living facilities, and home care are the predominant training sites for geriatrics. Training is most often offered in a longitudinal format. The mean number of physician faculty available to teach geriatrics is 2.6 per program (.83 full-time equivalent). Conflicting time demands with other curricula was ranked as the most significant barrier to geriatric education. Directors rated geriatrics as one of the three most important curriculum topics.* **Conclusions:** *Faculty development to enhance the number of faculty who can teach geriatrics and broadening the exposure of residents to the elderly in a variety of settings will be important to ensure that future generations of family physicians are adequately equipped to care for the geriatric population.*

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Our nation faces a potential crisis in physician expertise to care for our aging population. The baby boomers, persons born following World War II between 1946 and 1964, begin to turn age 65 in 2011. By 2030, there will be about 70 million older persons, more than twice their number in 1999. The proportion of the population over 65 will increase from 13% to 20% between 2010 and 2030.¹ Those over 85 are expected to increase 220% in the 40 years from 2010 (5.7 million) to 2050 (18.2 million).² Although Americans are living longer, they also bear the burden of increased chronic diseases, such as arthritis, atherosclerotic vascular disease, cancer, hearing and visual loss, and dementia. These illnesses may

impair function³ and require ongoing expert management for optimal outcomes. Consequently, the elderly population uses the health care system more than younger populations. For example, persons ages 65 and over averaged more contacts with physicians in 1999 (6.8 contacts) than did persons of all ages (3.5 contacts).¹

Family physicians can anticipate that in 2020 at least 30% of their outpatients, 60% of their hospitalized patients, and 95% of their nursing home and home care residents will be individuals ages 65 and older.^{4,5} Well-trained family physicians, along with general internists and geriatricians, are essential to provide primary care to the future generation of older adults. Unfortunately, a residency-practice mismatch exists whereby new physicians are typically not adequately prepared during residency training to care for the many complex older adults who will be in their practices.⁶ A 1998 national survey of graduating family practice residents confirmed this mismatch.⁷ Graduates did not feel well prepared to manage the terminally ill, the chronically ill, nursing home patients, or other elderly patients.⁷

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Today's family practice residents will, therefore, need focused training that imparts the attitudes, knowledge, and skills required to provide superior geriatric care.

Existing reports that document and track the status of geriatrics training are either outdated or concentrated on only one aspect of geriatric education.^{8,9} This study reports on a comprehensive survey of current efforts and trends in geriatric education for family practice residencies.

Methods

This project was submitted to the Institutional Review Board (IRB) of both the University of Cincinnati and Thomas Jefferson University. Both IRBs determined the project to be exempt from review.

Study Participants

The survey was mailed to the 471 residency directors of each US family practice residency program listed in the American Academy of Family Physicians (AAFP) November 2000 list of Accreditation Council for Graduate Medical Education (ACGME) Allopathic Residency Programs in Family Practice.¹⁰ Osteopathic residency programs are not accredited by ACGME and were not included in this study.

Survey Instrument

The survey addressed aspects of past, current, and future geriatric medicine curricula in family practice residencies. It was divided into eight parts: general program information, required geriatric medicine experiences, allocation of curriculum time, knowledge of recently revised ACGME requirements, faculty resources, barriers to curriculum development and implementation, assessment of all family practice residency curriculum priorities, and an open-ended request for descriptions of best practices.

Procedure

The survey instrument was developed with input from members of the Society of Teachers of Family Medicine (STFM) Group on Geriatric Education and was endorsed by the Association of Family Practice Residency Directors (AFPRD). A cover letter acknowledging this support and endorsement was mailed with the survey to the 471 US family practice residency directors in February 2001. The survey was also available in a Web-based format. Reminder e-mails were sent to all residency directors at 1 week after the initial mailing and again to nonrespondents at 2 weeks. At 3 weeks, nonrespondents were sent a postcard with a second copy of the survey. A final e-mail request for survey completion was sent to those still not responding 4 weeks after the initial mailing.

Statistical Methods

Data were described using the mean or median as measures of central tendency and standard deviation (SD) or inter-quartile range as measures of spread. Associations between variables were tested using Spearman's Rank Correlation Coefficient. The acceptable Type 1 error rate was set at 5%. Characteristics of responding and nonresponding programs were compared with chi-square statistics. Analyses were performed using SPSS for Windows v10.1[®] (SPSS Inc, Chicago, IL) and the SAS[®] System Version 8e (SAS Institute Inc, Cary, NC).

Results

Characteristics of Responding Residency Programs

Of the 471 surveys, 352 were returned, for a response rate of 75%. Twenty-five percent of the respondents completed the survey on-line, while 75% completed it on paper. The size and organizational type of the responding programs were similar to those of the nonresponding programs (Table 1). There was no difference in the distribution of nonrespondents and respondents by census region (chi-square=4.661, $P=.863$). Twenty-eight (8%) of the responding programs indicated that they offered fellowship training in geriatric medicine, and 19 (68%) of these fellowships were accredited by the ACGME.

Geriatric Medicine Curriculum

Of the programs responding to the survey, 321 (92%) required geriatric medicine training, 19 (5%) had an

Table 1

Size and Organizational Type of Responding and Nonresponding Family Practice Residency Programs

	Responding Programs (n=352)	Nonresponding Programs (n=119)
Residents in each program*	22.57 (9.19)	22.07 (7.11)
Program organizational type**		
Community based	18 (5%)	6 (5%)
Community based and medical school affiliated	206 (59%)	69 (58%)
Community based and medical school administered	73 (21%)	25 (21%)
Medical school based	43 (12%)	17 (14%)
Military	12 (3%)	2 (2%)

* Data presented as mean and standard deviation; Student's t test: $P=.589$

** Data presented as number and percent; chi-square=1.201, $P=.878$

elective experience only, and 10(3%) had neither a required nor an elective experience.

One third of the programs required 25–36 half days of geriatric medicine clinical training during the 3-year residency. Twenty-two percent of the programs required more than 36 half days, and 15% of the programs required 12 half days or less of clinical training during the 3 years of residency (Figure 1). Similarly 21% of the programs required more than 36 hours of instruction, and only 10% of the programs reported 12 hours or less of instruction (Figure 2). Programs with more half days of clinical instruction tended to have more didactic training (Spearman's $\rho = .252, P < .001$).

Family practice residency programs depended on nursing home or assisted-living facilities (97%) and home care (93%) as training sites for geriatrics. However, training also occurred at a variety of other sites, such as hospices (62%), hospital-based skilled nursing facilities (58%), outpatient geriatric assessment centers (51%), and inpatient consultation (42%).

Nursing homes and home care experiences were most frequently offered in a longitudinal format (Figure 3). For example, nursing home rotations were in longitudinal format in 86% of the programs and in block format in 40%, with 26% of the programs reporting both formats. In home care, 81% of the programs offered a longitudinal experience while 33% offered a block rotation, and 14% used both formats. In other clinical venues, the block and longitudinal formats were more equally divided, with the exception of outpatient geriatric assessment centers, which were more often offered in block format.

Faculty Resources

The mean number of faculty teaching geriatric medicine in family practice residencies was 1.05 full-time equivalent (FTE) (Table 2). These included family physicians (71.32%), internists (10.24%), and other health care professions (18.44%). There was a mean of 1.44 individual physician faculty with a certificate of added qualifications (CAQ) in geriatrics per program and an additional 1.16 individual physician faculty with an interest in geriatrics. This adds up to 2.6 available physician faculty to teach geriatrics per program. However, 72 programs (23%) have no faculty with CAQs. Of the faculty with CAQs, 75% received their CAQ through the practice pathway; the remaining 25% received their CAQ after completing a geriatric fellowship. Most programs (83%) reported using a multidisciplinary approach (ie, a team of physicians and other nonphysician health care workers such as nurses, social workers, physical therapists, and/or pharmacists) to teach geriatrics in one or more training venues.

Trends

Residency directors were asked to report on changes in their geriatric medicine curriculum between July

Figure 1

Required Time (Half Days) Devoted to Clinical Instruction in Geriatric Medicine During 3-year Family Practice Residency

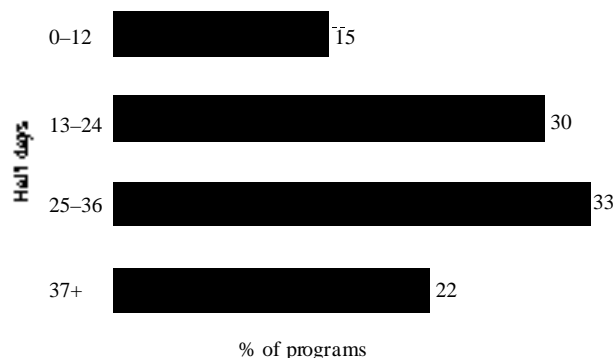
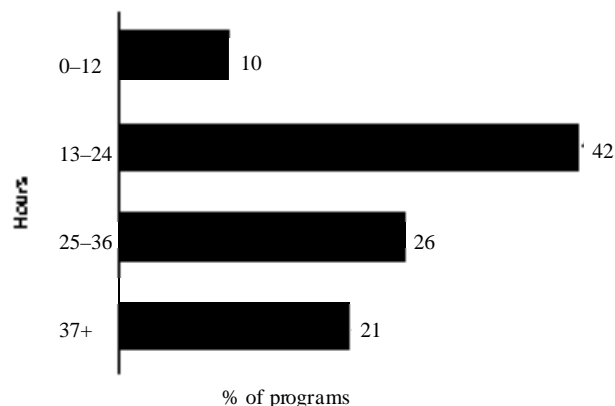


Figure 2

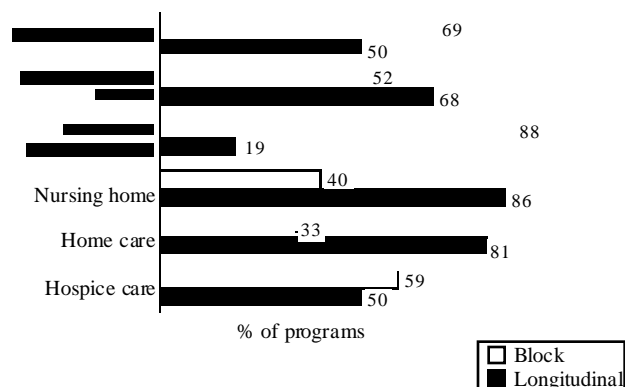
Required Time (Hours) Devoted to Didactic Instruction in Geriatric Medicine During 3-year Family Practice Residency



1997 and the present. The ACGME program requirement wording for geriatric education in family practice residency programs was changed in 1997 by downgrading continuity experience in the nursing home from a “must” to a “should” recommendation. In addition, the Residency Review Committee for Family Practice (RRC) also removed the requirement for geriatric education to occur throughout the curriculum. These actions were interpreted by many educators as a weakening in geriatric requirements.¹¹ When asked if these RRC requirements had an effect on their program, 48% of program directors responded that these changes had

Figure 3

Block or Longitudinal Required Geriatric Experiences in Family Practice Residency Programs, July 2000–June 2001



Some programs use both block and longitudinal formats for geriatric experiences. This resulted in totals greater than 100%.

Table 2

Faculty Available to Teach Geriatric Medicine in Family Practice Residency Programs

	Mean FTE
Total family practice program faculty	10.76
Physicians	8.77
Other health care professionals	1.99
Faculty teaching geriatrics	1.05
Physicians	.83
Other health care professionals	.22

FTE—full-time equivalent

influenced their geriatric medicine curriculum, 39% denied they had had any effect, 3% were unsure of the effect, and the remaining 10% were unaware of the change in requirements.

Required lecture and seminar time dedicated to geriatric medicine had remained stable in 57% of the programs, increased in 38% of the programs, and declined in only 3% of programs; 2% of programs did not require geriatric lectures or seminars. When asked to project whether the geriatric education curriculum time (clinical or didactic) would change over the next 3 years (July 2001–June 2004), directors anticipated substantial (8%) or modest (43%) increases, no change (47%), or a decrease (2%). The 48% of program directors stating that the 1997 RRC changes had affected their curriculum were significantly more likely to pre-

dict an increase in geriatric curriculum time over the next 3 years (July 2001–July 2004) than the other family practice residency directors ($P=.004$).

Barriers to Implementation of a Geriatrics Curriculum

When asked to rate seven potential barriers to implementing their geriatric medicine curriculum using a 7-point Likert scale, directors listed conflicting time demands (with other curricular topics) as the most significant barrier (Figure 4). Nearly one third of programs further listed low resident interest, insufficient clinical faculty availability, and reimbursement constraints as barriers to developing a geriatrics curriculum. Comments included:

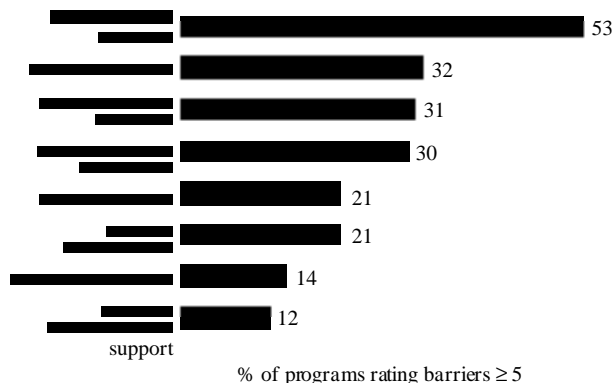
Family medicine training is so broad, and there is so much to cover as prescribed by the RRC, it is difficult to fit in more geriatrics.

The faculty members spend most of their time precepting and signing charts (to satisfy Medicare billing guidelines) with little time left to teach or develop improved curriculum.

While our residents recognize that many of their patients will be over age 65, they also have learned (due to Medicare reimbursement levels and patient complexity) that they cannot afford to care for a high percentage of older adults and maintain a financially viable practice.

Figure 4

Significant Barriers to Implementing a Geriatric Medicine Curriculum as Reported by Family Practice Program Directors



Respondents were asked to rate each item on a scale of 1–7, where 1=never a barrier and 7=major barrier.

Residency directors were also asked to rank the importance of seven areas of residency curricula that were listed alphabetically on a 7-point Likert scale from 1 (not at all important) to 7 (extremely important). Only pediatrics ranked higher than geriatrics. Pediatrics received a score of 5 or higher from 94% of the program directors, whereas geriatrics received this score from 93% of the program directors (Figure 5).

Best Practices

We grouped directors' responses to open-ended questions about best aspects of their geriatrics curriculum into 11 categories. The program directors were most enthusiastic about outpatient and community-based experiences, the overall design of their curriculum, and faculty role models and educators (Table 3).

Discussion

Thirteen years have passed since the last comprehensive survey of geriatric medicine education in internal medicine and family practice residency programs. Reuben et al found in 1988 that 36% of internal medicine programs and 80% of family practice programs had a geriatrics curriculum.⁸ Our survey found that this number had increased to 92% for family practice. Geriatric medicine curriculum has been required in all family practice residency programs throughout this period, and it remains unclear why 8% of the reporting programs still report no required training.

Curriculum

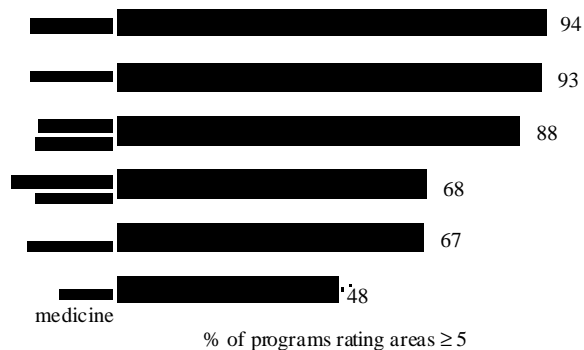
Among the family practice residency programs in our survey that had required training, it was remarkable that 23% of the programs required geriatric medicine clinical training exceeding 36 half days (the equivalent of 1 to 2 months of curriculum time). Furthermore, 15% of the programs had 12 half days or less of clinical training (less than one-half month over the 3-year training program). Similar variability and low rates were found among programs that required didactic training: 21% had more than 36 hours, and 10% reported having 12 hours or less.

It is now recognized that measuring residents' attainment of specific competencies should be used to assess training outcomes. Although curriculum time is not the only measure of quality, it appears that many family practice residents may fail to obtain the skills necessary to successfully care for older adults simply because they had inadequate exposure to geriatric clinical and didactic experiences.

Longitudinal implementation of new curricula has been preferred by program directors as the curriculum demands of the 36-month training programs have increased. Longitudinal geriatric medicine experiences have also been popular.⁵ In our study, geriatric experiences provided in nursing homes and patient homes

Figure 5

Program Directors' Rating of the Importance of Residency Curriculum Areas to the Training of Successful Family Physicians



Respondents were asked to rate each item on a scale of 1–7, where 1=not at all important and 7=extremely important.

were mainly longitudinal. This is not surprising, since before 1997, the RRC clearly stated that geriatric experiences at these two sites must be taught in a longitudinal manner.

Family practice residency programs (98%) continue to depend on nursing homes and assisted-living facilities for their geriatrics training. This reliance on nursing homes as the primary geriatric teaching site has remained stable over the years. For example, in Reuben's 1988 and Counsell's 1994 surveys, family practice residencies used nursing homes for clinical training 93% and 86% of the time, respectively.^{8,9}

Table 3

The Best Aspects of Geriatric Medicine Curriculum Cited by Family Practice Residency Directors

Categories of Best Aspects	Number of Responding Programs (n = 257)
Outpatient/community experiences/settings	142
Program design (block or longitudinal experience)	104
Faculty role models and educators	92
Availability and variety of patients	32
Multidisciplinary team/experiences	27
Support/respect from others	20
Geriatric Assessment Center	19
Inpatient experiences	15
Specific geriatric curriculum	11
Fellowship program	7
Resident interest	7

Although using long-term care settings as teaching sites is commendable, it is of concern that some programs may regard a nursing home experience as sufficient exposure to geriatric medicine. By exposing residents to older adults in a variety of other sites, they come to appreciate the diversity of these patients' functional problems and health care needs. Encouragingly, some family practice residency programs have recognized this need. Eighty-two percent of family practice residencies included home care training, and more than 50% were currently using hospital-based skilled nursing facilities and hospice care geriatric training sites.

Multidisciplinary teams are central to good geriatric medicine practice, and 83% of family practice residencies are currently using this approach. The unique perspectives of many other health disciplines can help residents learn about clinical solutions to their complex patients' problems and health care needs as well as expand the base of expert geriatric faculty in each program.¹²

Faculty

In Reuben's and Counsell's surveys, the most frequently cited major obstacle to implementing a geriatrics curriculum was lack of faculty.^{8,9} Thirteen years later, this was still reported as a significant obstacle.

In our study, we found a mean of 1.44 individual physician faculty with a CAQ in geriatrics and a mean of 1.16 additional physician faculty with an interest in geriatrics, for a total of 2.6 individual geriatrics physician faculty available per family practice residency program. In 1988, family practice programs reported a mean of 2.3 available physician faculty to teach geriatrics.⁸ It appears that the number of physician faculty available to teach geriatric medicine in family practice residency programs has not changed significantly over the past 13 years. It remains important that existing faculty members with an interest but no formal geriatric medicine training be encouraged to teach residents and help foster enthusiasm for the field.

When we asked residency directors (who had been successful in adding geriatric medicine into their curricula) to explain their success, one of the most commonly cited reasons was that they had a few outstanding teachers who loved teaching geriatrics. Comments such as "charismatic faculty who inspires while teaching" and "lucky to have a physician who loves to teach with interest in geriatrics" are just a few examples that indicate how much geriatric education depends on faculty role modeling. Although expanding the number of fellowship-trained family practice geriatric educators remains an important task, many existing family practice faculty can generate excitement for the field. Programs should support increased geriatric training for physicians who desire increasing their clinical skills.⁵

Trends and Barriers

In the family practice RRC program requirements implemented in July 1997, the wording for continuity experience in nursing homes was changed.¹¹ This change concerned those invested in geriatric education in family practice residencies. They feared that many programs would eliminate various parts of their geriatric medicine curricula. However, the majority of residency directors reported that over the preceding 3 years (1997–2000), their geriatric medicine curricula either stayed the same or increased. Few programs decreased geriatrics training. In fact, when asked to project whether their geriatric medicine curriculum time would change over the next 3 years (2001–2004), most residency directors replied that they anticipated either stable or increased time. Only a few programs planned decreases.

The most significant barrier cited to improving their geriatric medicine training was an overcrowded curriculum. This complaint is not surprising given the breadth of family practice training and the increase in RRC requirements. When residency directors were asked to rate the respective importance of several curricular areas for training family physicians, pediatrics, geriatrics, and inpatient medicine were rated as the top three priorities. Program directors remain critical in determining the path of geriatric medicine training for family practice residents.

Limitations

The potential biases of survey research results must be noted when interpreting the results of our survey. In this study, surveying all family practice residencies in the United States eliminated selection bias, but responder bias remains a possibility. Although 75% of all residencies responded, the remaining 25% may have been less invested in their geriatrics programs and would have reported weaker geriatric curriculum experiences. However, given the strong response rate, the fact that we found no differences in the size and organizational type between the respondents and nonrespondents, and that only residency directors' responses were solicited, we believe our results are applicable to family practice residency training in general.

Conclusions

This survey details the geriatric curriculum offered at residency programs, the commitment of family practice residency programs to geriatrics, faculty resources, barriers in implementing an effective geriatrics program, and the importance of geriatrics relative to other curricular demands. Program directors can use this information in their future efforts to ensure excellence in geriatrics education among all family practice residency graduates.

Our results suggest a large number of similarities in geriatric education across family practice residencies. Most family practice residencies still depend on nursing homes and home care as the major sites for teaching geriatrics. The fact that most programs are anticipating stable or increased geriatrics curricula over the next 3 years is encouraging. Faculty resources remain limited. Family practice residency training will always be faced with balancing many important educational objectives.

Family physicians are well suited to the longitudinal care of aging patients. They must apply their strengths in long-term physician-patient relationships, knowledge of family systems, and understanding of community resources to the management of chronic disease and aging. By promoting excellence in geriatric education, we will ensure the continued social relevance of family medicine in the future.

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