INTRODUCTION
This series of policy briefs describes characteristics of the rural health care workforce and factors affecting the delivery of health care in rural areas. The five briefs provide data on the numbers of health care professionals in Washington, Wyoming, Alaska, Montana, and Idaho (WWAMI states) from available data sources, discuss the impacts of using differing definitions of rural, list state-level resources for WWAMI health workforce data, describe the foundations of health workforce assessment, and provide examples of national and regional resources to help ameliorate provider shortages in rural areas. The information included in this series will help guide policymakers and others in their efforts to strengthen the health workforce to better serve rural populations.
THE RURAL HEALTH WORKFORCE

Health care relies upon an integrated and multidisciplinary workforce that is educated in a wide variety of skills and specialties. Health care workers are employed in hospitals; nursing and residential care facilities; offices of physicians, dentists, and other health care practitioners; home health care services; outpatient and ambulatory care centers; and medical and diagnostic laboratories. Health care in rural settings, however, has long been compromised by the uneven distribution and relative shortage of medical care providers. While some communities across the nation experience surpluses of health care professionals, rural communities often struggle to recruit and retain an adequate supply. During the 1980s, many rural towns lost health care providers when their rural hospitals closed. Once local health care delivery systems are dismantled, few rural towns are able to resurrect them. Despite attempts by federal and state policy makers and educational institutions to address rural provider shortages over the past several decades, both the shortages and maldistribution persist.

Many different professions make up the health workforce. In rural areas, registered nurses (RNs) comprise nearly half of health care providers. Licensed practical nurses (LPNs) are the second largest group, followed by physicians. Other provider groups in rural areas are also found in urban areas, such as pharmacists, dentists, nurse practitioners, physical therapists, dental hygienists, radiology technicians, physician assistants, and others. Notably, many types of specialists often are not found in rural areas because they locate in areas with larger population bases where they have enough demand for their services to be economically viable. Table 1 shows numbers of rural health care providers in the United States for professions for which rural data are available from the year 2000 or later. Note that in small rural counties there are sometimes so few health professionals of a certain type, for example occupational therapists, that data are suppressed in national data sources to preserve individual confidentiality.

Health care is a key industry for many communities. According to the Bureau of Labor Statistics, between 2004 and 2014, employment in health care is expected to grow by more than 27% across the nation, compared with only 14% growth across all industries. The greatest expected growth in health care is for home health care services (69.5%), followed by outpatient care centers (44.2%). Rural jobs are increasingly found in the service sector, including health care services, a bright spot in the employment picture since the economic downturn began in 2007.

FACTORS THAT AFFECT THE DELIVERY OF HEALTH CARE IN RURAL AREAS

- Both rural and urban populations are aging and will demand more health care services as the average age increases. Rural populations tend to be older than urban populations.
- Rural residents have higher rates of chronic disease and poverty than urban residents.
- Rural populations are more likely to be underinsured or uninsured.
- Rural hospitals and clinics tend to be smaller than in urban areas.

<table>
<thead>
<tr>
<th>Table 1: Number of Rural Health Care Providers* by Profession</th>
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<tbody>
<tr>
<td><strong>Number (thousands)</strong></td>
</tr>
<tr>
<td>Registered nurses (RNs) (2004)</td>
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<tr>
<td>Physicians (2009)</td>
</tr>
<tr>
<td>Dentists (2007)</td>
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<tr>
<td>Nurse practitioners (2001)</td>
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<tr>
<td>Physician assistants (2008)</td>
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<tr>
<td>Certified nurse midwives (2003)</td>
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*Only provider types for which rural/non-metro data were available in the year 2000 or later are included. Examples of provider types that are not included are dental assistants, psychologists, occupational therapists, home health aides, nurse aides, social workers, licensed practical nurses, pharmacists, physical therapists, dental hygienists, and optometrists.

Data sources: The Registered Nurse Population: Findings from the March 2004 National Sample Survey of Registered Nurses (RNs); American Medical Association Masterfile 2009; numbers for all other provider types from the 2008 Area Resource File.
• The scope of care provided in rural hospitals and clinics is often more limited than in urban facilities. Rural health care providers deliver more general care (rather than specialty care) compared with urban areas.

• Lower reimbursement rates for primary care or general health services make it difficult for rural health care practices to remain financially stable.

• Because of distances to health care facilities, transportation and associated costs can be a barrier to accessing care for many rural residents.

CHARACTERISTICS OF THE RURAL HEALTH CARE WORKFORCE

• An aging population of health care providers will be retiring in growing numbers over the next 10-20 years, affecting both rural and urban workforces.

• Educational opportunities to become a health care professional, and to upgrade skills and pursue professional development, are more limited in rural than in urban areas.

• Job development opportunities can be limited in rural areas because of the smaller size and number of health care facilities, and the more generalized nature of the health care delivered, which inhibits advancement through specialization.

• Growing proportions of primary care physicians are women, and women have been less likely than men to practice in rural areas.

• The future supply of rural physicians is threatened by the marked decline in interest in family medicine in recent years.

WHERE DO RURAL PROVIDERS COME FROM?

The delivery of health care requires teams of providers from many different professions. Education and training routes for those different professions vary. Planning for future health workforce needs must take into account the different lengths of time required for these education programs and the training resources required. Figure 1 shows the education timelines for several different health professions.

Rural health care systems rely on an adequate supply of well-trained health care providers who understand the needs of rural areas. Research indicates that physicians tend to practice near where they received their education, with those training in rural locations...
more likely to settle in rural areas. By extension, this connection between education location and practice is likely to hold for other health professionals as well.

Education opportunities, however, are not as common in rural areas as they are in urban areas. For physicians, only 7.3% of family medicine residency training in the United States takes place in rural areas, where roughly 20% of the U.S. population lives. Across the nation, the interest in family medicine training, and primary care specialties, has decreased markedly since 1998, and many rural areas find it difficult to recruit and retain primary care physicians. Other health professionals, such as nurses and pharmacists, are also in short supply in many rural areas. To help ensure an adequate workforce in the future, education programs need to engage students in primary care and rural careers through programs such as those that expose students to rural practice sites.

Students from rural locations who enter health care careers are generally believed to be more likely to practice in rural areas. Many educational programs that aim to produce graduates who will work in rural areas actively recruit and admit rural applicants. Educational opportunities that are located in rural areas allow even more access for rural students.

When rural “bricks and mortar” education facilities are not available, distance education programs (that use the Internet and other electronic communications to connect rural students with colleges and universities at distant sites) can provide rural students the opportunity to participate in health care careers without leaving their rural residences and jobs.

Young people, including those in rural areas, need to be exposed to health care careers at early ages and encouraged to secure the math and science skills necessary to complete a health career education program. There are many health workforce education pathway programs that can serve as models to help recruit young students for health careers, providing prerequisite skills, incentives and exposure to health care opportunities at an early age. Examples include the Youth Health Services Corps program delivered by many Area Health Education Centers and other similar programs, some of which specifically target underrepresented minority students.

**WORKFORCE SHORTAGES PERSIST IN RURAL AREAS**

Rural populations face similar health care needs as urban populations, but because of a variety of factors, they may not be able to find providers to deliver the services they need in their communities. Figure 2 shows the persistent disparity between metropolitan and non-metropolitan physician supply from 1991 to 2009. Non-metropolitan areas have fewer than half the physicians per 100,000 residents compared with metropolitan areas.

Market forces sometimes reduce the viability of rural health care employment, rural residents have fewer local educational resources that lead to health careers, and lifestyle choices can prevent health care providers from seeking rural employment. The result is that many rural communities face ongoing, if not growing, health workforce shortages, and residents either must travel great distances to obtain needed care or forego the care altogether. Other briefs in this series further quantify the WWAMI rural health workforce and offer resources and strategies for policymakers and planners to address these shortages.

![Figure 2: Physicians in the U.S. per 100,000 People, 1991, 2001, and 2009](image)

**Data sources:** American Medical Association, American Osteopathic Association, Bureau of Census, and Center for Medicare-Medicaid Services as cited in U.S. GAO, 2003; American Medical Association Masterfile 2009.
LITERATURE CITED


Suggested Citation