

# Medical School Rural Tracks in the US

Policy brief: September 2013

## Key points:

- A rural track (RT) is a program within an existing school of medicine designed to identify, admit, nurture and educate students who have a declared interest in future rural practice with the goal of increasing the number of graduates who enter and remain in rural practice.
- Rural background and rural commitment are strongly sought applicant characteristics.
- Community involvement and commitment to primary care in general and Family Medicine in particular are common selection criteria.
- Many RTs provide for admission of students who would otherwise not be admitted to medical school.
- Many RTs have dedicated scholarships for their students.
- Most RTs exist in public medical schools that confer the MD degree and involve 5% to 10% of the students in each class.
- RT curriculum elements in preclinical years expose students to rural-related topics and include early rural clinical exposure.
- The major RT curriculum element in the clinical years is lengthy rural clinical experience. Longer rural experience is positively related to rural practice choice.
- RTs serve a social function by forming a network of like-minded students and faculty.
- Most RTs are not permanently funded by their medical school and depend on external funding.
- Based on limited data, the annual cost of running a RT that serves 15 to 25 students per class (10% to 15% of total SOM population) ranges between \$350,000 and \$600,000. This amount excludes scholarships, but may include payments to rural clinical faculty preceptors.
- The mean percentage of RT graduates reported to be choosing “primary care” residencies is 65%.
- The mean and median percentages of RT graduates reported to enter rural practice is 44%.
- RTs should standardize reporting of their outcome measures.

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## Background

Rural areas in the United States have, for decades, experienced a longstanding shortage of physicians. A commonly accepted statistic about the mal-distribution of physicians is that rural areas contain 20% of the US population but only 9% of physicians. Although a few schools of medicine (SOM) initiated programs to train more rural physicians prior to the 1990s, many more programs were initiated after a 1990 Association of American Medical Colleges (AAMC) task force report on medical education for rural practice.

Successful programs focus on providing community-based, clinical education to students of rural origin who are interested in primary care, particularly Family Medicine. Since 2000, new rural programs have appeared with more on the way, possibly in response to the recognized current need, as well as in anticipation of the increased demand for healthcare from the aging population and provisions of the 2010 Affordable Care Act.

A rural track (RT) is a program within an existing SOM designed to identify, admit, nurture and educate students who have a declared interest in rural practice. The goal of a RT is to increase the number of graduates who enter and remain in rural practice. This report documents the major findings of a survey conducted in 2012 of all US SOM known to have an existing or planned RT to identify the admissions policies, curriculum, financing, and outcomes.

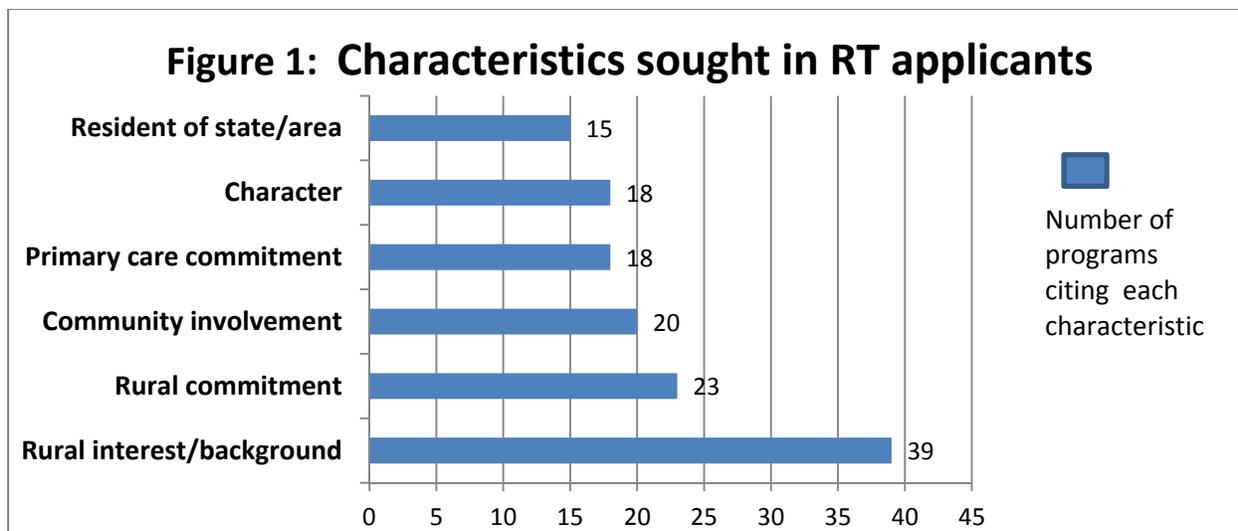
Forty-eight US medical schools awarding the MD or DO degree were identified through the National Rural Health Association (NRHA) Rural Medical Educators (RME) group and their contacts as possibly having a RT. Thirteen were excluded because they did not have, or were not in the process of planning, a RT. Of the remaining 35 schools, 30 had established RTs and five were in the process of developing a RT. Three of the schools operate a second, distinct RT on a branch campus, yielding a total of 38 programs on which we report.

## Which schools of medicine have rural tracks?

Rural tracks exist, or are planned, in 35 US medical schools. The MD degree is awarded by 30 schools and the DO by five. The majority (29) are public institutions. The geographic distribution is: 14 in the Midwest, 12 South, 7 West, and 2 Northeast. The number of students participating in the RT ranges from four to 60, with the majority

representing 5% to 10% of each class at that institution. The existing RTs date back to as early as 1951, but more than half (18) were created after 2006. The complete list of RTs studied for this report, program publications, and a curriculum toolkit can be found at: <http://ruralmeded.org/>

## Admissions preferences and processes



As shown in Figure 1, Rural interest/background is the most cited applicant characteristic sought by RTs followed by rural commitment. The admissions process for RTs shows considerable variability from school to school. About half select their participants prior to matriculation and half select their participants from the pool of already matriculated students. (Figure 2) Nonetheless, it is very common for the RT Director to be a member of the school's Admissions

Committee and have influence to admit students who would not be admitted otherwise. Out of the 34 RTs that provided data on the admissions process, 26 give preference to applicants committed to "primary care" and 20 give preference to Family Medicine applicants. Many have dedicated scholarships for RT students. Most medical schools with RTs do not have a workforce plan, but most do have a stated mission to prepare physicians for rural practice.

<b>Figure 2 Rural Track Admissions Process*</b>	
RT director serves on the SOM Admissions Committee	26 Yes, 8 No
Students apply to the program before matriculation or selected afterward?	15 Before, 13 Afterward, 5 Both
Applicants required to submit additional material	23 Yes, 3 No
Students can join the RT after matriculation	20 Yes, 12 No
Provisions to exit the RT	21 Yes, 10 No
Students are interviewed as part of selection process	27 Yes, 7 No
There are specific interview criteria or questions	23 Yes, 9 No

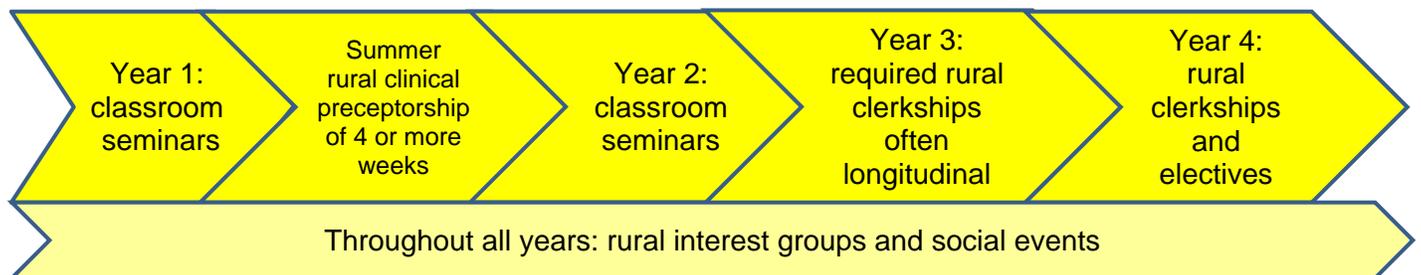
<b>Figure 2 Rural Track Admissions Process* (continued)</b>	
Preference given to students who express a commitment to primary care	26 Yes, 8 No
Preference given to students who express a commitment to Family Medicine	20 Yes, 14 No
RT students have a different GPA or MCAT profile than the rest of the students in the SOM	10 Yes, 14 No, 9 Unknown
Influence to admit students to the SOM who would not be admitted otherwise	17 Yes, 14 No
A student has been admitted because of RT	13 Yes, 15 No
RT students incur a rural service obligation	7 Yes, 25 No
There are dedicated scholarships for RT students	14 Yes, 17 No
There are other scholarships based on rural origin or interest	16 Yes, 14 No
There is a loan program that the RT controls	4 Yes, 25 No, 2 Planning
The SOM has a workforce plan	4 Yes, 29 No
The SOM has a stated mission to produce rural physicians	23 Yes, 8 No

\* Total numbers vary based on whether or not the program answered the item.

## Curriculum elements

Rural tracks commonly employ curriculum elements across all years of training. This graphic shows those elements reported by most schools. These elements serve to expose students to rural-related healthcare topics in Years 1 and 2, provide early and lengthy rural clinical experience, and form a social network with other like-minded students and faculty. Clinical clerkships in rural communities

take a variety of forms within each RT. Some students go for a year or more to a rural site that serves as a branch campus. More commonly, students spend several months in one rural location either rotating among physicians or with one main clinical faculty member or group. These longer experiences integrate the learning objectives of several formerly separate clerkship topics in a longitudinal model.



Less commonly reported curriculum elements include:

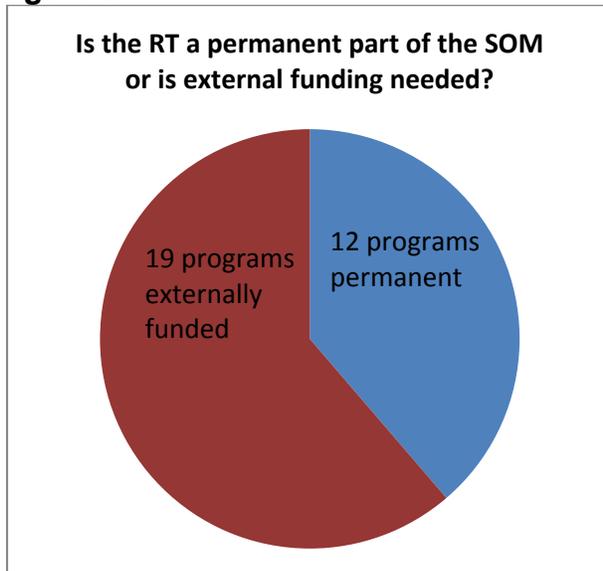
- Pre-matriculation study for promising students with academic need
- Pre-matriculation clinical preceptorship
- Rural-related research project
- Service-learning activity in a rural area
- Assigned Family Medicine advisor
- Attendance at a state or national rural medical meeting

## Administration and funding

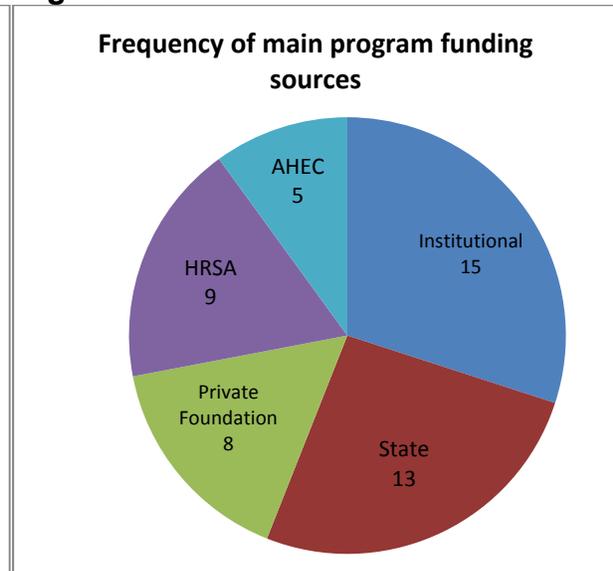
There is great variability in how RTs are administered and funded. Almost two-thirds run on “soft” funding (grants) and half rely on totally volunteer rural physician clinical faculty. The director and coordinator staffing is often interrelated with other pre-doctoral programs, making it impossible to tease out the effort and funding devoted to operating the RT specifically.

Program budgets also vary widely depending on whether scholarships, student travel, and housing at rural clerkship sites are included. Funding comes from a mixture of sources including institutional, state, private foundations, federal grants, and the Area Health Education Center (AHEC). Programs are also reluctant to disclose their budgets. (Figures 3 and 4)

**Figure 3**



**Figure 4**

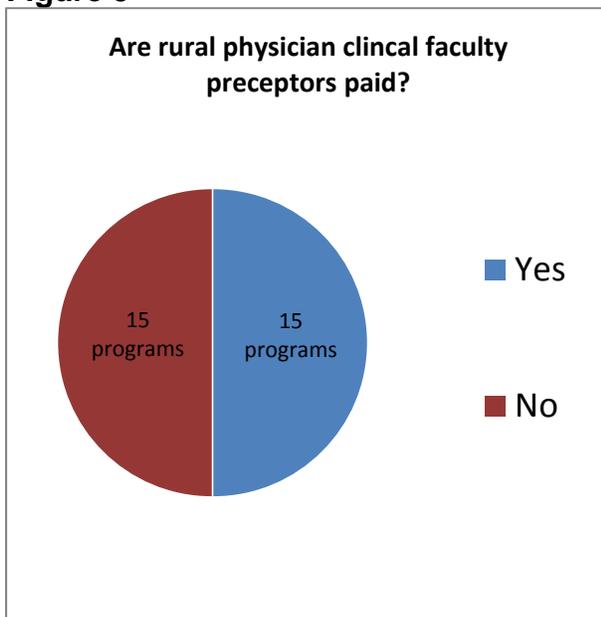


Rural tracks rely heavily on rural physician clinical faculty and half of programs provide monetary payment for teaching. Nearly all programs provide non-cash benefits; most commonly, library access and educational courses related to teaching. (Figures 5 and 6)

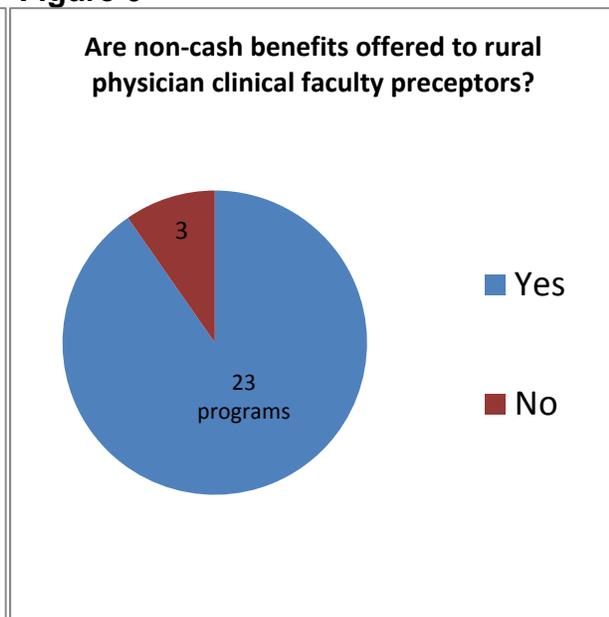
All but one program reported making site visits to rural clinical physician faculty preceptors.

A few programs could identify their direct costs and were willing to disclose this information. For a RT serving 15 to 25 students per class, or 10% to 15% of the total SOM student population, the annual expense ranged from \$350,000 to \$600,000, excluding scholarships. Some programs include payments to rural clinical faculty preceptors in their annual budget.

**Figure 5**



**Figure 6**



# Outcomes

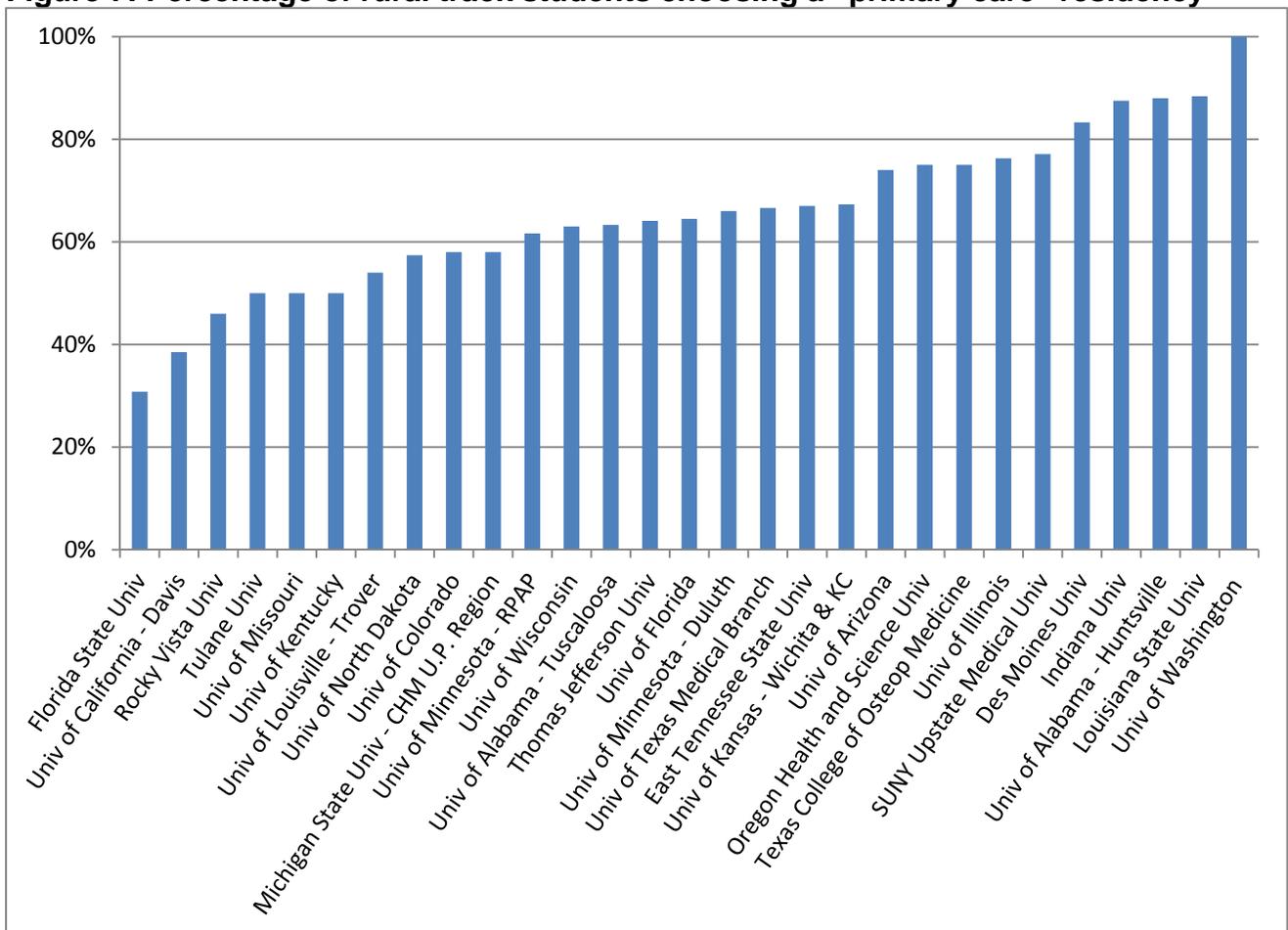
Rural tracks report that 92% of their students remain in the program throughout medical school.

All programs follow the residency choice of their graduates. Some track specific residency specialty choice and others report only whether the student entered “primary care.” The definition of “primary

care” varies significantly from one school to another.

Of the 29 programs that reported the residency choice of their students, a mean of 65% of the students chose “primary care” (Range: 31%-100%). (Figure 7)

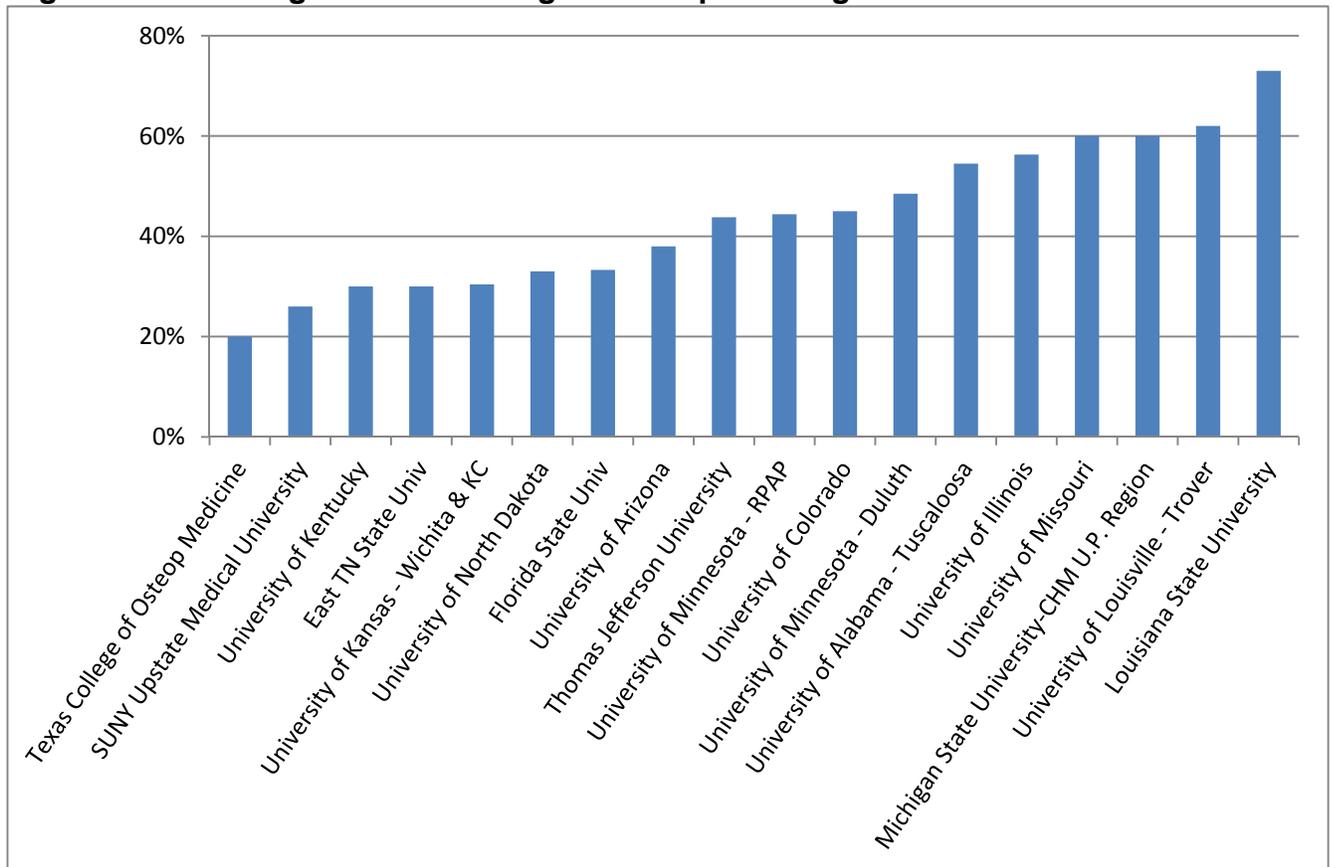
**Figure 7: Percentage of rural track students choosing a “primary care” residency**



Most programs attempt to track the practice location of their graduates. Information regarding students' practice location and specialty is limited to RT programs established before 2006. The 18 programs that have been able to

track students' practice location report that an average of 44% of their graduates practice in a rural area (Range: 20% to 73%). (Figure 8) For many of these programs, the number of graduates is small.

**Figure 8: Percentage of rural track graduates practicing in a rural area**



The characteristics of RTs that have data on students' practice location are displayed in Figure 9.

Almost all of these programs are part of public institutions, tend to prefer students with rural origin, and favor those committed to primary care. Programs that have the highest percentage of students who go into practice in a rural location tend to have longer rural clinical experiences, have

influence to admit applicants, have dedicated scholarships for RT students, and are located in a rural location or at a branch campus.

These findings support the importance of selecting rural origin applicants who are committed to primary care. Providing students with extensive rural clinical experience and offering financial support are also "best practices" for RTs.

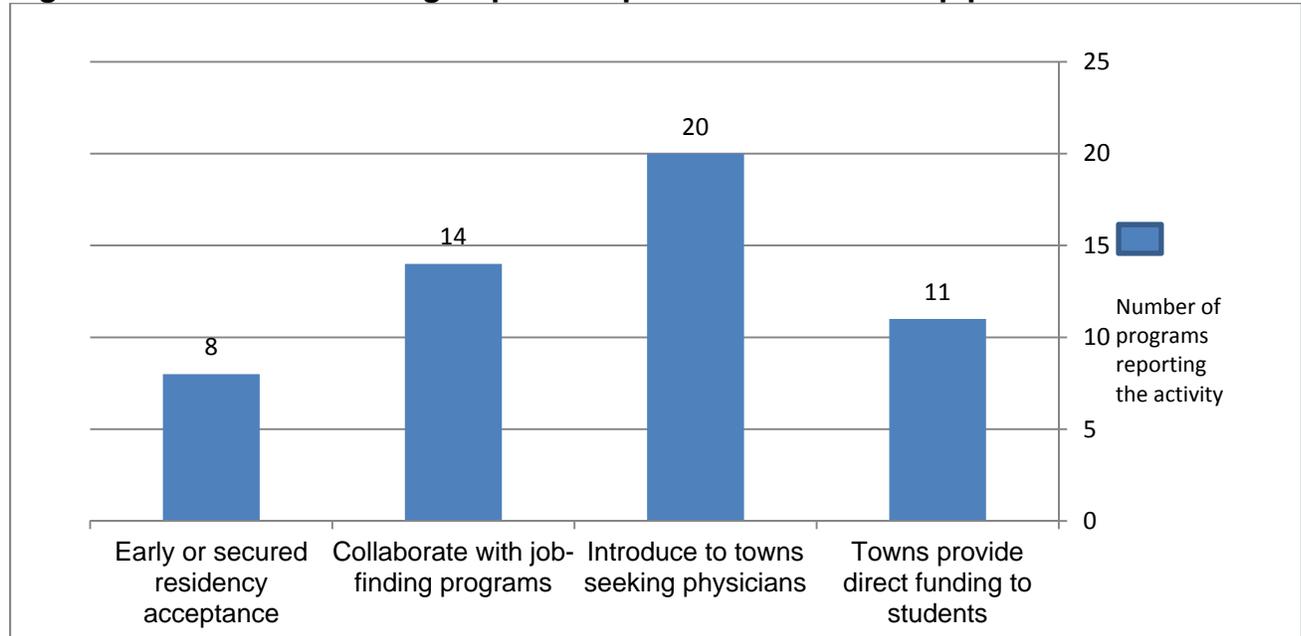
**Figure 9: Characteristics of RT programs that have data on students' practice location**

	Year program established	% grads in rural practice	Rural clinical months	Program in rural location or at a branch campus	Public institution	Rural Origin preference	Primary care commitment preference	Influence to admit	Dedicated scholarships
Texas College of Osteopathic Medicine	1994	20%	7	No	Yes	Yes	Yes	Yes	Yes
SUNY Upstate Medical University	1989	26%	12	No	Yes	Yes	Yes	No	Yes
East TN State University	1992	30%	7	Yes	Yes	Yes	Yes	Yes	No
University of Kentucky	2008	30%	2	No	Yes	Yes	No	Yes	No
University of Kansas - Wichita & KC	1951	30%	4	Yes	Yes	Yes	Yes	No	No
University of North Dakota	1998	33%	7	Yes	Yes	No	No	No	No
Florida State University	2006	33%	6	No	Yes	Yes	Yes	Yes	No
University of Arizona	1997	38%	2	No	Yes	Yes	Yes	No	Yes
Thomas Jefferson University	1974	43.8%	2-3	No	No	Yes	Yes	Yes	No
University of Minnesota - RPAP	1971	44.4%	9	No	Yes	N/A	Yes	Yes	No
University of Colorado	2005	45%	1-6	No	Yes	Yes	Yes	No	Yes
University of Minnesota - Duluth	1972	48.5%	11	Yes	Yes	Yes	Yes	Yes	No
University of Alabama - Tuscaloosa	1996	54.5%	24	Yes	Yes	Yes	Yes	Yes	Yes
University of Illinois	1993	56.3%	24	Yes	Yes	Yes	Yes	Yes	No
University of Missouri	1995	60%	6	No	Yes	No	No	Yes	Yes
Michigan State University-CHM U.P. Region	1974	60%	24	Yes	Yes	Yes	Yes	Yes	?
University of Louisville - Trover	1998	62%	24	Yes	Yes	No	Yes	Yes	Yes
Louisiana State University	2002	73%	3-4	No	Yes	No	Yes	No	Yes

Rural tracks may choose to serve a post-medical school pipeline role by linking their graduates with specific

residencies and with communities looking for future physicians. (Figure 10)

**Figure 10: RTs with existing or planned post-medical school pipeline activities**



## Discussion and Recommendations

The number of medical schools with RTs is small but growing and public institutions are leading the way. Despite the relatively high percentage of RT graduates choosing primary care and locating in rural communities, the number of RT students in each medical school remains small. Existing RTs will need to expand and more schools must develop them to significantly increase the number of physicians who choose rural practice.

An examination of admissions policies and curriculum features compared to the rate of rural practice location may be

helpful in defining “best practices” to achieve the ultimate goal of increasing the likelihood that RT graduates will enter, and remain in, rural practice.

Educational sessions on rural topics and rural clinical clerkships are important elements of RT curriculum. RTs also serve an important social function by enabling like-minded students and faculty to form a supportive community in the early years at urban, subspecialty-dominated medical schools where it is not “typical” to be a student committed to rural living and/or interested in primary care.

Rural tracks are sources of innovation and can inform the greater medical education system in the following ways:

- Recruitment of rural origin students, thereby increasing diversity of the physician workforce
- Development of integrated, longitudinal clerkships
- Development of branch campuses
- Support of clinical faculty
- Direct links between medical schools and residency programs

Difficulties encountered in conducting this study started with identifying existing or planned RTs. It is possible that there are RTs not identified in this report.

Comparing outcome data was difficult in the absence of a common set of performance measures and definitions of “primary care.” Most programs include only Family Medicine, Internal Medicine, and Pediatrics as “primary care,” while others included OB-Gyn and General Surgery.

Tracking and reporting career choices by specific specialty would make it possible to perform more detailed and consistent analysis of programs and to make better comparisons among programs.

Given the difficulty of describing “rural,” it would be best to report graduates’ practice locations by community size. Some programs have data on their graduates who entered rural practice at any time during their career, and some only track the first practice location. Periodic tracking of graduates’ locations would be preferable and could provide clarity on the question of whether a program is reporting its graduates who have “ever located” rural or are “currently located” rural.

Partly as a result of these findings, the NRHA RME group is working to establish a common set of parameters for RTs to track and compare policies, curriculum and outcomes. Based on the findings and lessons learned in this report it would be helpful for RTs to track and report the parameters listed in Figure 11. This, in combination with knowledge of admissions and curriculum information presented in this report, will help define and refine best practices for education of the future rural physician workforce.

## Figure 11: Recommended Rural Track Reporting Parameters

### Admissions parameters

1. Priority policy for applicants from rural backgrounds (absolute, relative or none)
2. Priority policy for applicants committed to rural lifestyle (absolute, relative or none)
3. Priority policy for accepting applicants committed to potential primary care defined as Family Medicine, Internal Medicine or Pediatrics (absolute, relative or none)
4. Priority policy for accepting applicants committed to other potentially rural specialties in short supply such as General Surgery and Psychiatry
5. Ability to accept students who might not otherwise be admitted to medical school
6. Tuition or fee waivers granted to RT participants
7. Rural service obligations required of RT participants

### Curriculum parameters

1. RT classroom contact hours devoted to rural topics in each year of medical school
2. RT clinical months served in rural locations in each year of medical school

### Outcome parameters of RT graduates

1. Residency choice data of graduates by specific specialty
2. First practice specialty and location data of RT graduates. Location data to include community size
3. Practice specialty and location data 5 years after residency completion. Location data to include community size
4. Practice specialty and location data 10 years after residency completion. Location data to include community size

## Acknowledgements

Members of the National Rural Health Association's Rural Medical Educator's Group helped greatly in developing the dataset for this study, identifying existing and planned rural tracks, and in responding to the questions. David Schmitz MD collaborated on survey design and implementation. Brandon Tutt MA was instrumental in data collection and analysis. Michael Luckow assisted with data analysis. Brenda Baumgarten assisted in communication with respondents and Melanie DeHerrera assisted with final editing.

## IRB approval

This project was reviewed by the Colorado Multiple Institutional Review Board as protocol 12-0562 and found to not be human subject research.

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