Toward a Common Framework for Rural Background

Eron G. Manusov, MD; Helen Livingston, EdD;
Curtis Stine, MD; Daniel Van Durme, MD

Background and Objectives: To develop a standardized framework to discuss rural background, a review of the literature to identify studies regarding the association of rural background with primary care and/or rural health practice was conducted. The various definitions of rural background were collated and from this data a framework for the conceptualization of rural background is proposed.

Methods: The Medline database from 1966–2009 was searched to find citations that included a rural background definition as a variable for rural intent to practice, rural career choice, or rural practice. Studies that included medical school admission outcomes of US medical schools were included if there was (1) a definition of rural background noted, (2) a research-based question, and (3) a defined outcome of rural practice intent or practice in rural area. Results: A full text review was completed for all 45 articles identified. After applying the inclusion and exclusion criteria to the full length articles, there were 15 articles included in the review. The five most common definitions of rural background were (1) a positive answer to the question “Did you grow up in a rural area”? (2) a rural county of birth, (3) grew up in a town of less than 10,000 persons, (4) graduation from a high school located in a town of less than 10,000 persons, and (5) self-declared rural county of residence. Conclusions: There are multiple terms used in research to elucidate the conceptualization of rural background. Based on a definition of rural as the “anchor,” we propose the use of the five most common definitions of rural background as “rural connectors” that can be used to buttress the definition of rural background. The framework of rural connectors can then be used to more closely define rural background.

(Fam Med 2010;42(10):732-5.)

Family medicine specialty and having grown up in a rural area are the two most important determinants for physicians choosing to practice in rural areas.1,2 Rural background plays an important role in the recruitment of rural physicians because childhood and teen experiences mold our lifelong desires and goals. If a physician’s roots are in rural America, most of the conditions of rural life are familiar and comfortable, and rural medical practice is more likely.3 Although the specific criteria will vary, most groups will define a rural area using population density statistics. There is, however, no consensus of how to define what comprises rural background.

The purpose of this report is to review research studies that associate rural origin with rural or primary care intent or practice and, using the criteria for defining rural background in these articles, to develop a standardized framework for the conceptualization of rural background. A review of the literature to identify studies regarding the association of rural background with primary care and/or rural health practice was conducted. The definitions of rural background were collated, and a framework for the conceptualization of rural background is proposed.

Methods

In 2009, to find citations that included a rural definition as a variable for rural intent to practice, rural career choice, or rural practice using the PubMed interface, the authors and a professional librarian in the College of Medicine library services searched the Medline database (1966 to September 2009). The Cumulative
A set of search terms were explored and derived from Medical Subject Headings (MeSH) by the College of Medicine librarian (Table 1). Search terms included medical education, undergraduate, rural population, rural youth, self concept, social identification, socialization, rurality, rural origin, rural identification, ruralness, rural-urban differences, rural physician supply, small towns, professional practice location, geographic isolation, admission committee, and rural antecedents.

Only English-language studies published in the US literature were chosen. Studies that included rural background as a variable were included if there was (1) a definition of rural background, (2) a research-based question completed in the United States, and (3) a defined outcome of rural practice intent or practice in rural area. Studies were excluded if the (1) research was completed outside of the United States, (2) publication was not research-based, or (3) rural background was not mentioned as a variable. The bibliographies of articles that were included in the study were also searched for any additional publications that met inclusion criteria. Each author read the 15 studies included in the review, and the definitions of rural background were recorded and compared. Conflicts were resolved by group discussion and consensus.

Results

The initial search of electronic databases yielded a total of 45 articles. A full text review was completed for all 45 articles, and 15 articles were included in the analysis. We found several recurring definitions of rural background, rural upbringing, or rural identity in the published research on rural career choice. On our review of the literature, the five most common definitions of “rural background” used were:

1. Raised in rural areas.
2. Type of community where grew up (urban/suburban versus rural).
3. Community where the individual was raised (rural or metro as defined by the Office of Management and Budget’s definition).
4. Rural antecedents based on hometown sizes obtained from the AAMC’s Premedical Student Questionnaire.
5. Self-reported county of residence upon application.

Table 2

Articles That Met Inclusion/Exclusion Criteria Included in the Analysis and the Definitions of Rural Background Found Within Each Article

<table>
<thead>
<tr>
<th>Author(s)/Year</th>
<th>Study Goal/Location</th>
<th>Definition of “Rural Background” Used</th>
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</thead>
<tbody>
<tr>
<td>Brooks RG et al</td>
<td>Florida State University</td>
<td>Raised in rural areas.</td>
</tr>
<tr>
<td>Fryer GE et al</td>
<td>University of Colorado Health Sciences Center</td>
<td>Type of community where grew up (urban/suburban versus rural).</td>
</tr>
<tr>
<td>Halaas G et al</td>
<td>University of Minnesota Medical School</td>
<td>Community where the individual was raised (rural or metro as defined by the Office of Management and Budget’s definition).</td>
</tr>
<tr>
<td>Kassebaum, DG et al</td>
<td>US medical schools</td>
<td>Rural antecedents based on hometown sizes obtained from the AAMC’s Premedical Student Questionnaire.</td>
</tr>
<tr>
<td>Longo DR et al</td>
<td>University of Missouri-Colombia School of Medicine</td>
<td>Self-declared county of residence upon application.</td>
</tr>
<tr>
<td>Owen JA et al</td>
<td>University of Virginia School of Medicine</td>
<td>High school, college, and permanent addresses. Answer to the question “Did you grow up in a rural area?”</td>
</tr>
<tr>
<td>Pretorius RW et al</td>
<td>University at Buffalo</td>
<td>Size of cities in which the high schools were located.</td>
</tr>
<tr>
<td>Rabinowitz HK et al</td>
<td>Jeffrey Medical College</td>
<td>Growing up in a rural area or town as defined by town size.</td>
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</tr>
<tr>
<td>Stratton TD et al</td>
<td>University of South Dakota School of Medicine</td>
<td>County of origin (where they were born or raised).</td>
</tr>
<tr>
<td>Stenger J et al</td>
<td>University of Massachusetts Medical School</td>
<td>Self-reported size of home town.</td>
</tr>
<tr>
<td>Stearns JA et al</td>
<td>University of Illinois College of Medicine at Rockford</td>
<td>Background in rural, underserved Illinois, hometown size&lt; 10,000, and extended family living in rural Illinois.</td>
</tr>
<tr>
<td>Wheat JR et al</td>
<td>University of Alabama College of Community Health Sciences</td>
<td>At least 8 years of formative life in rural Alabama.</td>
</tr>
<tr>
<td>Hancock C et al</td>
<td>University of California Berkeley/San Francisco</td>
<td>Grew up in a rural area.</td>
</tr>
</tbody>
</table>
definitions of rural background were (1) a positive answer to the question “Did you grow up in a rural area?” (2) a rural county of birth. (3) grew up in a town of less than 10,000 persons/reference to the size of hometown. (4) the applicant’s graduation from a high school located in a town of less than 10,000 persons, and (5) a self-declared county of residence in a designated rural county.

The five recurring definitions were decided upon by repeated mention as determinants of rural background and are included with a list of the articles that met inclusion/exclusion criteria in Table 2.

Discussion
We undertook this study to answer the question, “What is the definition of rural background?” There are multiple terms used to characterize rural background. Based on the results of our literature review, we propose a conceptual definition of rural background using the definition of rural (low population density) as the anchor and the five most common characterizations of rural background as “rural connectors” that can be used to buttress this definition. This framework is illustrated in Figure 1.

The results from this review indicate that rural background may be the perspective of the student after the formation of a rural identity. If the student believes that they grew up in a “rural” community, can identify with rural lifestyle, and has roots in rural America, then that perceived rural identity may lead them to choose a career in rural health. It is unknown, however, how long, at what age, and what type of rural community someone must live in to have a “rural background.” It is also unknown what experience of rural is necessary to form a rural identity. Is, for example, the relative social isolation, the small-town living, the close network of family and friends, or the lack of the hustle and bustle of a large city the most important component of rural background? There are pockets of suburban America in rural areas, nonmetropolitan areas located in designated metropolitan areas, and rural areas that have quick access to urban and suburban America. This confusion helps explain why there is no consensus to the definition of rural background.

Conclusions
Currently, there are comprehensive medical school programs designed to increase the rural physician supply, and one component of these programs is to select medical students with a rural background. Despite this, there is no accepted definition of rural background. The purpose of this study is to offer a conceptual framework for the definition of rural background that can standardize this discussion.

Acknowledgments: The authors wish to thank Suzanne Nagy, MSLS, SIS, for her invaluable assistance.

Corresponding Author: Address correspondence to Dr Manusov, Florida State University College of Medicine, 1115 West Call Street, PO Box 3064300, Tallahassee, FL 32306-4300. 850-644-1346. Fax: 850-645-1420. eron.manusov@med.fsu.edu.

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12. Rabinowitz HK, Diamond JJ, Markham FW, Paynter NP. Critical factors for designing programs to increase the supply and retention of rural primary care physicians. JAMA 2001;286(9):1109.


