Chapter 1.2.3

ADDRESSING RURAL HEALTH WORKFORCE SHORTAGES: THE PIPELINE CONCEPT

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Introduction

The shortage of rural physicians[1] is worldwide in scope, persistent in nature, and steadily worsening. Although the situation is worst in developing countries, it is also very common in developed countries like the United States (1, 2, 3). The shortages of physicians in rural areas are consistently most severe for primary care disciplines, with family physicians accounting for the majority of rural physician shortages (4). As a result, it is often extremely difficult, if not impossible, for rural primary care physicians to recruit additional physicians to their practices. Thus, succession planning, chronic short staffing, and problems covering call and vacations become major tribulations for rural physicians. In turn, these troubles can lead to burnout, moving or leaving practice, or early retirement. All of these worsen the situation for the physicians who remain.

One proven approach to rural primary care physician workforce shortages is the pipeline concept. This metaphorical concept visualises the sequence of educational programmes that are experienced by a future rural physician from high school through graduate medical education as a pipeline (5). Awareness of this pipeline principle, coupled with involvement of rural physicians with students and residents who are transiting the pipeline, can have a positive impact on workforce shortages by recruiting more physicians to practice in rural places.

[1] A rural physician is a generalist doctor who works in rural areas with no proximate specialist support.

Discussion

Although it is a metaphor for the educational and career choice decision process of a future rural physician, the pipeline process has been repeatedly demonstrated and mentioned in the medical literature. The various portions of the pipeline, and possible areas for involvement by local physicians, are as follows:

1. Role modeling for young children in your practice — some future rural physicians decide on their eventual careers based on the rural physician role models that they are exposed to as children. When you see children in your practice, use the time to encourage their interests in healthcare.
2. Career days — many middle schools and high schools offer annual career days for their students. Volunteer to speak at these events when they occur. They offer a chance to influence interested students toward rural primary care.
3. College students — if you have a college near you, volunteer to serve as a speaker, panel member or advisor for their pre-medical club. Many of these students will need an observation experience in a medical practice in order to successfully apply to medical school. Endeavour to offer these experiences to those who are interested. Many times these early exposures have remarkable long-term impacts.
4. Medical students — many medical schools seek opportunities for their 'pre-clinical' medical students to spend some time each week as observers in clinical settings. If you can offer these experiences, you can provide the students with an early exposure to rural practice. During students' 'clinical years', medical schools offer electives and require clinical clerkship[2] experiences. If you can arrange to locate one of these experiences in your practice, you will have recurrent interactions with medical students during an important part of their medical education.
5. Residents[3]— most primary care residents have several months of elective time during their residency programmes. If you are able to develop a rural practice rotation in your clinical setting, you will have the opportunity to interact with many residents who are nearing the end of their educational process and who are often seeking a long-term practice site.

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2 A clerkship – or placement or rotation – is a structured clinical learning opportunity / context.

3 A resident – also referred to as a registrar or vocational trainee – is a qualified doctor who is part of a structured training programme.

Participation in the pipeline at one or more of its levels can be very useful in recruiting new physicians to your community. Additionally, evidence suggests that practicing physicians who play a role in the medical education process have better professional career satisfaction than those who do not participate.

What's the evidence?

Phillips et al (6) and Rabinowitz et al (7) map what influences medical student and resident choices and how medical school programmes can increase the rural physician supply.

An illustrative anecdote

The author of this chapter spent ten years of his practice life in a rural community in central Montana in the United States. During this period the practice developed a clinical elective through which a second or third year Family Medicine resident could be placed in the practice for one or two months of their residency education. In the third year of this programme, a resident who had grown up in Montana participated in the elective and decided that he wanted to join the practice after he finished residency. Two months after completion of his training, he moved to our community and joined our practice. If he had not been exposed to the opportunity during residency pipeline, it is unlikely that the connection, or the outcome, would have taken place.

This was over twenty years ago, and the physician described here is still practicing in the rural community.

Broader applicability/application

Although the pipeline described here has been researched most widely in the United States, Canada, and Australia, the principles upon which it is based should be valid in other countries. Although the specific opportunities for other rural sites in both developed and developing countries will depend on the specific sequence of career choice and medical education components utilised in the country in question, the fundamental principles should be transnational.

Practice pearls

What to do

- Use career days and other opportunities to expose rural elementary, middle, and high school students to the possibility of a health care career.
- Offer local pre-medical students the chance to observe in your ambulatory and hospital practice.
- Serve as an advisor or speaker for pre-medical clubs or classes at nearby universities.
- Volunteer to serve as a community preceptor[4] for first and second year medical students at nearby medical schools.
- Work with nearby medical schools to offer clerkships or other clinical educational experiences.
- If a residency is located near your practice site, seek opportunities to serve as a teacher or preceptor for the residents, preferably at your practice site.

What not to do

- Do not ignore the opportunity to participate in the pipeline — it can make a real difference in bringing new physicians into your local workforce.

Conclusion

Rural physician workforce shortages can have a significant impact on physicians who practice in rural sites. Recruitment of new physicians to expand or replace rural primary care providers can be daunting. The pipeline concept offers a proven approach that can dramatically impact recruitment success.

[4] A preceptor – or clinical instructor or adjunct faculty – is a clinician (person who has core clinical skills) who provides clinical teaching at a rural (distant) site. They may work full-time or part-time for the medical school / training institution in a paid or honorary capacity.

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This article is a chapter from the ***WONCA Rural Medical Education Guidebook***.
It is available from www.globalfamilydoctor.com.

Published by:
WONCA Working Party on Rural Practice
World Organization of Family Doctors (WONCA)
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Suggested citation: Norris TE. Addressing rural health workforce shortages: The pipeline concept. In Chater AB, Rourke J, Couper ID, Strasser RP, Reid S (eds.) *WONCA Rural Medical Education Guidebook.* World Organization of Family Doctors (WONCA): WONCA Working Party on Rural Practice, 2014. www.globalfamilyldoctor.com (accessed [date]).