Outcomes of Rural Training Tracks: 
A Review 

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ABSTRACT: Rural training tracks (RTTs) have developed as a strategy to encourage family medicine resident entrance into rural practice. Because most programs are small (two to four residents), data must be aggregated to determine RTT impact on practice preparation and location. Several studies over the last decade reveal that 76 percent of RTT graduates are practicing in rural America and that graduates describe themselves as prepared for rural practice. Sixty-five percent are providing obstetrical services, and half are performing cesarean sections. From 1989 to 1999, there were a total of 107 graduates of rural training programs, making it unlikely that, without significant investment, this model could supply an adequate quantity of family physicians for rural America.

Several experiential rural training programs have been developed to prepare family physicians for practice in rural America. The programs considered for review here are the "one-two model" programs in which residents receive one year of urban-based residency training affiliated with a traditional family medicine residency program. After the first year, the resident transfers to a rural community to complete the second and third years, living in the community and working closely with rural faculty, specialists and hospitals. The theoretical basis for rural training tracks (RTTs) is that the skills, knowledge and values of rural practice can best be nurtured in rural communities. RTTs endeavor to sustain the trainee's rural values and intention by modeling up-to-date medical management outside of the traditional urban health center. Another advantage is that bringing model rural practices under the academic umbrella creates expectations and opportunities for research and evaluation of rural health care issues.

The RTT model wedts two graduate medical education resources. The urban environment provides the breadth of experience offered in a major referral center, and the rural environment provides a depth of practical experience appropriate for rural-based practice (Wachter, et al., 1998).

There are three main outcome issues for RTTs. Do they prepare graduates appropriately for rural practice? Are graduates of RTTs serving rural communities? Can RTTs produce an adequate number of graduates? Because each program is small, individual short-term evaluations are subject to wide swings in response to career choices of one or two graduates. The authors have worked with all of the known accredited RTTs in the United States to collect aggregated outcomes (Rosenthal, et al., 1992, 1998, 2000).

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Available Data

In 1992, the authors reviewed the start-up activities of four early RTT models (Rosenthal, et al., 1992, 1992b). In 1996, the authors surveyed the residency program directors for all 13 of the RTTs identified by the Family Medicine Residency Review Committee of the Accreditation Council for Graduate Medical Education (ACGME) as “one-two” programs. Follow-up phone calls yielded a response rate of 100 percent (Rosenthal, et al., 1998). In 1999, a survey developed with help from the RTT program directors was mailed to all 77 graduates of these programs through 1997. Addresses were confirmed through American Academy of Family Physicians (AAFP) records. Three mailings and one follow-up phone call yielded a response rate of 83 percent (n=64). Rurality was determined using the primary office ZIP code and 1990 census data. Communities were considered rural if they had less than 25,000 population and limited urban influence. Health Professional Shortage Area (HPSA) designations were confirmed using lists published by the Federal Register. Respondents had been in practice for between one and 10 years, with an average of 3.4 years. Women comprised 31 percent of respondents.

Do RTTs Prepare Graduates for Rural Practice?

Ninety-four percent of graduates felt adequately trained for practice by their RTT experience. Areas of least confidence were behavioral problem management, ophthalmology, dermatology, sports medicine and practice management (Rosenthal, et al., 2000). Adding cardiopulmonary intensive care, these are the same subject areas RTT program directors felt challenged to provide in rural communities (Rosenthal, et al., 1998). RTT graduates provide in-patient care as often as all U.S. family physicians (84% vs. 86 percent). Most RTT graduates have certification for surgical first assisting.

Family physicians provide up to 60 percent of the obstetrical care in some rural states (Nesbitt, et al., 1992). Sixty-five percent of RTT graduates provide prenatal and delivery care, averaging 33 deliveries a year. Forty-eight percent of graduates perform cesarean sections. Between 35 and 72 percent of U.S. family physicians provide prenatal and delivery care, largely influenced by the community and state in which they practice (Barclay, et al., 1996; Rosenthal, et al., 1992). Family physicians in Western and Midwestern America commonly perform cesarean sections. In the state of Washington, 28 percent of family physicians provide operative obstetrics, and in Kansas, it is 39 percent (Barclay, et al., 1996; Norris, et al., 1996). RTTs provide large-volume prenatal and delivery experience, competent role models and teaching by faculty endorsed by the academic medical center; all components that have been established as factors associated with rural career selection (Bowman and Penrod, 1998; Rosenthal, et al., 1992; Turkal and Christman, 1996). Whether it indicates their procedural confidence or is because of some other factors, none of the RTT graduates has yet enrolled in a postresidency fellowship program.

Are Graduates of RTTs Serving Rural Communities?

Seventy-six percent of graduates have a primary office ZIP code in a rural community, and 61 percent practice in a designated HPSA, as listed in the Federal Register. Hospitals are a major factor in practice location. Sixty-nine percent of graduates admit to a hospital in a rural community, and 59 percent admit to a hospital with fewer than 50 beds. More than half of the practice sites are within one mile of a hospital, and only two graduates were located more than 20 miles from a hospital (Rosenthal, et al., 2000). Thirty percent of graduates returned to their hometown, and 53 percent identified an existing physician group as critical to their community selection. Overall, almost half were located within the service area of their training program.

RTT graduate rural placements exceed rural placements by graduates of traditional residency programs in small cities (under 60,000). Thirty percent of graduates indicate an intention to practice in a rural community (Rosenthal, et al., 2000). As Table 1 shows, increasing size of the city of training is associated with declining intention for rural practice. Graduation from a non-American medical school has mixed effects on practice location but was not queried in these surveys.

Can RTTs Produce an Adequate Number of Graduates?

It is estimated that 2,245 generalist physicians are needed to meet the needs of America’s rural HPSAs (Council on Graduate Medical Education [COGME], 1998; Rosenblatt and Hart, 1999). Polling RTT program directors revealed only 77 graduates from 1987
Table 1. Comparison of Rural Training Track (RTT) Graduates’ Practice Location to the Intent of Graduates to Practice in Rural Communities from Family Medicine Residencies Located in Small and Midsize Urban Communities.

<table>
<thead>
<tr>
<th>Program</th>
<th>Midsize</th>
<th>Small Urban</th>
<th>Urban</th>
<th>FP Residencies</th>
<th>FP Residencies</th>
<th>All FP Residencies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rural practice</td>
<td>76%²</td>
<td>39%³</td>
<td>18%⁴</td>
<td>24%⁴</td>
<td></td>
<td></td>
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</tbody>
</table>

1. Small urban residency programs located in communities between 25,000 and 60,000 population in states with rural regions (Alabama, South Carolina, Iowa, Virginia, Illinois, Louisiana, Minnesota, Tennessee and Wisconsin).
2. Midsize urban residency programs located in communities between 100,000 and 500,000 population in states with rural regions (South Carolina, Iowa, Kansas, North Carolina, Virginia, Louisiana, Alabama, Minnesota, Kentucky, Georgia and Oregon).
4. Percent of 1994 through 1997 graduates indicating their intent at graduation to practice in communities under 25,000 more than 25 miles from a major metropolitan area.

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Rural health care has been uniquely a family practice issue. Family physicians are the only discipline to distribute themselves geographically similar to the U.S. population. Twenty-one percent of family physicians practice in non-MSAs, where 21 percent of the U.S. population lives. Only 8 percent of general internists, 7.4 percent of general pediatricians and 9 percent of all physicians practice in non-MSAs (COGME, 1999). But more rural family physicians are needed. Graduate medical education is a strong determinant of practice location, more than is medical school location, and RTTs address this issue (Mason, 1975).

Conclusions

Nine percent of urban residents, and 29 percent of rural residents, live in areas with a shortage of health professionals (Dalen, 1996). Family medicine represents a solution, but without special efforts, both from within and outside the discipline, to increase the number of family medicine residents choosing rural practice, its potential to help could fade. RTTs address not only this political issue, but also provide quality educational experiences, producing graduates with the skills to serve rural America. They may do little more than preserve the inclination to practice in rural America, but they appear to accomplish this better than does any other strategy. Unfortunately, too few RTT positions are available to meet the need, and in many areas of the country, too few applicants are willing to fill even those available positions. It will take adoption of a social mission by the entire educational system to produce more rural primary care physicians (Stears, et al., 2000).

References


