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The Accelerated Residency Program: The Marshall University Family Practice 9-year Experience

Stephen M. Petrany, MD; Richard Crespo, PhD

Background: In 1989, the American Board of Family Practice (ABFP) approved the first of 12 accelerated residency programs in family practice. These experimental programs provide a 1-year experience for select medical students that combines the requirements of the fourth year of medical school with those of the first year of residency, reducing the total training time by 1 year. This paper reports on the achievements and limitations of the Marshall University accelerated residency program over a 9-year period that began in 1992. **Methods:** Several parameters have been monitored since the inception of the accelerated program and provide the basis for comparison of accelerated and traditional residents. These include initial resident characteristics, performance outcomes, and practice choices. **Results:** A total of 16 students were accepted into the accelerated track from 1992 through 1998. During the same time period, 44 residents entered the traditional residency program. Accelerated residents tended to be older and had more career experience than their traditional counterparts. As a group, the accelerated residents scored an average of 30 points higher on the final in-training exams provided by the ABFP. All residents in both groups remained at Marshall to complete the full residency training experience, and all those who have taken the ABFP certifying exam have passed. Accelerated residents were more likely to practice in West Virginia, consistent with one of the initial goals for the program. In addition, accelerated residents were more likely to be elected chief resident and choose an academic career than those in the traditional group. Both groups opted for small town or rural practice equally. **Conclusions:** The Marshall University family practice 9-year experience with the accelerated residency track demonstrates that for carefully selected candidates, the program can provide an overall shortened path to board certification and attract students who excel academically and have high leadership potential. Reports from other accelerated programs are needed to fully assess the outcomes of this experiment in postgraduate medical education.

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In 1989, the American Board of Family Practice (ABFP) approved the first accelerated residency program at the University of Kentucky.¹ By 1992, 11 additional programs were approved for participation in a closely monitored experiment in medical education (Table 1). An accelerated residency program is designed to provide a 1-year experience for a select group of medical students, which combines the requirements of the fourth year of medical school with those of a first-year family practice residency. In effect, the total training time leading to board certification in family practice for these

individuals is reduced by 1 year.² Variations on this program have also been initiated in other specialties.^{3,4}

The Marshall University Family Practice Residency accepted its first accelerated residents in July 1992 and has continued the program since that time. This paper describes Marshall's 9-year experience with the accelerated residency in family practice, focusing on those residents who entered the program from 1992 through 1998.

Background

The Marshall University Family Practice Residency initiated the accelerated program with several goals. The expectation was that shortening the overall training period prior to practice would potentially encourage some highly qualified students to choose a career

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Table 1

Accelerated Residency Programs Approved
by the American Board of Family Practice

- The University of Kentucky
- The University of South Alabama
- Creighton University
- East Carolina University
- East Tennessee State University
- The Medical University of South Carolina
- Case Western Reserve University
- Marshall University
- University of Tennessee
- Medical College of Ohio
- University of Nebraska
- University of Cincinnati

in family practice. The shortened educational program might have a greater influence on individuals who entered medical school at a later stage in life than the traditional student. This is relevant because the age of incoming medical students has been increasing nationally,⁵ and the Joan C. Edwards School of Medicine at Marshall University has had a history of accepting a significant number of these older students who might be particularly appropriate for the accelerated program. For example, the class of 48 students who entered our medical school in 1989 (the same class that was the source of our first accelerated residents in 1992) included 19 (40%) individuals above age 26 and 11 (23%) above age 30. Older, more experienced students would be expected to bring a certain level of maturity to their accelerated experience that would increase the likelihood of success, while benefiting most from the financial and time advantages of beginning practice 1 year earlier.

Another goal of the program is the education of physicians for practice in the small towns and rural areas of West Virginia. All or part of 40 of West Virginia's 55 counties remain classified as medically underserved, with an estimated immediate need for 130 additional primary care physicians.⁶ Previous studies have identified a link between residency location and proximity of first practice site in primary care.^{7,8} With participants completing both medical school and residency training at Marshall, the accelerated residency program was thought to offer high potential to train family physicians who would more likely practice in West Virginia.

As a final goal, the faculty was interested in participating in this small national experiment in medical education and in helping assess its value and effectiveness as an alternative to the traditional path of family medicine postgraduate education. We hoped to be able to answer whether carefully chosen individuals could consistently complete their overall medical training dur-

ing the shortened time period and how their experience would compare to that of their traditional resident colleagues.

Selection of candidates for the accelerated residency track has been based on several factors and relates to the goals just mentioned. Medical students are encouraged to make early contact with residency faculty regarding their interest. The relatively small class size at Marshall (approximately 50 students per year) allows for enhanced opportunities to get to know students well. A formal application process is completed with interviews by representatives of the residency, the medical school, and our major teaching hospital. Only students ranked in the top half of their classes have been interviewed. Specific factors considered in decision making include assessments of commitment to family practice, interest in practicing in West Virginia, academic performance, and level of maturity.

Program Description

The accelerated residency track closely parallels the traditional training experience. Since the traditional curriculum for the PGY-I year provides for completion of almost all fourth-year medical student requirements, only a few adjustments in the overall schedule have been made (Table 2). The accelerated residents are provided a more-extensive orientation during July, included at the expense of a PGY-III elective month. This orientation focuses on preparation for the responsibilities and rigor of an internship experience and has been modified in response to resident feedback. Another adjust-

Table 2

PGY-I Resident Rotations

<i>Accelerated Residents</i>	<i>Traditional Residents</i>
(1) Orientation	Gynecology
(2) Family practice inpatient	Family practice inpatient
(3) Family practice inpatient	Family practice inpatient
(4) Family practice inpatient	Family practice inpatient
(5) Obstetrics	Obstetrics
(6) Obstetrics	Obstetrics
(7) Pediatrics inpatient	Pediatrics inpatient
(8) Pediatrics inpatient	Pediatrics inpatient
(9) NICU/adolescent	NICU/adolescent
(10) Surgery	Surgery
(11) Rural community health*	Emergency room
(12) Surgical subspecialties (1/2 day FPC weekly)	Surgical subspecialties (1/2 day FPC weekly)

* Rural community health is a required rotation for all residents that is shifted from the second year to the first year for accelerated residents to meet medical school graduation requirements (exchanged with the emergency room rotation).

NICU—neonatal intensive care unit
FPC—family practice center

ment involves scheduling a portion of vacation time for the week of medical school graduation, allowing accelerated residents to participate fully in the graduation activities of their class.

The system for supervising and evaluating residents has been modified for accelerated residents. They are monitored more closely during their first year, with twice-monthly meetings with faculty and monthly reviews of progress with their individual advisor. All university services are aware of the accelerated program and its participants. The quality of these trainees has generated acceptance and respect for the program throughout the other services providing rotations for our residents.

The accelerated residency program at Marshall University was initiated and has been maintained without the need for hiring additional support staff or faculty. The total number of available residency slots was kept at the level established prior to initiation of this track. Implementing this program has not required any additional budget items. The residency director and a department faculty member administer the program, and all extra costs of the program relate to time invested by these individuals in coordinating the orientation activities.

Accelerated residents are given a salary and benefits equivalent to other first-year residents, while at the same time they are expected to pay full tuition as a fourth-year medical student. They are required to complete their training at Marshall University to receive postgraduate credit for the combined year. These issues are outlined in a contract addendum signed by all program participants.

Methods

For the period of time from the initiation of the accelerated family practice residency at Marshall University in 1992 through 1998, a total of 16 students were accepted into the program. For the same period, a total of 44 students entered our traditional family practice residency program. Various characteristics and potential outcome measures have been monitored on these participants, who have been followed through completion of their residency training (Table 3). The data were collected from resident files and from a graduate tracking database maintained by the department. Because we report on one residency, the data were analyzed using frequencies and percentages.

Results

Table 3 provides a comparison of certain resident attributes at the time of entry into the program. Accelerated residents tended to be older by an average of 3 years, had previous career experience, and more often described a hometown in West Virginia than did their traditional counterparts. This is consistent with both the

goals of Marshall's accelerated program and the criteria for selection previously described.

Table 3 also outlines a comparison of several outcome measures that have been monitored at Marshall since the inception of the accelerated track. All residents in both groups remained at Marshall to complete the full residency training experience. A high percentage of accelerated residents (81%) decided to practice in West Virginia. Only three accelerated residents have moved outside the state, and one of these individuals has left to do a fellowship in obstetrics with plans to return to the state after completion of the fellowship.

As shown in Table 3, accelerated residents have excelled academically based on ABFP in-training examination scores (for PGY-III), completion of residency, and certification by the ABFP. Table 3 indicates a 30-point differential between the average score of accelerated residents on their third-year in-training exams, compared with that of their traditional resident counterparts. More than half (56%) of accelerated residents went on to become chief residents, while only 16% of the traditional residents were elected to the position. In addition, 38% of accelerated residents chose a career

Table 3

Comparison of Selected Measures
for Marshall University Family Practice
Residents Entering From 1992–1998

	<i>Accelerated Residents</i>	<i>Traditional Residents</i>
Total residents	16	44
Pre-entry characteristics		
Average age at entry (years)	32	29
Gender: female residents	6 (38%)	23 (52%)
Had previous career	8 (50%)	11 (25%)
West Virginia hometown	9 (56%)	16 (36%)
Outcome measures		
Elected chief resident	9 (56%)	7 (16%)
Small town/rural practice	8 (50%)	23 (52%)
Practice in West Virginia	13 (81%)	20 (45%)
Academic career	6 (38%)	4 (9%)
Nonacademic practice in West Virginia	8 (50%)	17 (39%)
Elected to AOA Medical Honor Society	9 (56%)	2 (5%)
Remediation (repeat required rotation)	2 (13%)	4 (9%)
Average PGY-III in-training exam scores (comprehensive)	554	524
Completed residency at Marshall		
University	16 (100%)	44 (100%)
Certification by ABFP	16 (100%)	44 (100%)

AOA—Alpha Omega Alpha

PGY—postgraduate year

ABFP—American Board of Family Practice

in academic medicine, compared with only 9% of our traditional group.

Discussion

By all the outcome measures evaluated in Table 3 and mentioned above, accelerated residents have developed a strong medical knowledge base, completed their family practice residency, and achieved board certification, despite the shortened training period. It has been a consistent impression of the faculty that most first-year accelerated residents have generally become indistinguishable in performance from the traditional PGY-I residents at 6 to 9 months following orientation. Further, based on the high percentage of accelerated residents who become chief residents or enter academic careers, it appears that, at least at Marshall, the accelerated track has been a pathway for students who excel academically and have high leadership potential. It would be interesting to find out if other accelerated programs have seen a similar pattern.

The program has also achieved its goal of encouraging trainees to practice in West Virginia, since a high percentage of accelerated residents (81%) have decided to practice in the state. While five of the 16 accelerated residents chose academics at Marshall, eight (50%) decided to pursue clinical practice in the state.

The small number of graduates thus far, however, limits our ability to draw conclusions regarding the effect of the accelerated residency on choice of specialty and choice of practice location. It is possible that some Marshall students who would have stayed at our residency anyway with plans to practice in the state have simply shifted to the accelerated program. Alternatively, undecided older students may have been attracted by the benefits of the accelerated track and chose the specialty of family practice as a result. Some of these may have then decided to remain in our state.

Indeed, for the resident classes reviewed, no applicant who was turned down for the accelerated program subsequently matched at Marshall the following year. Although the class rank requirement limited the number of interested students who could apply to our accelerated residency, several applicants were not accepted into the program between 1992 and 1998. Some of these students were thought capable of success but were not accepted because of space limitations, while others were thought not ready for the accelerated track. Unfortunately, it has been our impression that these students do not easily recover from what they perceive as a personal rejection by the Marshall program. We have attempted to adjust our approach following the selection process to emphasize our continuing interest in these applicants as future residents.

Conclusions

The accelerated residency program at Marshall University Family Practice has been in place for approximately 9 years. While the number of graduates remains too small for firm conclusions, several trends appear in the measured parameters.

First, the program has provided a shortened pathway to board certification for carefully chosen students. It has been a means for attracting high-quality students to our residency and perhaps to our specialty. Second, it has resulted in more graduates entering practice in West Virginia, where the need for primary care physicians remains high. Third, as a group, accelerated residents have excelled academically, provided peer leadership, and achieved certification by the ABFP. The accelerated residency has been a source of high-quality students with leadership potential for academic careers in family practice.

Finally, a limitation of the program includes the fact that the program appears to offer no advantage over our traditional residency in placing graduates in rural or small-town practice locations. Additionally, students who were not accepted into the program have all chosen to train at other residencies.

The experience of our residency needs to be compared to that of the other 11 accelerated programs in family practice to see if these trends remain consistent. Marshall's experience is a partial contribution to the larger pool of evidence needed to fully assess the benefits and limitations of the accelerated residency. Other programs are encouraged to report on their experience with this important experiment in family practice graduate medical education.

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