Looking to the Future:

Preparing for the Next Generation in Health Careers

Background Report

- May 2-3, 2008
- Albuquerque Marriott
  Albuquerque, NM

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Forward

This report was prepared to provide background information for participants attending the May 2008 statewide forum, *Looking to the Future: Preparing for the Next Generation in Health Careers*. The report will help frame forum discussions as well as provide context for the current shortage of healthcare professionals in New Mexico.

Participants at the forum will represent four very important stakeholders who must collaborate to ensure that the health careers pipeline works effectively and efficiently. Those stakeholders include:

- Rural and tribal communities
- Middle and high schools
- Colleges, universities and professional schools
- Healthcare employers, providers, and professionals

This report will also help participants determine the roles each group can play to improve New Mexico's healthcare system.

The report is organized in three main sections:

1. The status of New Mexico's health careers pipeline as compared to the pipeline nationally
2. The barriers that impede the pipeline's flow
3. Solutions to offset the impact of these barriers

The appendix lists a variety of best practices and more examples will be discussed at the forum.

Participants are urged to review the report prior to attending the forum.

Forum Conveners

UNM Health Sciences Center, Office of Diversity:

Joining Communities to Increase Access and Reduce Disparities

The Office of Diversity's mission is to promote ethnic, racial, socio-economic, and geographic diversity in the Health Sciences Center of the University of New Mexico and to develop a variety of opportunities addressing key issues in diversity. The Office of Diversity coordinates the flagship educational pipeline programs for the UNM Health Sciences Center for New Mexico students interested in health professions.

UNM Hospitals

The mission of UNM Hospitals is to provide added value to healthcare through leadership in providing innovative, collaborative education, advancing the frontiers of science through research critical to the future of healthcare, delivering healthcare services that are at the forefront of science, and facilitating partnerships with public and private biomedical and health enterprises.

Forum Facilitator

New Mexico First events bring together people from all walks of life to identify practical solutions to the state's toughest problems. In New Mexico First's 22-year history, it has engaged over 6,000 people in the democratic process. Co-founded in 1986 by U.S. Senators Pete Domenici (R-NM) and Jeff Bingaman (D-NM), the organization conducts three major types of activities: an annual statewide town hall focusing on a critical issue facing the state; specialized forums for communities and institutions that need consensus feedback; and smaller consensus facilitations such as strategic planning sessions.

In May 2007, New Mexico First hosted its statewide town hall, *Strengthening New Mexico Healthcare: Access, Coverage, and Economics.* The event produced concrete, actionable recommendations for policymakers in the area of improving healthcare in New Mexico. Strengthening the state's pipeline of healthcare professional was one of the town hall's recommendations. For this reason, New Mexico First is pleased to facilitate this 2008 forum, *Looking to the Future: Preparing for the Next Generation in Health Careers,* for which this report was prepared.

The Forum Process

Like all New Mexico First events, this forum will take participants beyond the typical presentation-filled seminar setting and instead draw on their knowledge to find solutions to address the issue at hand. This forum will include a few guest speakers, all experts in their field, to set the context. However, the bulk of the work will be done in small groups by the participants themselves. By the end of the forum, each group will have drafted concrete recommendations for policymakers, healthcare leaders, and educational institutions.

Forum Objectives

- Engage a wide range of people in solution-driven discussions about strengthening and diversifying the pipeline for health careers.
- Strengthen awareness of best practices and programs that have worked nationally and locally, especially in rural and tribal areas.
- Develop concrete recommendations for policymakers as well as leaders within the education and healthcare communities.
- Raise awareness among the general public about New Mexico's need for more health professionals.

Preparers of this Report

There are few right or wrong answers, and healthcare issues are increasingly complex. As a result, no brief explanation of the status of the health careers pipeline – including this report – can include all the information and opinions available. The author and reviewers have provided their knowledge and advice, but ultimately the people of New Mexico must decide the path they would like to carve out for themselves, one that is innovative, effective, and unique to improving the health careers pipeline in New Mexico.

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This New Mexico First report was prepared by the following writers and editors.

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Healthcare Needs in New Mexico

Can New Mexicans Get the Healthcare They Need?

New Mexico is one of several states facing a shortage of healthcare professionals – ranging from physicians, to technicians, to mental health providers. Advances in medicine and technology can improve American lives, but only if there are enough trained providers to deliver the services to patients. New Mexico's rural and urban communities need more healthcare professionals today, and the problem is growing.

The good news is that – despite challenges in the healthcare industry – the number of healthcare providers per capita continues to increase. However, that increase is not expected to keep up with the current and future need for services.[1] As a primarily rural state, New Mexico feels this shortage of healthcare providers even more acutely than other states. For example, we have fewer physicians per capita than the national average. The New Mexico average number of physicians per 100,000 population is 194 compared to 226 nationally.[2]

While over half of our population lives in rural areas, the majority (64%) of our physicians practice in the urban areas of Albuquerque, Los Alamos, or Santa Fe.[3] ***All* of our counties except Los Alamos are designated by the federal government as "Health Professions Shortage Areas."**[4] This means that throughout New Mexico there are shortages of all levels and specialties of providers including medical assistants, registered nurses, physician assistants, nurse practitioners, dentists, dental hygienists, pharmacists, mental health professionals, physicians, and surgeons.

[1] U.S. Government Accountability Office (GAO), Primary Care Professionals: Recent Supply Trends, Projections, and Valuation of Services, Testimony of A. Bruce Steinwald, Director Health Care to Committee on Health, Education, Labor and Pensions, U.S. Senate. GAO-08-472T, Feb. 12, 2008, p4.
[2] New Mexico Health Policy Commission (NMHPC), Quick Facts 2007, p.28.
[3] NMHPC, Quick Facts 2007, p.28.
[4] Health Resources & Services Administration (HRSA), U.S. Department of Health & Human Services, Health Professions Shortage Areas (HPSAs): New Mexico Counties, March 16, 2008.

Why We Need More Health Professionals

The day-to-day impact of New Mexico's shortage in healthcare providers means that the majority of New Mexicans will experience gaps in healthcare services throughout all stages of their lives, from birth to death. New Mexicans living in rural and tribal areas experience these gaps even more acutely. Generally, New Mexico healthcare providers agree that our citizens encounter substantial shortages in primary care, specialty care, dental, pre-natal, immunization, behavioral health, and wellness/preventive services.

Access Gaps

Shortages in access to healthcare services can range from having no access to having inconsistent access. For example, many Indian Health Service (IHS) patients wait more than a month, some from two to six months, for some types of primary care services such as women's healthcare, general physicals and dental care.[5] This wait-time is in excess of standards and goals set by other federal healthcare systems such as the Department of Veterans Affairs.[6]

Gaps in access are also due to the remote location of patients and the distance to the nearest healthcare facility. IHS reports that many patients travel 60 to 180 miles to the nearest healthcare facility.[7]

Nationally, patients living in non-tribal rural areas face similar challenges to their tribal counterparts, including:

- A lack of transportation to distant healthcare facilities
- High turnover of healthcare providers
- Local providers who often lack computer resources to efficiently register and track patients' progress
- Local providers who do not speak the native language of their patients

[5] GAO, Indian Health Service, 15.
[6] GAO, Indian Health Service, p. 15.
[7] GAO, Indian Health Service, p. 17.

Illness Prevention

Americans, including New Mexicans, struggle with diseases like diabetes, obesity, or heart disease that can often be prevented. However, prevention requires access to healthcare providers who guide patients through wellness programs, identify and address health risks, and provide children with necessary medical care and vaccinations. The potential human and economic cost to New Mexico of *not* having enough health professionals to help prevent disease is enormous. The disparity between the health of Native Americans and the national population is especially stark with Native Americans experiencing much higher rates of mortality and comorbidity (complicating illnesses).[8]

Status of the Healthcare Pipeline

On a national level, the number of primary care professionals continues to increase, with the supply of nonphysicians (such as nurse practitioners and physician assistants) increasing faster than physicians.[9] The same is true in New Mexico. However, the rising numbers are not keeping up with demand. While the number of dentists in New Mexico has increased, we still rank 49th in the nation in per capita dentists.[10] Experts estimate that approximately 7,000 additional primary care physicians are currently needed nationally in shortage areas.[11] As the baby-boom generation ages, the need for healthcare providers will only increase.

Table 1: Number of Healthcare Providers[12]

Type of Provider	# in 2006 NM	# per 100,000 people NM	Comments	# in 2004 & 2005 U.S.	# per 100,000 people U.S.
Physicians	7,196	17-25	Increased by 1,000 between 2001 and 2006	26,4086 (Primary care only)	90
Registered and licensed practical nurses	18,644	640-750	Increased by 2,425 between 2001 and 2006	2.4 million (RNs only)	825
Licensed pharmacists	1,486	54-69	n/a	196,000 - 224,500 (2000-2010)	n/a
Licensed dental hygienists	812	23-34	n/a	n/a	n/a
Licensed dentists	882	39-49	n/a	13,8754	47
Physician assistants	n/a	17-25	n/a	23,325	8
Nurse practitioners	n/a	31-42 (All advanced practice nurses)	n/a	82,622	28

[8] GAO, Indian Health Service, 7.
[9] GAO, Primary Care Professionals, p4.
[10] UNM Health Sciences Center, Dental Health in New Mexico, March 2008. http://hsc.unm.edu/som/outreach/dental.shtml
[11] HRSA, Physician Supply & Demand, p.30.
[12] Center for Health Workforce Studies, School of Public Health, Physician Supply and Distribution in New Mexico, 2006, with County and Specialty Profiles, University at Albany, State University of New York. Dec. 2007, p.4; Center for New Mexico Nursing Excellence, 2008: Status of Nursing in New Mexico, p.2; New Mexico Health Policy Commission, 2006 New Mexico Geographic Access Data System & Selected Health Professionals in New Mexico, Dec. 2007, p.10, 24; GAO, Primary Care Professionals, p7; GAO, Nursing Workforce: HHS Needs Methodology to Identify Facilities with a Critical Shortage of Nurses, Report to Committee on Health, Education, Labor & Pensions, U.S. Senate., April 30, 2007, p.7,11; HRSA Bureau of Health Professions, The Pharmacist Workforce: A Study of the Supply and Demand for Pharmacists, Report to Congress, December 2000, p.iii.

Table 2: Percentage of Minority Active Patient Care Physicians[13]

NM Minority Physicians	2001	2006	2006 NM Population Estimates by Gender/Race
Women	27.1%	30.3%	51.0%
White (not Hispanic)	88.2%	77.2%	42.8%
Hispanic/Latino	6.5%	10.7%	41.8%
Asian/Pacific Islander	3.7%	6.3%	1.4%
African-American	1.1%	1.4%	2.5%
American Indian	0.5%	0.7%	9.8%
Multiple		2.7%	1.6%
Other		1%	

Addressing this imbalance in minority health professionals compared to New Mexico's minority population can be important to New Mexico because ethnic minority health professionals are far more likely to work in ethnic minority communities. In fact, the likelihood of UNM family medicine graduates remaining in New Mexico and practicing in rural areas is greater if the graduate is an ethnic minority.[14]

Primary versus Specialty Care

One of the challenges facing New Mexico and the nation is striking a balance between the number of primary and specialty care providers. Primary care physicians often earn less than their specialist colleagues – prompting more medical students to pursue specialties. Specialists earn more because they are paid more for their time. This trend is unfortunate because preventive care, care coordination for the chronically ill, and continuity of care – all hallmarks of primary medicine – can achieve better health outcomes and cost savings.[15] Many people believe that the nation's over-reliance on specialists costs the nation more and is less efficient.[16]

That said, there are some specialties in which we do need more practitioners. This is particularly true for trauma and emergency care surgeons. The impending shortage of trauma surgeons may continue to jeopardize patient care, especially in rural and medically underserved areas of the country.[17] This problem is influenced by caps to the number of surgical residencies at medical schools and many healthcare providers' preference to work in a specialty that does not require that they be on-call. [18]

Employment Trends

The challenges described above will worsen in the coming years. The demand for healthcare providers and the number of vacant positions will continue to increase for several reasons:[19]

- The number of people in older age groups will grow faster than the total population between 2006 and 2016.[20]
- Advances in medical technology will continue to improve the survival rate of severely ill and injured patients, who will then need extensive therapy and care.
- The already ample number of employment vacancies will increase due to high job turnover, particularly from the large number of expected retirements and tougher immigration rules that are slowing the number of foreign healthcare workers entering the United States.

In New Mexico, for example, though nursing salaries are competitive both nationally and regionally, job vacancies for registered nurses at the state's 17 hospitals remain higher than the national average.[21]

Table 3: Baby Boomer Providers Retiring [22]

Type of NM Provider	Age in 2006
Dentist	34% age 55-64
Dental hygienists	51% over age 45
Registered nurses	32% age 50-59
Physicians	70% over age 45
Pharmacists (U.S only)	47% of male pharmacists age 46-60; 51% of female pharmacists age 31-45

[13] HRSA, Physician Supply & Demand, p.7; NMHPC Quick Facts 2008, p.1-2.
[14] Pacheco, Mario, MD, Deborah Weiss, MPH, Karen Vaillant, MD et al. The Impact on Rural New Mexico of a Family Medicine Residency, Academic Medicine, Vol. 80, No.8, August 2005, p.3.
[15] GAO, Primary Care Professionals, p15.
[16] GAO, Primary Care Professionals, p15.
[17] Institute of Medicine (IOM), The Future of Emergency Care: Hospital Based Emergency Care at the Breaking Point, June 14, 2006. Ch.6, p.218.
[18] Davis, Robert. Shortage of Surgeons Pinches U.S. Hospitals, USA Today. Feb. 26, 2008.
[19] U.S. Department of Labor, Bureau of Labor Statistics, Health Care: Career Guide to Industries. www.bls.gov.
[20] U.S. Department of Labor, Bureau of Labor Statistics, Health Care: Career Guide to Industries.
[21] Uyttebrouck, Olivier. Demand for Nurses Stays Strong, Albuquerque Journal. Jan. 30, 2008.
[22] NMHPC, 2006 New Mexico Geographic Access Data, p.22.

Stopping the Brain Drain

Many people believe that we can address part of our healthcare shortage by keeping more of New Mexico's "home grown" practitioners here. That can be difficult if neighboring states pay more or offer better benefits to their healthcare professionals. Generally, allied healthcare professionals, such as those who have began their healthcare professions training in community colleges, are more likely to remain in New Mexico, than other practitioners such as physicians who trained in universities, colleges or at professional schools.[23] However, according to the University of New Mexico School of Medicine (UNM SOM), the ability to retain and increase the number of physicians practicing in the state seems to be linked to whether graduates of the medical school also do their residency work here in New Mexico.

UNM's physician graduates who complete their residencies here are twice as likely to remain in New Mexico (49%) as physicians who train elsewhere or graduate from another institution.[24] Almost half of those UNM physician graduates who are also UNM SOM residents become primary care providers.[25] It is also important to consider that "brain drain" can occur within the state as well, because providers often choose to work in urban rather than in rural communities.

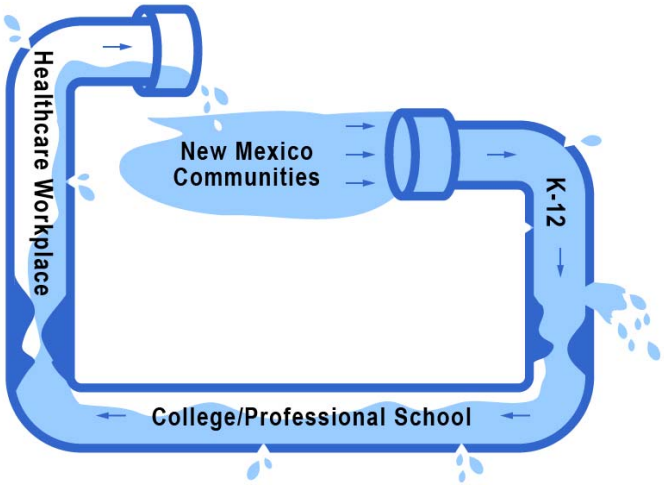
Nationally and in New Mexico there is a lack of quantifiable data tracking where healthcare professionals decide practice.[26] However, it is generally accepted that New Mexico's healthcare environment is not as hospitable as in other states.[27] For example, on average, other states tend to pay healthcare providers one-third to one-half more than New Mexico does.[28] Also, the managed care model predominates in this state, tending to make healthcare providers' day-to-day work load more labor intensive than in other states.[29]

Can the Need Be Met?

In essence, New Mexico is looking at a health careers pipeline that is anything but healthy. As the diagram below shows, New Mexico communities, our educational systems, and our workplaces have a role to play in meeting the healthcare needs of New Mexicans. There are leaks to plug along the entire pipeline from community to schools to workplace. For example, some students are not interested in the math and science courses that prepare them for health careers or may not plan to go to college.

There are constrictions in the pipeline that also have an impact, such as students who aspire to a health career but cannot find a placement in a New Mexico higher education program – or practitioners who would like to teach but do not want to take a pay cut.

There are dents in the pipeline that affect people's career choices, including graduates who may prefer to stay in an urban community rather than moving to a small town – or professionals who choose to leave a rural community if the quality of life does not meet their family's expectations.



These and other dynamics have an impact on those who could choose a health career and then decide to stay in it. The barriers are many, but there are also solutions. There are many New Mexicans who are willing to find ways to plug those leaks, open up congested areas, and smooth out the dents that get in the way. The next two sections of this report offer perspectives on the barriers, the solutions, and examples of how New Mexicans are making a difference today in order to meet the needs of tomorrow.

[23] New Mexico Health Resources (NMHR), Author interview with NMHR staff, March 2008.
[24] University of New Mexico School of Medicine (UNM SOM), Recipients and Former Residents: Location Report, 2007, p.1.
[25] UNM SOM, MD Recipients and Former Residents: Location Report, 2007, p.1.
[26] NMHR.
[27] Id.
[28] Id.
[29] Id.

Barriers to Solving the Problem

What Challenges Must We Overcome?

Strained Education System

Math and Science Skills

Despite the many advantages available in the U.S., our children's competency in basic math and science remains below average and may be declining. Because strong math and science skills are required in any healthcare field, our nation's below average performance places the future growth and quality of the healthcare workforce at risk. U.S. students in 4th and 8th grade perform consistently below most of their peers around the world and continue that trend into high school, according to a 2005 study funded by the U.S. Department of Education.[30] This study compared the math skills of students in other industrialized nations and found that U.S. students consistently performed below average, ranking 8th or 9th out of twelve industrialized nations at all three grade levels. According to the 2003 Trends in Mathematics and Science study, U.S. eighth grade students ranked ninth in science.[31]

While the nation as a whole is struggling with this issue, New Mexico's challenge in improving our children's math and science skills is even more difficult. Nationally, 31% of eighth-graders were proficient in math in 2007, compared with 18% in New Mexico.[32] Similarly, in 2005, 27% of the nation's eighth-graders were proficient in science, compared with 18% of New Mexico's eighth-graders.[33] This academic breakdown presents a real challenge for our state's future health careers pipeline.

New Mexico's education system as a whole is also below average. In January 2008, Education Week Magazine compared New Mexico's education system with the average of all other states (see Table 4).[34] It is also important to consider ways to improve New Mexico's students below average proficiency in reading and writing as these are also crucial skills for any student hoping to become a healthcare provider. In 2007, only 18% of New Mexico's eighth-graders were proficient in reading and only 17% were proficient in writing.[35] Nationally, 29% of eighth graders were proficient in reading and 31% in writing.[36]

Table 4: New Mexico's Report Card

Education Week Report Card	New Mexico	National Average
Chance for student success	D+	C+
K-12 achievement	D-	D+
Standards, assessments, and accountability	A-	B
Preparedness for high school, college & workplace	B-	C
The teaching profession	C+	C
School finance	C	C+
Overall score	C	C

In 2002, New Mexico ranked 33 in the nation in education spending per student, 19 in average elementary school class size, 46 in average teacher salary, and 39 in graduation rates.[37] If we want to produce "home grown" healthcare professionals to practice here in New Mexico, the state must better prepare its students in the math, science, reading and writing required for entrance into colleges, universities, and professional schools.

[30] U.S. Dept. of Education Policy and Program Studies Service (PPSS) American Institutes for Research, Reassessing U.S. International Mathematics Performance: New Findings from the 2003 TIMSS and PISA. Nov. 2005.

[31] 2003 TIMMS. Improving Mathematics and Science Highlights. Lynch School of Education, Boston College. March 2008. http://timss.bc.edu/

[32] Institute of Education Sciences (IES), National Center for Education Statistics, U.S. Department of Education, The Nation's Report Card: Mathematics 2007, National Assessment of Education Progress at Grades 4 and 8, NCES 2007-494, p. 32.

[33] IES, The Nation's Report Card: Science 2005, National Assessment of Standard Performance at Grades 4, 8, and 12., NCES 2006-466, p. 28.

[34] Peter, Zsombor. N.M. Schools Get C on Report Card, Albuquerque Journal. Jan. 10, 2008. p.A1.

[35] IES, The Nation's Report Card: Reading 2007, National Assessment of Education Progress at Grades 4 and 8, NCES 2007-496, p.32.; IES, The Nation's Report Card: Writing 2007, National Assessment of Education Progress at Grades 4 and 8, NCES 2008-468, p.16.

[36] Id.

[37] EPE Research Center. New Mexico State Information.

Limited College Programs

Even if a young person has adequate math and science skills – and the desire to pursue a healthcare career – she or he might face additional challenges in going to college. New Mexico has a limited number of education programs for prospective healthcare providers. Those programs are primarily located in the most urban areas of the state. New Mexico has:

- One medical school
- One pharmacy school
- Two physician assistants schools
- Zero dental schools
- Two dental hygiene programs
- Eighteen state-approved nursing schools (two BA programs, five associates degree, 10 career-ladder programs, one practical nurse program)

The limited number of programs also means a limited number of spots within the programs, forcing qualified students to move out-of-state to continue or complete their education. Once a student chooses to attend school out-of-state, the chances of that student moving back to New Mexico are greatly diminished.

Education Costs

The cost of a health professions education is a considerable barrier for most students and their families. For example, the national average for medical school tuition and fees in the 2004-2005 academic year was $18,400 for first-year for in-state students at public schools; and $34,680 for first-year students at private schools.[38] On top of tuition and fees, students typically spend an additional $18,000 in other expenses per year, depending on the cost of living and where a medical school is located.[39]

Faculty Recruitment and Retention

Any strategies to increase the number of people in healthcare careers must address the need for qualified and dedicated teachers, from elementary school to college to professional schools. Recruiting and retaining effective teachers is a challenge in New Mexico and nationwide. Salaries, benefits, and work loads are key factors. Surprisingly, attaining a higher salary does not top the list of reasons why faculty members leave a school. Schools with the best records for retaining their faculty appear to share a common purpose among the faculty and administration support.[40] The words "fit," "niche," "common values," "reaching for something higher than ourselves," and "purpose to our work" are often used by faculty in these schools.[41]

Aging Infrastructure

In this electronic age, state-of-the-art, wired schools are important to quality learning. Efforts to repair, rehabilitate, and modernize old buildings are a considerable concern for grade schools, colleges, universities, professional schools as well as hospitals, clinics, community health centers, and physician offices.

For schools, the complex relationships between local school districts and state and federal governments are constantly evolving. Coupled with new academic standards and other factors, school infrastructure must compete for both attention and money.[42] In New Mexico, many older schools lack access to the labs and other equipment necessary for math and science classes. Students without access to labs and equipment are at a substantial disadvantage and are less likely to enter the health careers workforce. In 2001, it was estimated that over $1.4 billion was needed to meet the infrastructure needs for New Mexico's schools.[43] That equates to $778 per pupil over five years.

Newer facilities can generally provide more and varied services that enhance students', healthcare professionals' and patients' experience. Infrastructure improvements also help institutions attract the best students, faculty and healthcare providers to study and work in their facilities.

[38] American Association of Medical Colleges, AspiringDocs.org, FAQs & Resources: Financing Medical School. April 2008. http://www.aspiringdocs.org.

[39] American Association of Medical Colleges, AspiringDocs.org, FAQs & Resources: Financing Medical School.

[40] Pitman, Marc A. Faculty Retention on a Shoestring, National Association of Independent Schools. Jan. 31, 2003. p.4.

[41] Pitman, p.4.

[42] American Society of Civil Engineers, Report Card for America's Infrastructure: Schools, March 2008, www.asce.org/reportcard/2005/page.cfm?id=31.

[43] Crampton, F.E., D.C Thompson, J.M. Hagey. Creating and sustaining school capacity in the twenty-first century: Funding a physical environment conducive to a student learning, Journal of Education Finance, 2001. p27, 633–652.

Healthcare Employer Challenges in Rural/Tribal Areas

Payment Mechanisms

The way healthcare is financed can also have an impact on the number and distribution of healthcare providers working in rural/tribal areas in New Mexico. Public payers, such as Medicare and Medicaid, pay healthcare providers less for the same service than do private insurance payers, generally only 80% for the same service.[44] Healthcare providers and employers can offset these costs if they can create a patient mix that includes both public and privately insured patients. This strategy is rarely possible in many rural/tribal areas as Medicare and Medicaid patients tend to make-up a larger percentage of the patient mix.

On the bright side, the federal government will make additional payments to sole community hospitals or to Medicare-dependent hospitals and hospitals with up to 25 beds that are deemed Critical Access Hospitals (CAHs), which are often in rural areas.[45] Medicare will also pay an additional 10% for any services provided by a physician working in designated Health Provider Shortage Areas (HPSAs).[46]

Uninsured/Underinsured Patients

Another limiting factor for healthcare providers and employers is the additional costs of providing care to uninsured patients. During 2006, nearly 47 million people or 15.8 % of Americans were uninsured at any one time.[47] In 2007, New Mexico ranked second in the number of uninsured patients. At least 22% of New Mexicans have been uninsured in the past three years.[48] This does not account for the number of New Mexicans who are underinsured. These New Mexicans have insurance but not enough to cover certain basic services and may not earn enough to pay out-of-pocket for the difference. Nationally, there was a 4% drop between 2001 and 2005 in the number of middle-income families (those earning between $40,000 and $80,000 for a family of four) who had job-based health coverage.[49] Half lost benefits because their employers dropped health insurance altogether or quit offering dependent coverage, while 15% gave up their employer-based insurance because they could no longer afford their share of the premiums.[50] Limited information exists on the number of underinsured in New Mexico.

Regulations

For employers, the cost of complying with complex payment and practice rules and regulations can sometimes mean hiring more administrative staff, rather than patient care staff. With fewer practitioners but more paperwork, patient access to services can also be slowed. The financing mechanisms also pay more for specialty services than for evaluation and management services typically performed by primary care providers. This payment structure can also contribute to an imbalance in the number of primary versus specialty practitioners in an area.

Insufficient IHS Funding

Native Americans are directly impacted by the amount of reimbursements from the IHS and tribal contributions. For most facilities there is not enough funding nor are there enough providers to adequately provide all primary, much less ancillary and specialty services. The IHS provides a direct and contract coverage process that many times results in a rationing of services due to lack of overall funding.[51]

Other Contributing Factors

Technology Gap

Access to technology is essential for children and adults at home, school, and work – particularly if they want to pursue a career in healthcare. In 2003, New Mexico ranked 46 in the nation in the number of families with access to a household computer and internet access. Fewer than half of New Mexico households (45%) have a computer in the home.[52] There continues to be a link between socioeconomics, educational attainment, and having a household computer. Nationally, the vast majority (94%) of households in which a parent has a

[44] Medicare Payment Advisory Commission (MedPAC), Report to Congress: Medicare Payment Policy, March 2008, p.xiii.
[45] MedPAC, Report to Congress: Medicare Payment Policy, March 2008, p.51.
[46] Centers for Medicare & Medicaid Services (CMS), Dept. of Health & Human Services, CMS Manual System,Pub.100-04 Medicare Claims Processing: Transmittal 78, Change Req. 3180, Feb. 6, 2004.
[47] MedPAC, Report to Congress: Medicare Payment Policy, March 2008. p.21.
[48] U.S. Census Bureau, Income, Poverty, and Health Insurance Coverage in the United States in 2006, Current Population Reports. August 2007. p.67.
[49] Physicians for a National Healthcare Program (PNHP), Consumer Reports on the Uninsured: Are you really covered?, September 2007. http://www.pnhp.org/news/2007/august/consumer_reports_on_.php.
[50] PNHP, Consumer Reports.
[51] GAO, Indian Health Service, p. 21.
[52] U.S. Census Bureau, Computer and Internet Use in the United States: 2003, Current Population Survey, October 2003.

bachelor's degree have a computer.[53] On average 80 percent of white children have a home computer versus 48 percent of African-American and Hispanic children.[54]

Economic and Social Needs

Other barriers to New Mexico's health career pipeline include economic influences. Generally in a poor state, the ability of many parents to help finance their child's education is limited. Healthcare professions graduates facing the repayment of student loans that have accumulated through years of education are naturally drawn to work in states with higher salaries. In addition, quality of life issues including the perceived lack of cultural and continuing educational opportunities for themselves and their families is also a factor when choosing whether to work in rural/tribal areas.

Cultural Influences

Cultural influences can create a barrier to the pipeline's flow as well. Families play a vital if not *the* most important role in determining their children's future. For instance, many families are unaware of the importance of education (particularly advanced courses that might prepare youth for a career in healthcare). Other families lack the knowledge and resources to work within the system to make sure their children get strong educations. Unfortunately, there are also families who are unsupportive of their children pursuing any education beyond grade school.

Cultural and language barriers to entering health professions are a problem because our state needs a diversified healthcare workforce. According to U.S. Census data, 36.5% of New Mexicans speak a language other than English at home. Of persons who report Spanish as the language of choice at home, national data shows that 28.3% of them speak English "not well" or "not at all".[55]

According to reviewers who provided interviews to the author, cultural differences between healthcare providers and patients can be difficult to overcome. These differences can arise in some cultures when there is a lack of trust and understanding of the capabilities of western medicine. For example, some Native American patients with substance abuse problems overcome their addictions through programs established by their tribe which help them return to the teachings of their tribal religion. Local physicians treating this population benefit from an understanding of these unique programs.

In some cases, patients may avoid going to a doctor for a serious condition because either they are not aware that a doctor can help them or because they are skeptical and mistrust the care that a doctor prescribes. The fact that many providers working in rural/tribal areas are perceived as having a "short-timer" mentality can make it difficult to build trust between the patient and the provider.

On the other hand, many times patients may have unrealistic expectations of the care that healthcare professionals should provide to patients. For example, two physicians interviewed for this report said that some patients with simple illnesses such a common headaches choose to go to an emergency room or clinic to obtain over-the-counter headache medicine from a physician, rather than purchase the medicine from a convenience store. Unfortunately, the time the provider spends with this non-emergency patient may take away from the care the provider can devote to other patients who need their assistance.

Quality of Life Issues

In rural and tribal communities, new healthcare providers may not be prepared for the social differences and lifestyles between the urban communities where they are from and their new home. Even providers who are originally from small communities, on returning home, may struggle with adjusting to their hometown culture that has remained the same while they have been away.

Communication and Knowledge Gaps

Another barrier to New Mexico's healthcare pipeline is the existing communication and knowledge gaps between K-12 students, parents, educators at all levels, healthcare professionals, policymakers, and employers. Specific gaps that can affect people's willingness to enter or remain in a healthcare field follow:[56]

- Students and parents do not always understand what requirements they must meet to attend college.
- Students and parents often lack an understanding of the importance of excelling in math, science, reading and writing.

[53] U.S. Census Bureau, Computer and Internet Use in the United States: 2003.
[54] U.S. Census Bureau, Computer and Internet Use in the United States: 2003.
[55] U.S. Census Bureau. www.census.gov.
[56] Drawn from author interviews with providers and educators.

- Policymakers struggle to know how to incentivize healthcare providers to practice in New Mexico, particularly in rural/tribal areas.
- Healthcare providers, employers, and policymakers have limited shared understanding of the complex policies and regulations that may create disincentives for providing healthcare services.
- Providers often lack knowledge about the costs of and regulations required in running a healthcare facility. This limited understanding can lead to career dissatisfaction among providers as well as conflicts with facility administrators and purchasers of health insurance including employers.

Finding Solutions

How Can We Strengthen the Pipeline?

Strengthening the health careers pipeline requires collaboration and innovation from a number of stakeholders. You can say that the task begins at home and in the community where the values for a healthy lifestyle are learned and reinforced. The task continues as students progress through primary and secondary school and choose to excel in the math and science classes they will need to prepare successfully for careers in healthcare. Students making the transition from secondary education to colleges and universities need to be encouraged, mentored, and supported. Those who finish their academic studies and enter the workforce, either as an employee in a healthcare institution or in private practice, have a need to meet financial and lifestyle goals that enhance their quality of life. Although rewarding in numerous ways, the journey for those who choose a health career is a long one requiring considerable expense and hard work.

As mentioned previously, there are four important stakeholders who must collaborate to make sure the health careers pipeline works effectively. Each of the following groups has a role in creating innovative practices and programs that will help strengthen the pipeline:

1. Rural and tribal communities
2. Middle and high schools
3. Colleges, universities and professional schools
4. Healthcare employers, providers, and professionals

Best Practices and Programs

In general, the practices and programs listed below[57] have proved successful in promoting careers in healthcare. They prepared students for these careers, recruited healthcare providers to communities in need, and encouraged providers to remain in these communities.

Strategies at the K-12 Level

Schools in New Mexico and throughout the nation are doing important, innovative work in preparing youth for health careers. Selected examples follow. Several additional programs are described in detail in the appendix.

- **School-based programs** for middle and high school students and parents that promote health careers are helpful, particularly when they make youth aware of the importance of taking advanced courses.
- **Health Occupation Students of America (HOSA)** is a student organization that exposes students to the variety of health professions and encourages them to start preparing academically for a career in healthcare. New Mexico has HOSA chapters in some schools.
- **Distance learning** provides students with access to expert math and science teachers regardless of location.
- **Mathcounts** is a national math enrichment, coaching and competition program that promotes middle school mathematics achievement in every U.S. state & territory. Mathcounts has a chapter in Albuquerque and is one of the most successful education partnerships involving volunteers, educators, industry sponsors and students.

Strategies at the College Level

Healthcare careers – whether nurses, technicians, or physicians – require specific education at college or professional school. Success strategies for financing students' education follow:

- **Outreach programs** by professional schools and colleges about ways to fund education can make students and parents aware of options they may not have considered.
- **Financial aid,** loans, grants, scholarships and stipends are available for those who want to prepare for health careers, continue their education, or expand into new healthcare fields.
- **Lottery systems,** similar to the one New Mexico currently offers undergraduate students, are offered in other states to students with high GPAs who want healthcare degrees and want to practice in their home state.

[57] Schneck, Lisa H. MSJ. Recruiting and retaining health care professionals in rural areas, Medical Group Management Association (MGMA) Connextion, Issue 75, April 2005; GAO, Indian Health Service, p. 29.

Rural and Tribal Community Strategies

The needs of rural and tribal communities are unique. Selected strategies follow:

- **Outsourcing** some health services to other communities is one approach taken by some small towns.[58]
- **E-medicine** technologies can bring expertise from urban healthcare providers to rural and tribal communities.[59] For example, UNM Project ECHO.
- **Remote providers** can offer on-site care, references for patients to visit other location, transportation assistance, as well as advice on how to pay healthcare bills and get coverage.[60]
- **Reducing isolation** is a key strategy employed by communities who want to *retain* their healthcare providers. This approach includes welcoming and orienting the providers and their spouses to the community – and working hard to reduce any sense of career stagnation.[61]
- **Area Health Education Centers** are instrumental in placing and retaining health profession students and residents who provide clinical and community health services.

Diversifying and Quantifying the Workforce

For reasons described previously in this report, rural and urban communities recognize the value of a diversified healthcare workforce. Many communities also understand the importance of collecting data on health professionals of all races. Strategies for addressing these priorities includes:

- **Targeted outreach to minority populations** to increase the number who choose to enter health careers is one obvious approach.
- **Supporting community health worker programs** can be an effective strategy for involving members of racial and ethnic minorities in healthcare provision and increasing their proportion among health professionals.[62]
- **Hiring foreign physicians** who hold J1 visa waivers is another strategy for health professional shortage areas. J1 visa holders are required by their residency agreement to work for three years in an underserved community.
- **Data tracking systems** can be extremely useful to policymakers and local leaders. Such systems can provide quantifiable and standardized data on the number of healthcare providers by type, age, race/ethnicity, and practice location (e.g., in-state, out-of-state, urban, rural). This data helps create benchmarks for measuring the supply of healthcare providers.

Strategies at the Workplace

Healthcare employers know they need professionals today, and they know the need is growing. For that reason, a wide range of policies for recruiting and retaining people in health careers have been developed. Strategies include:[63]

- Loan repayment programs
- Sign-on bonuses
- Higher salaries
- Expanded benefits
- Flex-work schedules
- Daycare
- Pay for graduate level coursework
- Providing an income guarantee for the first year of practice
- Fee-for-service pay, basing a doctor's income on what she or he earns, or offering a percentage-based salary
- Covering physicians' malpractice insurance
- Providing and encouraging teaching opportunities
- Establishing a call schedule of less than one in four weekdays and one in five weekends

Targeted Funding

Adequate and targeted funding to promote system change is also part of the solution to the pipeline issues. Billions are spent each year for general and health career education funding. The following table shows just some of the programs funded at a national and state level. Most of the programs require that the student, healthcare provider or employer apply for this funding. Unfortunately, each year, funding is left over due to the lack of application requests, missed deadlines, or unclear grant writing. Also, some of these programs are subject to cuts as federal and state priorities change. For example, funding for Title VII programs was cut 51.5% in 2006.[64]

[58] GAO, Indian Health Service, p.29.
[59] Id.
[60] Id.
[61] Schneck, Lisa H. MSJ. Recruiting and retaining helath care professional in rural areas, Medical Group Management Association (MGMA) Connextion, Issue 75, April 2005.
[62] Smedley, Brian. Unequal Treatment: Confronting Racial and Ethnic Disparities in HealthcareInstitutes of Medicine (IOM) p.195.
[63] Schneck, Recruiting and retaining helath care professional in rural areas.
[64] President's FY 2009 Budget. Title VII Health Professions Programs, FY 2009 Funding Chart, January 2008; GAO, Primary Care Professionals, p4; GAO, Nursing Workforce, p.14.

Table 5: Federal Funding

Federal Programs	Notes
Title I Grants to Local Educational Agencies	The program distributes resources to the high school level, strengthens assessment and accountability in high schools, and encourages more effective restructuring of chronically low-performing schools.
Title I School Improvement Grants	The program helps build state and local capacity to identify and implement effective interventions to turn around low-performing schools.
21st Century Learning Opportunities Program	The program administers a scholarship fund enabling poor students in low-performing schools to enroll in quality after-school and summer school programs aimed at increasing student achievement.
Teacher Incentive Fund	The program encourage states and school districts to reform compensation plans to reward principals and teachers who raise student achievement, close achievement gaps, and work in hard-to-staff schools.
Pell Grants	The program provides financial aid for college students.
Nursing Education Loan Repayment Program and the Nursing Scholarship Program	These programs provide awards to nursing students or working nurses in exchange for a minimum of two years service at a healthcare facility with a critical shortage of nurses. NSP and NELRP awardees include a higher percentage of minorities and obtain higher degrees than the overall RN workforce.
Health Resources and Services Administration (HRSA) programs	HRSA administers more than 40 health professions education programs authorized under Title VII and VIII. These programs include grants to institutions, direct assistance to students, and funding for health workforce analyses. Title VII generally goes to health professional training including primary care medicine, dentistry training, and increasing medical student diversity, and Title VIII relates to nursing programs.

Governor Bill Richardson's proposed New Mexico FY2009 budget featured the following proposed funding levels for general and healthcare education programs.

Table 6: New Mexico General Education Funding[65]

NM General Education Funding	Comments
$109 million	Increasing funding for public schools to meet growth
$28.4 million	Increasing higher education funding and compensation
$10 million	Targeted assistance to students not achieving proficiency
$2.3 million	Supporting higher education efforts to hold tuition/fee increases below 5%
$2 million	Improving college and workplace readiness
$960,000	Supporting dual credit program for high school students taking college courses

Table 7: New Mexico Healthcare Education Funding

NM Healthcare Education Funding	Comments
$2 million	Enhancing New Mexico's healthcare workforce
$1.45 million	Expanding Loan-for-Service programs
$1.4 million	Providing treatment for veterans and families
$750,000	Improving access to services for Native Americans
$400,000	Electronic and medical records systems in rural and primary care clinics
$300,000	Expanding healthcare service stipends to support students in school/residency
$220,000	Expanding telecommunications and telehealth
$150,000	Expanding use of health information technology
$80,000	Payment of license application fee for MDs who practice in NM

Conclusion

The challenges are many and the needs are great. However, those who are in the best position to improve the situation are dedicated to finding solutions. By all stakeholders coming together to address the issues outlined in this report, New Mexico can prepare, recruit, and retain the healthcare professionals it needs. Doing so will ensure a better and brighter future for the health and well-being of all our people.

[65] New Mexico Dept. of Finance & Administration, New Mexico Budget in Brief, Fiscal Year 2009, Jan. 2008.

Appendix: Best Practice Case Studies

Project Diversity

Sponsored by the Con Alma Health Foundation, New Mexico Community Foundation, New Mexico Hospitals Nursing Division

Project Diversity identifies minority high school students interested in nursing and supports these students academically, professionally and financially. The academic and emotional support the local area nurses and others dedicate to each student is crucial to the success of the program, and more importantly, to the student's success. Nurse-student mentoring and tutoring in math and English literacy are just two of the benefits offered to students. To offset the money the students would earn if they were working after school, Project Diversity pays each student a stipend for attending the tutoring sessions. "These students are thirsty for guidance," said Kathy Lopez-Bushnell, RN of UNM Hospitals and one of the program's founders. This program instills in students the importance of education and study skills and provides the financial support they would not have had otherwise. In August 2007, Project Diversity received a two-year $500,000 grant from Partners Investing in Nursing (PIN) led by the Robert Wood Johnson Foundation. Twenty students are currently in the program. Eventually, Project Diversity founders would like to expand this program into middle schools.

UNM Health Careers Pathway Programs

These programs are coordinated by the University of New Mexico Health Sciences Center, Office of Diversity and primarily serve under-represented and under-served students.

Dream Makers Health Careers Clubs

Dream Makers Clubs are after-school programs whose purpose is to introduce students to health professions, stimulate their interest in science and math, and increase their imaginations in the areas of medicine and health. Dream Makers activities include hands-on activities with a variety of health professions students, community leadership groups and other health professionals.

Health Careers Academy

The Health Careers Academy (HCA) is a six-week non-residential summer program for high school freshmen, sophomores, and juniors. HCA is designed to help strengthen ACT scores. The program is also designed to provide information on, and exposure to, various professions in the healthcare field. Students also, participate in exercises for developing leadership and communication skills, and tour medical and/or research labs. All students receive a stipend.

Undergraduate Health Sciences Enrichment Program

The Undergraduate Health Sciences Enrichment Program (UHSEP) is a six-week, residential summer program for incoming college freshmen, designed to enhance academic preparation and facilitate entry into medical or allied health profession schools. UHSEP students have access to clinical volunteering and shadowing opportunities, mentoring and learning and study skills sessions. Students receive a stipend for their participation.

NM Clinical Education Program

The New Mexico Clinical Education Program is a summer program for pre-professional students who wish to apply to medical school. The program provides experiences in rural, clinical settings by placing students in primary care facilities and community health centers throughout New Mexico. Students shadow physicians and participate in all aspects that the clinic and the community offer. Students also identify, research and present on a community issue. Students receive a stipend.

MCAT + Program

MCAT+ is a six-week summer program for NM residents preparing to take the MCAT and apply to medical school. MCAT+ students will attend a Kaplan MCAT prep course, comprehensive science review lectures, problem based learning sessions, and interview, resume, personal statement and study skills sessions. Students receive a stipend.

UNM Combined BA/MD Degree Program

A partnership program between the University of New Mexico College of Arts and Sciences and the School of Medicine

The Combined BA/MD Degree Program is designed to help address the physician shortage in New Mexico by assembling a class of students who are broadly diverse and committed to serving as a physician in the New Mexico communities with the greatest need. The BA/MD program is open to 28 New Mexico high school seniors planning to begin college the fall semester after their graduation. There will be a preference for, but not limited to, students who come from a rural or medically underserved area, or who will contribute to the diversity of the student body. New Mexico students selected for this special program will be enrolled in an eight-year combined degree program at UNM, ultimately earning them both a Bachelor of Arts and Medical Degree. Students will first earn a baccalaureate degree and upon successful completion of the undergraduate academic and eligibility requirements of the program, students will enter the UNM School of Medicine to complete their doctor of medicine degree.

Hidalgo Medical Services

Partners with the University of New Mexico

Hidalgo Medical Services (HMS), located in Lordsburg, has partnered with UNM since its inception in 1995. The first physicians at the facility were family medicine resident graduates. Since that time, the relationship has grown and has utilized all available state and federally-supported recruitment and retention programs for its success. The relationship includes contracts for federal grant program evaluation and tel-medicine including child psychiatry, developmental disabilities screening, and Project ECHO. Presently, HMS serves as the residency location for UNM rural pediatrics, for both UNM and Memorial Medical Center in Las Cruces family medicine, and for rural psychiatry fellows. Dental residents are planned for the summer of 2009. Physician assistant students, medical students, and other interdisciplinary health training has been coordinated by HMS over the years. HMS depends on its relationship with UNM for a variety of health professional, health policy, and financing needs. Hopefully, this relationship serves as a model for other communities in New Mexico.

Northern New Mexico Family Practice Residency Program

Partners with the University of New Mexico

The Northern New Mexico Family Practice Residency Program trains family medicine residents who serve local communities in this part of the state. This decentralized approach to resident training is administered by the St. Vincent Regional Medical Center and the residents complete their continuity clinic at the La Familia Medical Center in Santa Fe. Over the past 10 years the program has had a 100% pass rate on the New Mexico family medicine boards. Following graduation from the residency program, 93% of the graduates are licensed to practice in New Mexico, 85% of graduates have spent a minimum of one year working in the state, and 64% of graduates currently work here. The St. Vincent Regional Medical Center residency office also facilitates the training of internal medicine, surgery, and emergency residents from UNM. These residents rotate on a monthly basis with various medicine specialists, surgeons, and emergency physicians. Teaching is not only an attractive opportunity for the local faculty, but it is a true incentive for recruiting new physicians to the community.

Rural Health Interdisciplinary Program

Sponsored by the University of New Mexico Health Sciences Center

The Rural Health Interdisciplinary Program (RHIP) is designed to make rural practice a more attractive career choice for health professional graduates. The program trains students to practice interdisciplinary, rural, community-based health care. Each year RHIP brings together 75-100 students from 12 health professions—dental hygiene, occupational therapy, physical therapy, pharmacy, respiratory therapy, medicine, nursing, public health, medical laboratory sciences, speech language pathology, social work, and physician's assistant. RHIP has a high percentage of minority student involvement. In 2005, 56% of the student participants were of minority ethnicity. A 10 year study of 475 RHIP graduates revealed that 39% took jobs in rural communities and 50% were working in underserved areas.

Out-of-State Programs

Indians Into Medicine (INMED) – North Dakota[66]

Indians into Medicine (INMED) is a comprehensive education program assisting Native American students who are preparing for health careers. INMED is based at the University of North Dakota School of Medicine & Health Sciences in Grand Forks, ND. NMED support services include academic and personal counseling for students, assistance with financial aid applications, and summer enrichment sessions at the junior high through professional school levels. INMED was established in 1973 to help address the health care issues of American Indians by increasing the number of American Indian physicians and other health care professionals serving American Indians. As of 2005, the program has graduated 163 physicians. The program also enrolls students in nursing, clinical psychology and various other health specialties. A total of 317 American Indian health professionals have graduated through the INMED program, and many additional American Indian students have received career and academic advisement or referral from INMED staff.

Mountain View Medical Center – Wyoming[67]

Engaging the residents of rural Powell, WY was the key to Mountain View Medical Center's (MVMC) success. For years the medical community in Powell struggled with recruiting and retaining healthcare providers. Powell's residents commonly traveled long distances to more urban areas that could provide better access to healthcare services. MVMC had to make a change. It discontinued its relationship with a distant management company and elected officials who were residents of Powell to manage the assets of the hospital. MVMC created a practice setting that centered on recruiting and retaining physicians. The unified efforts of MVMC management and its community resulted in the hospital growing from one primary care provider and one surgeon who provided approximately 3,918 patient services in 1984, to eight primary care providers who provided 18,546 services in 2003. As of 2007, MVMC has 13 physicians and two physician assistants on st

[66] Sanford School of Medicine, University of North Dakota. MD Program: Indians Into Medicine (INMED), April 2008. http://www.usd.edu/med/md/inmed.cfm

[67] Richesin, Patricia L. FACMPE. Patient access to care in the rural healthcare setting partnering for success, American College of Medical Practice Executives, July 2004; Powell Valley Healthcare, Mountain View Medical Center, April 2008, http://www.pvhc.org/mvmc.htm