

Healthcare Labor Shortages and Potential Solutions

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The healthcare industry is in a unique position. It is the only industry in Montana that grew throughout the recession and continues to add jobs during our economic recovery. Although the healthcare industry has been vital to Montana's positive economic performance in the last few years, its continued growth is also a double-edged sword. Unlike sectors of the economy that lost jobs in the recession, which will have an existing pool of trained workers to pull from, the jobs in healthcare will require newly-trained additional workers. Many of the jobs in healthcare require higher education levels and considerable training, making them difficult to fill. For example, 51 of Montana's 56 counties are federally designated as primary care physician Health Provider Shortage Areas (HPSA) because of too few or no primary care physicians in these counties.¹ These shortages in highly-educated healthcare positions not only reduce the quality of care in our state, but also shift workloads and responsibilities throughout the healthcare labor market, resulting in less-educated positions picking up the slack. For example, education for nurses is becoming more extensive in an attempt to support better health outcomes and to take on some of the duties formerly performed by doctors. These increased job requirements require higher levels of education for nurses, which contributes to worker shortages in nursing.² Some nursing duties are then passed on to aides, who then also become in short supply, until the entire system is strained by an inadequate workforce to meet demand.

At its core, the worker shortage in healthcare is being driven by Montana's aging population, but there are also significant constraints in our education system that exacerbate the healthcare worker shortage and limit our potential to address the problem. This article discusses the drivers of the healthcare industry and the types of workers needed, examines the current barriers to filling healthcare jobs, and suggests certain opportunities to improve and build off the quality healthcare worker training systems that already exist to ensure a prepared workforce for our state.

Montana's aging population has cascading effects on overall demand for healthcare workers, with several influencing factors. First, according to the U.S. Census, 15% of Montana's population is 65 or older, while 29% are 55 and over, making Montana one of the oldest states in the nation. Older folks use a disproportionately larger share of healthcare in the U.S. In fact, those aged 85 and over consume three times as much health care per person as those aged 65-74, and twice as much as those aged 75-84.³ Montana's aging population will increase demand for healthcare services, thus increasing the number of workers needed. Second, new technology and

¹ DPHHS, November 2012.

² Institute of Medicine and the Robert Wood Johnson Foundation The Future of Nursing: leading Change, Advancing Health, October 2010

³ Fuchs V. Cambridge, MA: National Bureau of Economic Research, 1998 "Provide, Provide: The economics of Aging". NBER working paper no. 6642

advances in medicine have resulted in longer life expectancies, allowing all of us to live healthier, longer lives, but also allowing all of us to use more healthcare services than past generations. Third, the bulging baby boomer demographic also impacts the healthcare workforce because many baby boomers work in the healthcare field and will be retiring in the next several years, thus increasing the need for replacement workers. Healthcare has a higher proportion of older workers than other industries, with those 55 and over comprising 26% of the industry, compared to about 21% in total employment.⁴ Finally, the older population demands different services than other demographics, altering the mix and quantity of jobs needed in the healthcare field. More primary care physicians will be needed to diagnose the elderly and chronically ill, while demand will also increase for the nurses and home healthcare workers that typically carry out day-to-day treatment of older and chronically ill patients.

Some of the expected growth in healthcare may arise from the Affordable Care Act (ACA), which takes full effect in 2014. However, the amount isn't fully clear because of measures within the law aimed to increase efficiency, limiting the effect of increased demand from the expansion of health insurance to millions of currently uninsured Americans.⁶ Research suggests that as little as 15 percent of increased demand is going to be driven by new health insurance enrollees due to the ACA.⁷ Even though the ACA will expand coverage to almost 50 million people in the U.S. and about 180,000 people in Montana, this group tends to be dominated by healthier populations between the ages of 26 and 65.⁸

⁴ Some research has shown that for the same reasons described – better health later in life and longer lifespans – people are retiring later than in previous generations. Gallup's Economy and Personal Finance survey in 2012 suggests that the percentage of people expecting to retire after 65 is currently 39%, a large increase from just 12% planning on retiring after 65 when asked in 1995. The state of the economy also tends to play a role in these decisions, making the overall effect difficult to measure precisely.

⁵ http://mus.edu/data/briefs/Workforce_Development.pdf

⁶ The ACA is complex and comprehensive. Many of the measures in the law attempt to deal with labor productivity, and approach the issue of shortages by utilizing workers more effectively. This article focuses mainly on the supply of healthcare workers in Montana. A forthcoming publication from the Research and Analysis Bureau will have a more in-depth and comprehensive look at healthcare jobs and labor productivity issues.

Selected Healthcare Facts

- By 2025, 25% of Montana residents are projected to be 65 and older, equating to a Medicare population of over 250,000 people.
- Twelve counties have no Primary Care Physician (PCP), totaling 19,676 Montanans without a PCP in their county.
- In 2011, 34% of Montana's PCPs were 55 or older.
- 25% of all active Montana physicians are age 60 or older (higher than the national average) and face the possibility of retirement within the next five years.
- Approximately 421,416 Montanans—42%—live in counties with fewer PCPs than the national average (1,105 patients-per-PCP was the national average in 2011).
- Montana ranks 39th among all states in the number of PCPs per 100,000 people (100.1/100,000).
- 62% of all PCPs practice in just five counties – Yellowstone, Missoula, Gallatin, Flathead and Cascade. 39% percent practice in Billings, Missoula or Great Falls.
- 80% of graduates from Montana's nursing BAC programs worked in Montana for at least one quarter, with 68% working more than a year (2008/2009 graduation year).
- 53% of all types of MUS nursing graduates remained in the state to work for at least one quarter in the year following graduation in 2008/2009.
- In 2010-2011, the MUS produced 980 graduates in healthcare fields, accounting for 13.1% of the total graduates in the system, 2nd only to business students (13.4% of MUS graduates).
- 87% of the healthcare graduates were Montana residents, and 84% found employment in Montana within one year of graduating in 2010/2011.
- The average salary of healthcare graduates including all degree levels was \$39,800, 29% higher than the average MUS graduate of \$30,863.⁵

⁷ Carneyale, Anthony P., et al. Georgetown University Center on Education and the Workforce.

⁸ Kaiser Family Foundation State Health Facts 2011, <http://www.state-healthfacts.org/profileglance.jsp?rgn=28#>

Montana’s healthcare worker shortage is primarily driven by factors associated with the aging population.

Employment forecasts by the Montana Department of Labor and Industry’s Research and Analysis Bureau suggest that healthcare workers will be in high demand and short supply in the upcoming years. Figure 1 shows the 25 fastest growing healthcare jobs over the next decade. The projected worker needs are separated into two categories: growth resulting from increased demand for healthcare services, and replacements needed to fill job openings as workers retire or move into a different position. Because of the high proportion of older workers in healthcare, and the fact that the specific training in medical fields limits worker mobility across disciplines, we can be fairly certain most of these replacements are driven by people retiring and exiting the workforce.

Registered nurses (RNs) are the fastest growing occupation in the state and the most in-demand occupation in the healthcare industry, needing 300-400 new workers every year. The magnitude in demand for registered nurses is fairly striking, but is in part due to the sheer size of the current registered nurse labor force, employing about 8,000 people in 2012 and ranking as the 6th largest occupation in the state. Registered nurses have a broader spectrum of work duties than most healthcare employees, making them more flexible and in-demand. They are trained to perform many of the routine clinical and technological tasks, such as drawing blood and recording vital signs, but they are also often burdened with a lot of routine clerical work. Nurses also carry out the treatment plans of the chronically ill, who are often elderly. Lastly, one of the ways the healthcare industry is evolving to

Figure 1: The 25 Fastest-Growing Healthcare Occupations

	2012-2013 Annual		2014-2021 Annual		2011 Wage
	Replacement	Growth	Replacement	Growth	
Registered Nurses	134	280	166	379	\$60,185
Home Health Aides	45	228	53	224	\$20,636
Nursing Aides and Attendants	75	137	89	194	\$24,087
LPNs and LVNs	80	85	83	86	\$36,160
Dental Assistants	20	51	23	20	\$30,610
Medical Assistants	14	48	16	28	\$29,147
Physical Therapists	10	43	12	38	\$70,126
Dental Hygienists	13	41	15	19	\$64,805
EMTs and Paramedics	15	34	17	31	\$27,138
Physicians and Surgeons, All Other	20	26	21	24	\$217,140
Medical Records & Health Info. Technicians	16	25	18	26	\$31,806
Radiologic Technologists and Technicians	9	24	12	35	\$51,269
Pharmacists	24	22	26	26	\$102,318
Pharmacy Technicians	12	18	15	23	\$30,636
Chiropractors	15	15	16	10	\$59,062
Dentists, General	17	15	16	5	\$119,591
Family and General Practitioners	10	14	11	13	\$154,213
Respiratory Therapists	6	13	7	20	\$50,882
Physician Assistants	6	13	7	11	\$85,578
Healthcare Support Workers, All Other	8	12	9	12	\$29,670
Medical and Clinical Laboratory Technologists	10	11	12	13	\$55,382
Physical Therapist Aides	3	11	4	10	\$25,035
Total Jobs Demanded per Year	1,166	562	1,247	648	

Average Wage
2012-2013: **\$50,507**

Average Wage
2014-2021: **\$49,678**

address the shortage of primary care physicians is by transferring some of the workload to nurses. This not only increases the number of nurses needed, but also requires additional training for registered nurses, lengthening the time needed to train new workers.

Many of the top occupations are related to serving the needs of the expanding aging population. Home health aides, nursing aides and attendants work almost exclusively to serve the elderly. Licensed practical nurses (LPNs) and licensed vocational nurses (LVNs) support RNs in caring for the chronically ill, often in a nursing home setting. Physical therapists spend a large portion of their time serving seniors wishing to remain active later in life. The growth in these occupations falls in line with research suggesting increased demand for healthcare workers is dominated by the elderly population. Technicians and record keepers are also expected to be fast growing occupations. The growth in this area is the result of technological advances in equipment and the utilization of this by the Medicare population. Occupations like radiologic technicians, respiratory technicians, and lab technicians deal primarily with the elderly. These occupations tend to require a specific two-year degree to operate these tools, creating the need for a fairly specialized workforce.

Looking forward, Montana faces several limitations in filling future healthcare jobs. Because healthcare has been continuously growing over the last decade, there is no existing pool of trained workers to fill these positions. Therefore, the focus changes to the capacity and efficiency of the higher education system in training new workers to fill healthcare positions. Many jobs, like technicians, record keepers, and home healthcare aids, do not require high levels of education. Workers for positions with lower required training levels can quickly be trained to meet demand. However, the high level of education required for other healthcare jobs, such as RNs and physicians, limits how quickly workers can be trained and requires significant workforce planning. Medical training also demands a significant investment for those interested in the healthcare field. Although healthcare jobs tend to be more

stable and higher paying than other fields, the high cost for medical or nursing school often deters some potential workers. Adding to this challenge is the limited capacity of higher education throughout the state to train workers for medical jobs that require higher levels of education. Therefore, it is expected that the most difficult jobs to fill will be in primary care and registered nursing.

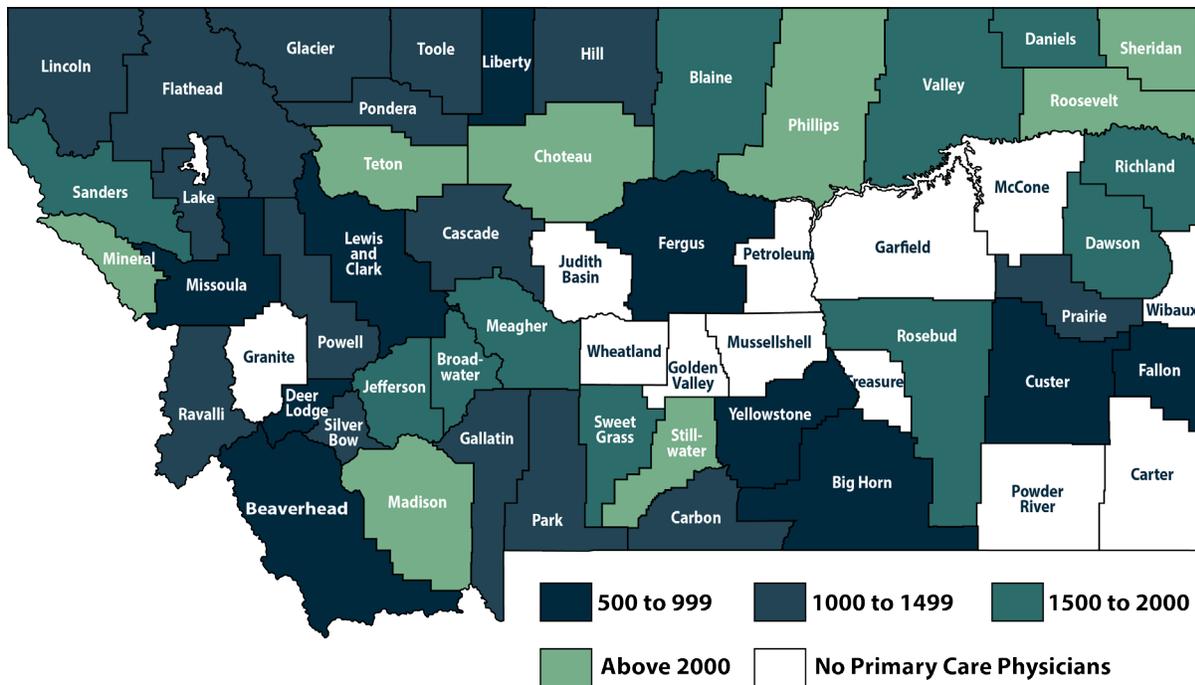
Throughout the nation, as well as in Montana, there is a shortage of primary care physicians (usually considered to include family medicine, general practitioners, pediatrics, and internal medicine). An estimated shortfall of 29,000 primary care physicians is expected by 2015 at the national level. Furthermore, 43 of Montana's 56 counties are below the national average patient-to-population ratio and 12 counties have no primary care physicians at all.⁹

Much of the shortage of primary care doctors arises because the doctors are retiring. Within the two categories of physicians and surgeons and family and general practitioners, there are almost as many doctors needed to fill replacements as there are from increased demand. Research using Montana Medical Association member data indicates that over 25% of the primary care physicians in Montana will be reaching retirement age within the next five years. In some ways, these replacement needs are more detrimental because as physicians retire and are not replaced, sometimes hundreds of patients will be left without a doctor. In other words, if there was a choice between not getting an additional doctor or losing a current doctor, losing the current doctor would bring more negative effects to the county in question.

The source of Montana's shortfall in primary care physicians is rooted in our lack of a medical school. While a medical school in a state with the population size of Montana would be extremely costly and likely inefficient, other options and an alternative structure currently exist. Montana currently is able to educate Montana residents through a cooperative

⁹ Montana Medical Association, active physician membership directory 2011.

Figure 2: Patient to Physician Ratio in Montana's Counties



medical education program at the University of Washington School of Medicine that involves residents from Washington, Wyoming, Alaska, Montana, and Idaho known as WWAMI. The WWAMI program educates students at a significantly lower cost than other education models and inspires students to practice primary care in rural areas, which is the highest area of need for physicians in Montana. Each year, about 50 Montana residents enter medical schools, and 20 of them are educated through the WWAMI program. Because the WWAMI program gives incentives to practice primary care, particularly in rural areas and at much lower cost than traditional medical schools, students are not overwhelmed with debt and are more likely to practice in Montana where salaries are significantly lower. Fifty-five percent of students from Montana graduating from the WWAMI program return to practice in Montana, while only 39 percent of Montana residents educated outside of the program end up returning to Montana. Currently, there are 20 slots available for Montana residents, the same number as when the program began in 1973. During the same time period, the state experienced about a 40% increase in population, roughly an addition of

300,000 Montanans. Because the framework is already in place, expanding the WWAMI programs slots and developing more incentives for enrollees to practice in Montana may be one of the most effective ways to increase the number of primary care physicians in the state and provide better health and preventative care to rural areas.

Montana's primary care workforce shortage is problematic to the healthcare system for many reasons. Too few primary care physicians make preventative care extremely difficult, leading to poorer health outcomes and more costly preventable procedures later. Poorer health outcomes increase the need for RNs to care for chronically ill patients. Further, the primary care physician shortage has been addressed by shifting responsibility to RNs, requiring more nurses, and also requiring that RNs be more highly trained. Because of these factors and because of the limited number of slots to train nurses in Montana's education system, graduating enough nurses to fill demand in the coming years is expected to be a challenge.

However, creative solutions are in the works. In September of 2012, Montana was one of only nine states to receive a two-year grant to study and facilitate better coordination in transferring associate degree-holding nurses into baccalaureate (BACs) trained nurses with the goal of having 80% of nurses trained at the BAC level by 2020. Currently, data constraints inhibit a quality estimate of the proportion of Montana nurses with a BAC. We do know that about 50% of nurses graduating in Montana between 2005 and 2010 are BAC trained.¹⁰ The Montana University System has numerous associate degree programs at various Montana college sites throughout the state. However, Montana State University in Bozeman and Carroll College in Helena have the only BAC nursing programs in the state, with the MSU program having a limited extension allowing some students to receive training in Missoula. Slots for BAC training are limited and competitive, and a waiting list exists.¹¹ The transfer of associate-level trained nurses to a BAC program has many positive attributes. From a workforce perspective, getting those with two years of training and work experience working to achieve two or three more years of education is more efficient than training students from the beginning and requiring four years. Therefore, increasing the proportion of BAC-prepared nurses in Montana will require an expansion of slots for traditional

four-year entrants as well as an expansion of associate to BAC capacity. Expanding the number of nurse training slots will be necessary in the coming decade and will have positive effects throughout the entire healthcare system by training a more efficient healthcare workforce.

Because of hard work in the past, Montana has been able to build an infrastructure to produce healthcare graduates with limited resources in non-traditional ways, such as the WWAMI program and streamlining the BAC credit transfer. The healthcare industry is robust and high-paying, with innumerable external benefits resulting in a healthier population. Healthcare graduates in the Montana University System find work faster, and remain and work in Montana after graduation at a higher rate compared to any other field in our university system. Yet, we are still not training enough workers to meet the demand for healthcare workers. Worker training is bottlenecked. Jobs are going unfilled. The healthcare worker shortage has negative effects on Montanan’s physical health, but also represents missed opportunities to individuals looking for a secure career in Montana. Dealing with the upfront costs associated with the expansion of healthcare education should be central in the debate about training an adequate healthcare workforce.

Figure 3: Montana University System nursing graduates by degree¹²

	Graduation Year				
	2005/06	2006/07	2007/08	2008/09	2009/10
Total MUS nursing grads	496	547	444	498	505
Total associates nursing degrees	266	352	235	280	285
Total BAC degrees	215	188	197	205	205
Total masters degrees	15	7	12	13	15
Associate % of all nursing degrees	54%	64%	53%	56%	56%
BAC % of all nursing grads	43%	34%	44%	41%	41%
Masters % of all nursing grads	3%	1%	3%	3%	3%
BAC or higher including Carroll College estimate average of 35 BACs annually	50%	40%	51%	47%	47%

¹¹ Carroll College also offers a BAC nursing degree, which graduated about 35 and 40 students in 2011 and 2012 respectively. Beginning in 2014 there will be BAC nursing program at the University of Great Falls, specifically geared towards moving associate nursing degree holders up to a BAC in nursing.

¹² For the most part, this table uses only Montana University System graduates from public universities. However, the last row is an estimate of Carroll College BAC in nursing graduates based on available 2011 and 2012 approximations.