

Rural Residency Training for Family Medicine Physicians: Graduate Early-Career Outcomes

Key Points

- Family medicine Rural Training Track residency programs (RTTs) train physicians for practice in rural areas, which face a persistent shortage of primary care providers.
- A majority of graduates from RTT programs in this study were men, and about half completed undergraduate medical training outside the United States and Canada.
- Over 90% of RTT graduates were working as family physicians, and about 20% also engaged in teaching.
- At least one half of RTT graduates locate in rural areas after graduation, two to three times the proportion of family medicine residency graduates overall, with most of these physicians staying with their rural choice for at least three years.
- High proportions of RTT graduates provide health care in designated shortage areas, in safety-net facilities, and to underserved populations.
- Study findings suggest that RTT programs continue to succeed in recruiting and preparing family physicians for practice with rural and underserved populations. Options to support the RTT model include new kinds of funding mechanisms, collaborations, technical assistance, human resource development, sharing of best practices, and augmentation of data to inform performance improvement and policy.

Background

The proportion of matriculating medical students in 2011 who said they intended to practice in a small town or rural area in 2011 was just 2.7%,¹ a number that has changed little in recent years.^{2,3} With rising patient demand due to an aging rural population and impending reforms that will increase access to health insurance coverage, the well-documented shortage of rural physicians in the United States is likely to persist for years to come. To address this urgent need, a variety of family medicine residency programs seek to encourage and prepare physicians to engage in rural practice by providing training in rural areas. The “1-2” family medicine rural training track (RTT) model combines one year of urban training with two years of rural training. The Rural Training Track Technical Assistance Program (RTT TAP) has been funded by the federal Office of Rural Health Policy to bolster the 1-2 RTT strategy, which has proven successful in the past at graduating residents who favor rural practice at levels as high as 76%.^{4,5}

The last national evaluation of RTTs occurred more than 10 years ago.⁴ The RTT TAP gathered new data from 14 of the 24⁶ active RTT programs in fall 2011 that had graduated residents, representing 10 sponsoring institutions, to establish baseline

measures of programs’ contributions of new physicians for rural and underserved populations. We report here our findings on the outcomes of 85 physicians graduating from these residencies from the academic years of 2008-9 through 2010-11.⁷

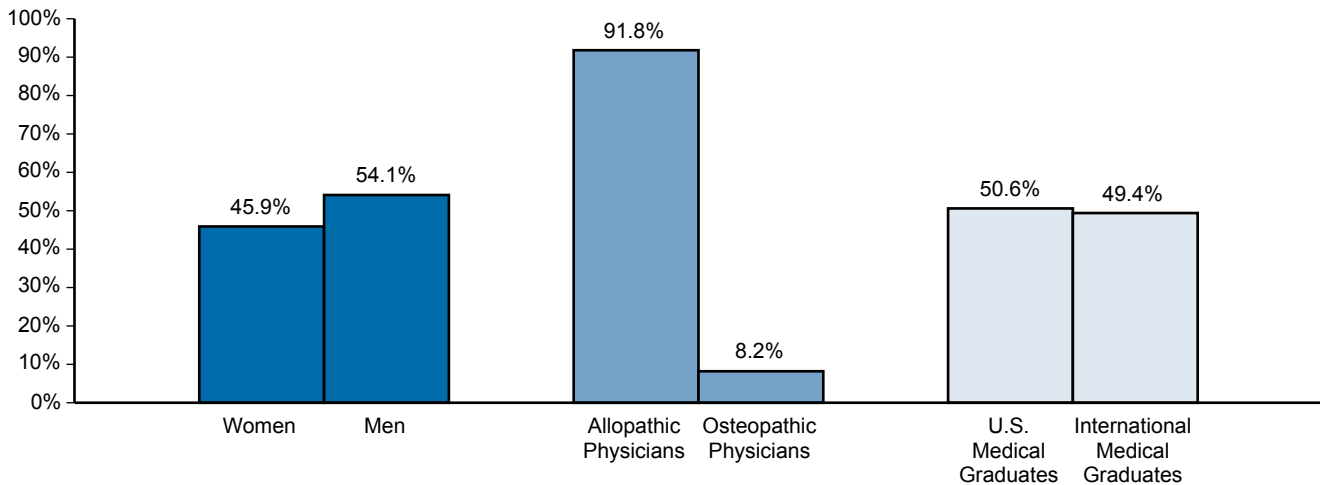
Findings

The 14 RTTs in this study each graduated an average of two physicians per year. This rate of output is comparable to that of all 24 RTTs nationwide, which collectively matriculate about 45 to 50 new physicians annually.

Who Are Family Medicine RTT Residency Program Graduates?

Demographics: As Figure 1 shows, a majority of RTT program graduates, 54.1%, were men, in contrast to family medicine graduates nationally, where men are a minority (44.3%).⁸ This pattern is consistent with the tendency of male generalist physicians to practice disproportionately in rural areas.⁹ RTT graduates ranged in age from 24 to 55 years, with a mean of 34.7 years. The mean age of all family medicine residents in 2010-11 was 30.8 years.¹⁰ One would expect family medicine residents to be older in their year of graduation than

Figure 1. Family Medicine Rural Training Track Residency Graduates, 2007-8 to 2010-11: Background Characteristics



Data sources: 14 RTT programs, American Medical Association (AMA) Masterfile.

all family medicine residents, but the fact that RTT graduates were nearly four years older indicates that they bring added life experience to the profession.

Undergraduate Medical Education: Seven of the 85 graduates, 8.2%, completed undergraduate medical education at osteopathic medical schools, and the remainder, 91.8%, at allopathic medical schools (Figure 1). About half of RTT graduates in this study, 49.4%, were international medical graduates (IMGs), a higher proportion than the 39% of all family medicine residency graduates who were IMGs in 2010-11 (Figure 1).¹⁰

Board Certification: Data from the American Board of Family Medicine showed that 72.7% of RTT graduates from 2008-9 through 2009-10 were board certified within two years of graduation. It is unknown how many of these recent RTT graduates will ultimately achieve certification. Nationally, 85% of family physicians representing all graduation cohorts were board certified in 2009.¹¹

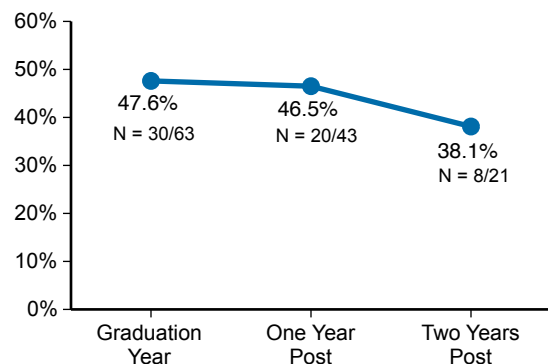
Professional Activity

Teaching and Clinical Activities: One in five RTT graduates during the study period were engaged in teaching after graduation: RTT programs reported that 11 of their graduates, or 12.9%, had joined their faculties, and 6 graduates (7.6%) had joined faculties elsewhere (half in rural areas¹²). Professional activity data were incomplete, but at least 75% of the 85 graduates were engaged in clinical practice at graduation according to data from programs or the American Medical Association (AMA) Masterfile.

Geographic Locations: Of the 64 graduates with known state locations in 2010, 51 (79.7%) were in the 10 states of the RTT programs in this study; the remainder were located in 4 other states. Figure 2 shows the percentages of RTT graduates in rural locations (as defined by Rural-Urban Commuting Areas

[RUCA] codes) during the year in which they graduated, one year and two years post-graduation. These data, from the AMA Masterfile, were cross-sectional for academic years from 2007-8 through 2009-10, and the number of graduates on which these percentages are based decreases each year because the outcomes of more recent graduates are unknown (e.g., we do not yet have data on the locations of 2009-10 graduates one and two years post-graduation). According to these data, nearly half of RTT graduates practiced in rural areas in the year of graduation and the year following, declining to 38.1% two years post-graduation. Because of the small number of cases, particularly two years post-graduation (which represents the 2008-9 cohort only), these statistics should be viewed with caution.

Figure 2. Family Medicine Rural Training Track Residency Graduates, 2007-8 to 2009-10: Proportion Practicing in Rural Areas



Data sources: 14 RTT programs, AMA Masterfile, CMS, Robert Graham Center; rural as defined by Rural-Urban Commuting Areas.

The RTT programs themselves also reported where 51 graduates began clinical practice (ZIP codes) at graduation, covering the most recent four years of graduates, including the 2010-11 academic year. RTT data show that 72.5% (37) of graduates were in rural areas at graduation. This percentage is about 25 points higher than the 47.6% obtained from AMA data for the year in which residents graduated. The AMA data cover just three years of graduates (2007-8 through 2009-10), while the RTT program data cover four years. Even limiting the RTT data to the same three years as the AMA data, we found 70.7% of graduates beginning practice in a rural area at graduation, a more than 20-point difference. The reason for these differences is unknown but may reflect errors in AMA Masterfile data, inaccurate reporting by program directors, discrepancies between data sources in the timing of data collection, or a combination of these factors.

RTT programs also reported the locations of their 2008-9 graduates three years after graduation, if known. These reports suggest some migration away from rural, with 57.9% (11 of 19) of graduates in rural areas.¹²

Shortage Area and Underserved Practice: RTT graduates provided substantial service to shortage areas and underserved populations. Practice in primary care Health Professions Shortage Areas (HPSAs) and service to Medically Underserved Areas or Populations (MUA/Ps) both actually increased over time (Figure 3), with over half of graduates serving these populations by two years post-graduation. This pattern holds whether viewed cross-sectionally or by cohort (not shown).

Approximately one third of graduates practiced in Federally Qualified Health Centers (FQHCs), Rural Health Clinics (RHCs), or Critical Access Hospitals (CAHs). As Figure 4 shows, most of these graduates were in rural-serving RHCs and CAHs. Graduates also remained in these facilities over time. The apparent slight decline two years post-graduation (to a combined 28.6% practicing in an FQHC, RHC, or CAH) is purely an effect of the 2008-9 cohort, which had a lower proportion than subsequent cohorts of graduates in these locations. All graduates who began practice in these facilities in the year they graduated remained there throughout the time periods for which we have data on each cohort.

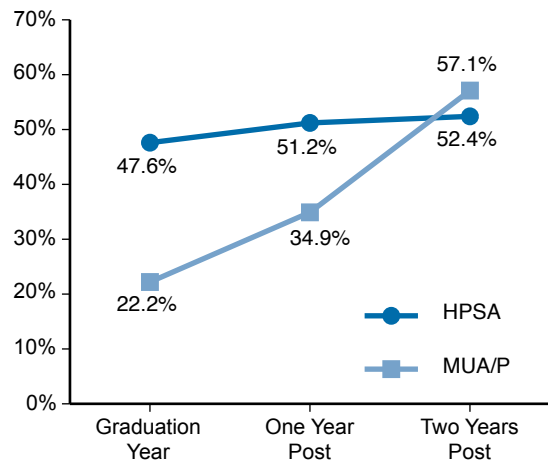
Implications

Whether measured by RTT program data or AMA data, the rural yield from RTT family medicine residencies of between 47.6% and 72.5% is two to three times higher than that of family medicine residencies overall, and the majority of these physicians who chose rural

locations initially remained in rural locations over the next two or three years for which we have data. In contrast, only about 22% of physicians completing family medicine residencies practice in non-metropolitan areas.¹³ We also found a high proportion providing care in designated shortage areas, in safety net facilities, and to underserved populations.

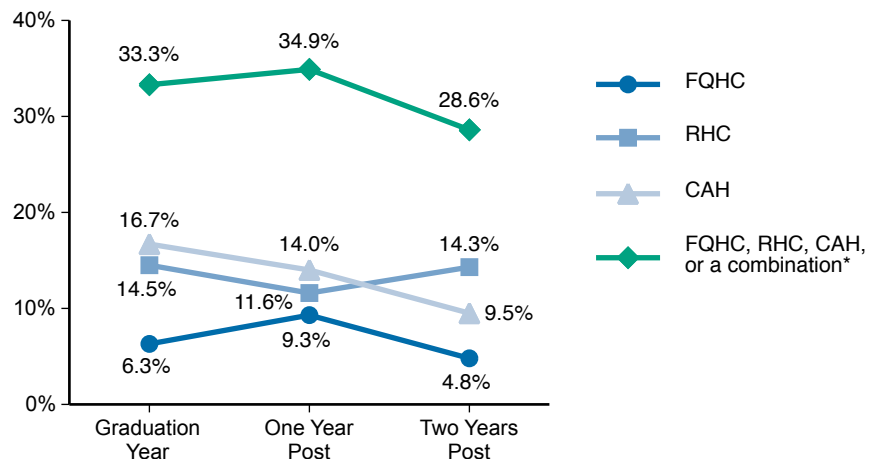
Others have noted the difficulty of evaluating RTT programs, where due to their small numbers, the choices of a handful of graduates in one year can obscure more fundamental longer-term trends.⁴ Our baseline results, showing that a high proportion of RTT graduates choose rural and underserved

Figure 3. Family Medicine Rural Training Track Residency Graduates, 2007-8 to 2009-10: Proportion Serving HPSAs and MUA/Ps



Data sources: 14 RTT programs, AMA Masterfile, CMS, Robert Graham Center.

Figure 4. Family Medicine Rural Training Track Residency Graduates, 2007-8 to 2009-10: Proportion Practicing in FQHCs, RHCs, and CAHs



* Some practice in more than one facility type.
Data sources: 14 RTT programs, AMA Masterfile, CMS, Robert Graham Center.

practice, are broadly consistent with Rosenthal's findings⁴ just over ten years ago. It is hoped that future analyses with a larger sample size and longer-term data will confirm these results. In this small study, numerous other questions also remain unanswered. For example, further research is needed to understand the extent to which background characteristics, such as gender or country of undergraduate medical training, influence these patterns. Only sustained data collection and analysis over time can provide the information needed to confirm or fully contextualize the findings reported here.

Nevertheless, these baseline results point to the continuing success of RTTs at recruiting and preparing family physicians for rural practice with populations who might otherwise have limited access to healthcare. Thus, efforts to preserve existing programs and establish new RTTs are warranted. Options¹⁴ to accomplish this include:

- Traditional and innovative GME funding mechanisms for rural training tracks, including foundation support and rural community strategies that align health professional recruitment and education with economic development initiatives.
- Collaboration with FQHCs (or Look-Alikes), RHCs, and CAHs in creating new RTTs.
- Collaborations with Area Health Education Centers and state offices of rural health.
- Support for technical assistance to help RTT programs meet regulatory obligations.

- Support for medical student recruitment activities, including increasing awareness of RTT programs, facilitating visits and interviews, and recruitment partnerships with medical schools.
- Support for program director and faculty development.
- Networking among RTT directors, faculty, and residency coordinators to share best practices and engage in residency performance improvement activities.
- Maintenance and ongoing validation of an RTT Masterfile database as a source of real-time metrics for guiding accreditation and policy.

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Notes

1. Association of American Medical Colleges. *AAMC Matriculating Student Questionnaire All Schools Report 2011*. Available at: <https://www.aamc.org/download/269322/data/msq2011.pdf>. Accessed January 19, 2012.

2. Rabinowitz HK, Diamond JJ, Markham FW, Wortman JR. Medical school programs to increase the rural physician supply: a systematic review and projected impact of widespread replication. *Acad Med*. Mar 2008;83(3):235-243.

3. Quinn KJ, Kane KY, Stevermer JJ, et al. Influencing residency choice and practice location through a longitudinal rural pipeline program. *Acad Med*. Nov 2011;86(11):1397-1406.

4. Rosenthal TC. Outcomes of rural training tracks: a review. *J Rural Health*. Summer 2000;16(3):213-216.

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6. There were 24 active RTT programs at the time of writing.

7. The RTT TAP collected graduate data from 14 family medicine residency RTT programs. The Robert Graham Center matched graduates with practice data from the AMA Masterfile, Centers for Medicare & Medicaid Services (CMS) claims, and the American Board of Family Medicine. Findings on professional activity based on AMA and CMS data cover 2007-8 through 2009-10 (an academic year runs from July 1 through June 30). With the exception of data from RTT programs on professional activity at graduation, 2010-11 data were not available. In some cases, practice data from different

sources (RTT programs, AMA) were combined to fill gaps in one source or another. Practice locations were coded as urban or rural using the Rural-Urban Commuting Area (RUCA) codes.

8. National statistics are based on graduates whose gender was reported: *ACGME Data Resource Book, Academic Year 2010-2011*. Available at: http://acgme.org/acWebsite/dataBook/2010-2011_ACGME_Data_Resource_Book.pdf. Accessed January 12, 2012.

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11. Xierali IM, Rinaldo JC, Green LA, et al. Family physician participation in maintenance of certification. *Ann Fam Med*. May-Jun 2011;9(3):203-210.

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13. American Academy of Family Physicians. Facts about family medicine, Table 4. Practice profile of family physicians by family medicine residency completion, December 31, 2008. Available at: <http://www.aafp.org/online/en/home/aboutus/specialty/facts/4.html>. Accessed January 19, 2012.

14. For a discussion of policies advocated by the American Academy of Family Physicians and the National Rural Health Association, see *Graduate Medical Education for Rural Practice*. Available at: http://www.aafp.org/online/etc/medialib/aafp_org/documents/about/rap/curriculum/ruralgme.Par.0001.File.tmp/Reprint289A.pdf. Accessed January 25, 2012.

For More Information

Web site: <http://www.raconline.org/rtt/>

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