

Where are the Workers?

What Licensing Data Reveals about Labor Distribution and Availability

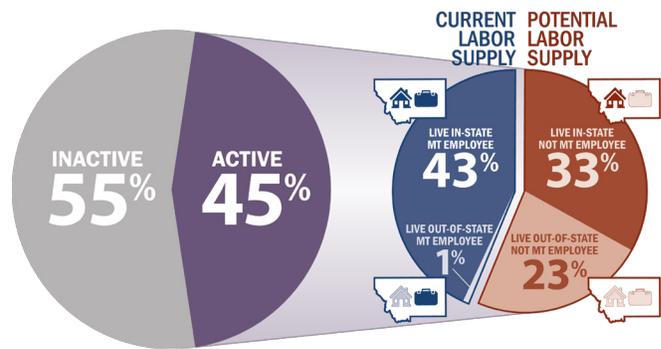
by Amy Watson, Economist

Montana is expected to experience a worker shortage in the years ahead as a large percentage of the population reaches retirement age, causing the size of the working-age population to stagnate. Montana has already begun to experience the high wage growth, low unemployment, increasing labor force participation rates, and increased job-to-job hiring that accompanies a worker shortage. As the labor market tightens, some employers may have more difficulty finding workers than others depending on their specific labor force needs and the local availability of workers. This article uses Montana’s database of professional licenses to measure the available workforce for licensable occupations and identify the regional distribution of worker supply to help shed light on certain areas of the state where the worker shortage may be more severe.

CURRENT AND POTENTIAL LABOR SUPPLY IN MONTANA

The total available labor supply for an occupation in Montana is equal to the number of people who have the skill set to work in the occupation. For licensable occupations, the total available labor supply can be measured as the number of people who hold an active license to practice the occupation. Currently, there are over 230,000 licenses in Montana issued from 40 boards and covering over 150 license types. Of the 230,000 licenses, about 45% are active, meaning they are held by individuals who are able to practice the occupation associated with that license. Only active licenses are considered part of the available labor supply. Individuals holding inactive or expired licenses may also be an available labor source, but they face an additional barrier of reapplying for their license.

PROFESSIONAL LICENSES ISSUED BY MONTANA



TYPES OF ACTIVE LICENSEES

CURRENT LABOR SUPPLY



LIVE IN-STATE, EMPLOYEE IN MT

Those who live in Montana, and are employed in Montana. A worker is considered employed if they earned wages from a Montana employer within the last year according to the Montana administrative wage records. Excludes self-employed workers.



LIVE OUT-OF-STATE, EMPLOYEE IN MT

Those who reside outside the state, but are employees of Montana businesses.

POTENTIAL LABOR SUPPLY



LIVE IN-STATE, NOT EMPLOYEE IN MT

Those who live in Montana, but are not employees of Montana businesses. Includes the self-employed, Montanans working in another state, and those who have exited the labor market.



LIVE OUT-OF-STATE, NOT EMPLOYEE IN MT

Those who do not live in Montana, and are not employed in Montana. They are licensed to perform work in the state, but are not an employee for a Montana business.

The total available workforce consists of current and potential labor supply. Current labor supply for an occupation is equal to the number of people currently working in the occupation. Of the hundred thousand active licensees, about 43% are held by individuals who live in Montana and are employees in the state. They are doctors, nurses, electricians, CPAs, and architects living and working in Montana. These individuals have already been recruited into the workforce and their services are currently being used by Montanans. Another 1% of active licensees are individuals who live outside the state, but are employed in Montana. These individuals are also active members of the workforce in Montana and help alleviate the worker shortage. All active licensees who are employed in Montana make up the current worker supply in the state.

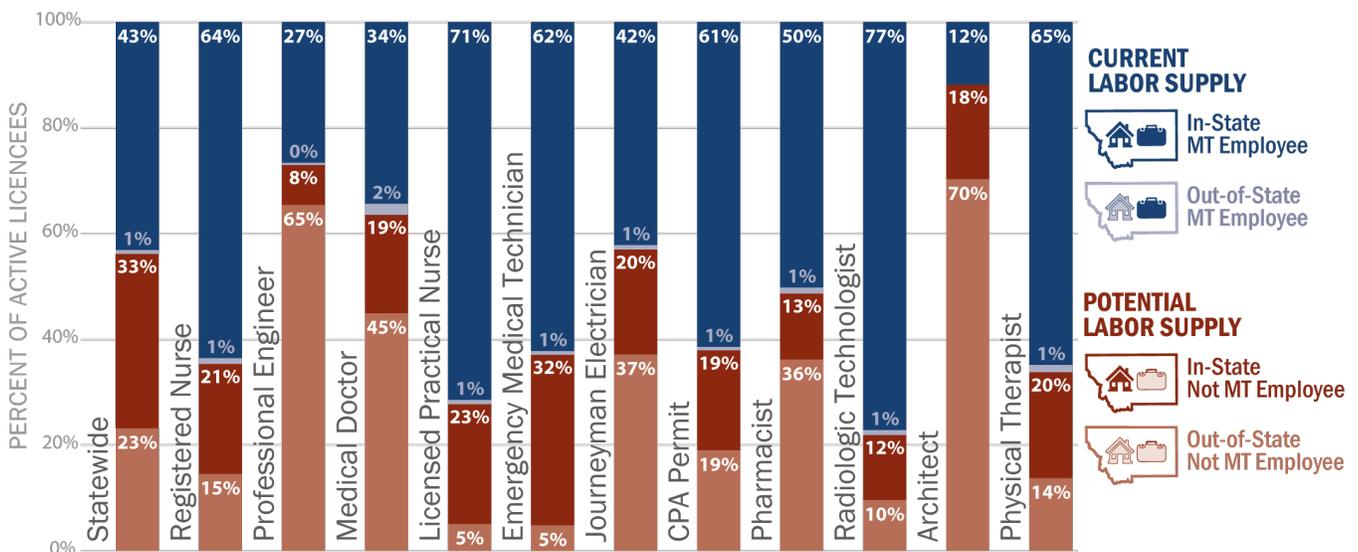
Another 33% of active licensees are living in Montana but are not employees of Montana businesses. These individuals could be self-employed, working in another state, or they could have chosen to exit the labor market in pursuit of other personal endeavors. If active licensees are self-employed and working in

Montana, they are a part of the current labor supply. Licenses where self-employment is fairly common are cosmetologists, booth renters, massage therapists, and realtors. For licenses associated with occupations that typically require an employer, active licensees who live in Montana but who are not employees represent potential labor supply. These individuals are actively licensed and could quickly move into the labor market if needed. It would be relatively inexpensive for those individuals to enter the workforce because they are already licensed and living in the area where they would serve.

Active licensees who live outside the state are another potential source of labor. Twenty-three percent of active licenses are held by individuals who live outside the state and are not employees of Montana businesses. As the labor market continues to tighten and more job opportunities become available, these professionals could move to the state. In some occupations, active licensees may not need to move to Montana to provide services. Occupations like CPAs, engineers, and architects have greater labor mobility because they

Figure 1

Active Licensees by Residence and Employment Status



SOURCE: Montana Department of Labor and Industry (MT DLI) Business Standards Division licensure data. Data on employment comes from the MT DLI Unemployment Insurance Division administrative wage records.

NOTE: Data provided is a count of all active licenses as of 10-19-2015. Individuals who hold multiple active licenses may be counted twice.

do not always have to be physically present to provide services. In occupations where the labor force is more mobile, it will be easier to recruit the services of active licensees to Montana.

STATEWIDE LABOR SUPPLY BY OCCUPATION

Figure 1 shows the current and potential labor supply as a percentage of active licensees for licenses associated with occupations that typically require an employer. The smaller labor supply is relative to demand, the tighter the labor market will be for an occupation. All of the license types in **Figure 1** have a relatively low percentage of potential labor supply living in Montana. As the worker shortage becomes more severe across the state, current labor supply should make up an increasingly larger percentage of an occupation's total available labor.

Additional supply of professional engineers, architects, and medical doctors will most likely come from active licensees who live out-of-state (see **Figure 1**). Sixty-five percent of actively licensed engineers, seventy percent of actively licensed architects, and forty-five percent of medical doctors live outside of Montana and are not employees in the state. Recruiting out-of-state workers for these occupations will be one of the best sources of additional labor.

Conversely, the best source of labor supply for occupations like Emergency Medical Technicians (EMTs) and Licensed Practical Nurses (LPNs) will probably come from within Montana. Most of the potential labor supply of EMTs and LPNs live in Montana. To recruit active licensees into the workforce across all occupations, employers will need to provide incentives, such as higher wages and more flexible work schedules.

REGIONS WITH WORKER SHORTAGES

The availability of labor in Montana varies by region. Less densely populated areas of the state have access to fewer workers, making it difficult for Montanans to

receive specialized services and causing an additional workload to be placed on existing employees. The severity of the worker shortage varies by occupation, but the Eastern region generally has the fewest licensees per person (see **Figure 2**).

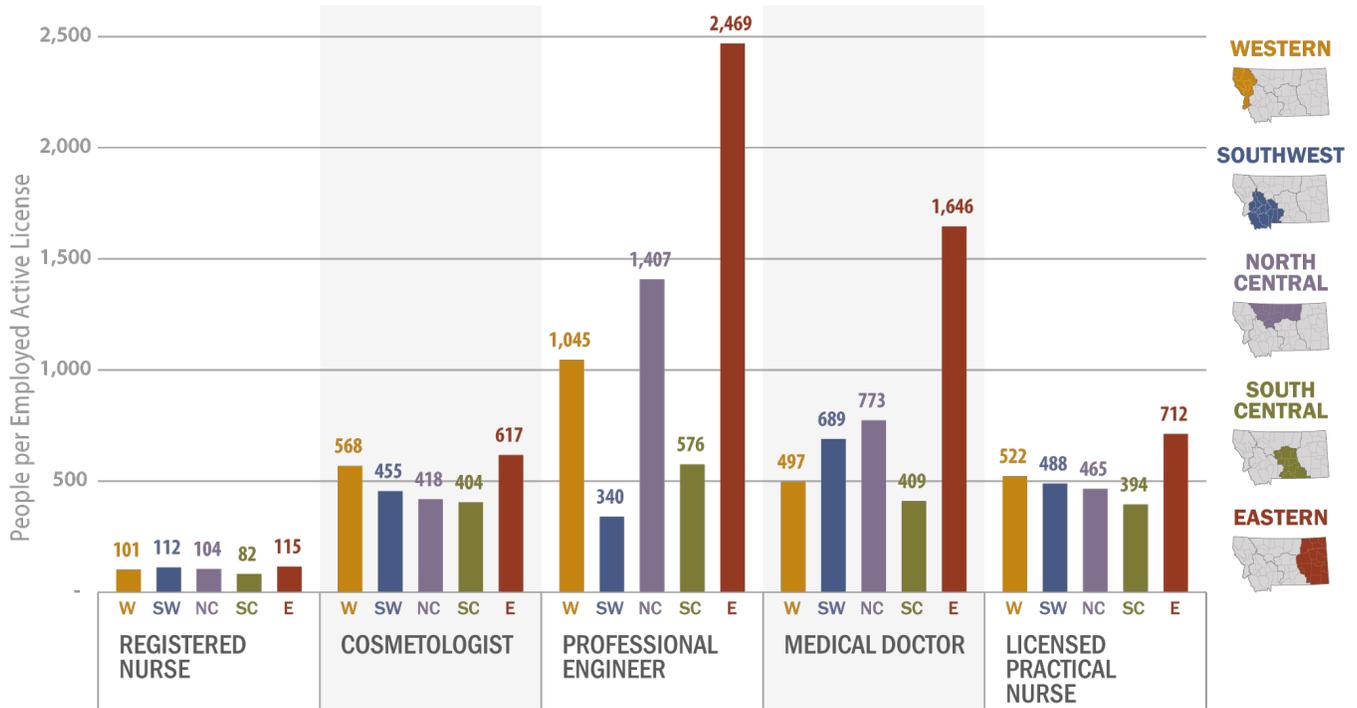
Actively licensed and employed registered nurses in Montana are relatively evenly distributed across the state's population. The even distribution suggests that there is not one area of the state where the worker shortage is more severe than other areas. The Eastern region has the fewest RNs per person, and the South Central region has the most. On average there is one RN employed per 115 people in the Eastern region, and one RN per 82 people in the South Central region. However, not all actively licensed RNs are employed as registered nurses. Some RNs may be working in education, or administration and do not provide nursing services to Montanans. Therefore, the actual regional distribution of the current supply of RNs may differ from the distribution shown in **Figure 2**.

Cosmetologists and LPNs are also relatively evenly distributed across Montana's population, although larger differences emerge for these occupations than for RNs, suggesting that some areas may not have enough workers to meet the demand for these services. For both license types, the most licensees are located in the South Central region, and the fewest are located in the Eastern region. LPNs are almost twice as concentrated in the South Central region than in the Eastern region. LPNs who live in the South Central region (which includes Billings) probably travel to the Eastern region to provide services. Labor force mobility among licensees will help alleviate the worker shortage in more rural areas of the state.

The supply of professional engineers tends to be concentrated in the Southwest and South Central regions of the state where many engineering employers are located. Engineering firms may be co-locating to take advantage of proximity to educational institutions that specialize in engineering and an experienced local labor

Figure 2

People per Employed Active Licensee by Region for the Most Common License Types



SOURCE: Montana Department of Labor and Industry (MT DLI) Business Standards Division licensure data as of 10-19-2015. Population data comes from the U.S. Census Bureau 2014 county-level population estimates.

NOTE: An active licensee is considered employed if they earned wages from a Montana employer within the last year according to the Montana administrative wage records. If a licensee is self-employed they are not considered an employee and their earnings would not be included in the wage records.

supply. The demand for professional engineers does not vary as much with the population like the demand for the other licenses shown in **Figure 2**. Engineering firms produce services that can be distributed across regions fairly easily. The concentration of engineers in a few regions of Montana does not necessarily indicate an engineering shortage in the other regions. Those regions could be receiving services from the engineering firms located in the Southwest and South Central regions of the state.

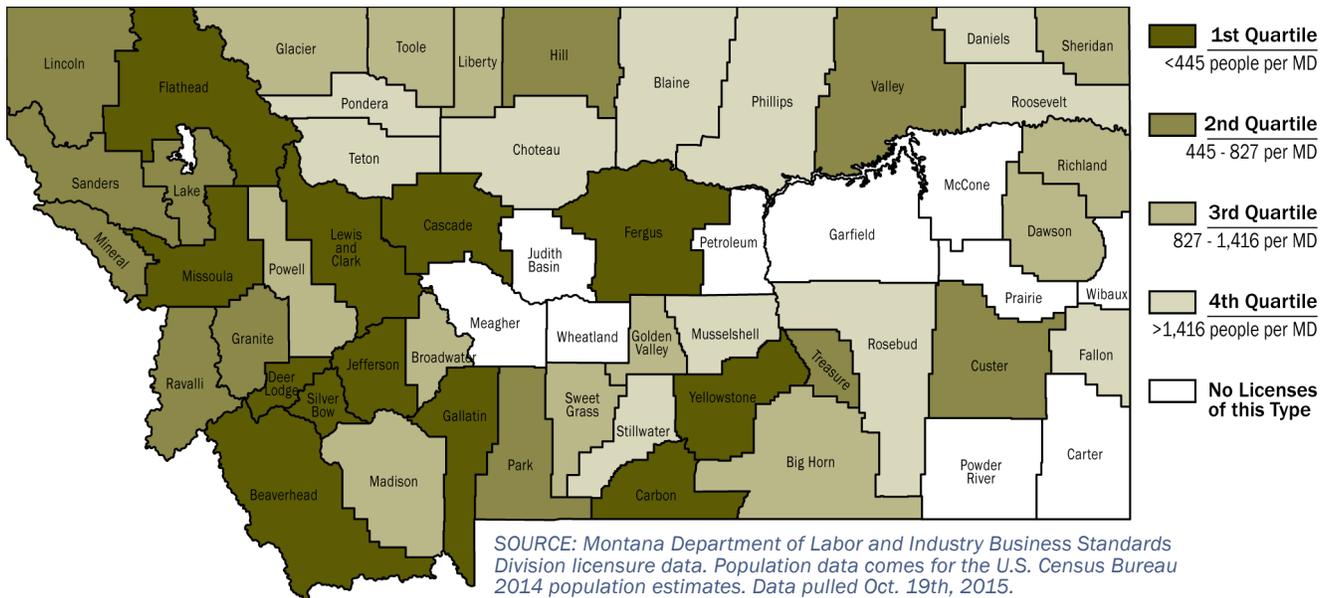
The most dramatic difference across regions occurs with medical doctors. In the Eastern region of Montana, there is only one actively licensed and employed doctor for every 1,600 people. The number of people per doctor in the Eastern region is significantly higher than all other regions, suggesting the shortage of doctors is more severe in that region. **Figure 3** shows a map of the distribution of available medical doctors in each county. The map is colored based on quartiles, where

white indicates that there are no medical doctors living in the county. The map includes both doctors who are actively licensed and practicing in the county and doctors who are licensed, but not currently practicing. The licensed doctors not currently practicing represent potential labor supply that could quickly move into the market if needed. Of the 16 counties that make up the Eastern region, six do not have a medical doctor living in the county and another four have less than one medical doctor for every 1,400 people. Half of the counties in the North Central region also have less than one medical doctor for every 1,400 people. Residents of these more rural counties may experience longer wait times and rising costs of doctors services compared to other regions.

For the majority of licensable occupations in Montana, the supply of workers is most limited in the Eastern region. This is true for paramedics, dentists, occupational therapists, behavioral health clinical

Figure 3

Actively Licensed Medical Doctors per Person by County



professionals, fire protection, medical gas plumbers, and physical therapists to name a few. Paramedics have the most severe worker shortage in the Eastern region, where there is only one actively licensed paramedic per 7,000 people. In other regions of Montana there is at least one paramedic per 2,000 people. There is also a shortage of dentists in the east compared to other regions. On average, there is only one actively licensed dentist per 4,600 people in the Eastern region. Even in regions where dentists and paramedics are more concentrated, employers may still feel the effects of a worker shortage. In areas where dentists and paramedics are most concentrated there is only one for every 2,000 people.

SOLUTIONS FOR WORKER SHORTAGES

Greater labor force mobility helps alleviate the severity of the worker shortage. Greater mobility allows Montanans in all corners of the state to receive the services they demand. Labor force mobility can be improved through ease of travel to more remote areas of Montana, or through technological advancement that make it easier for active licensees to provide services to under served areas. Occupations where individuals are

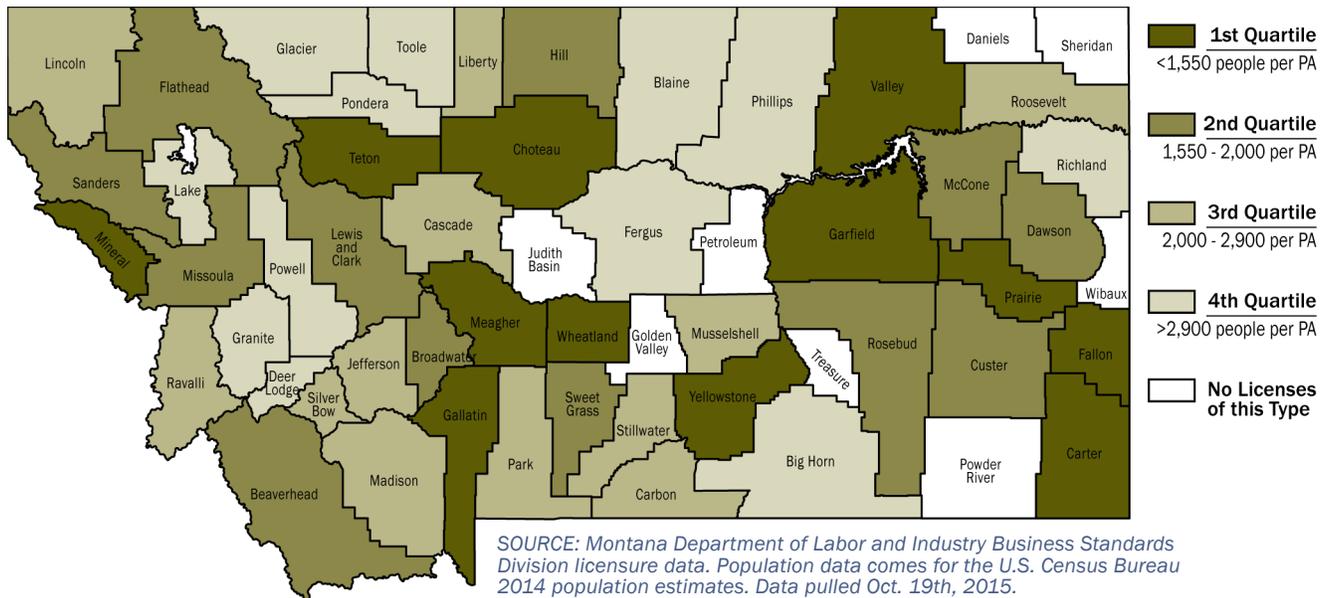
not required to meet with clients in person to provide services are also more mobile.

However, for some licenses types it is too costly for active licensees to travel to under served areas of the state. In these cases, Montanans may look for labor substitutes. For example, residents of counties with few doctors may be receiving healthcare services from other professionals such as physician assistants (PAs). PAs can provide primary care like medical doctors, and can be a cheaper alternative to hiring a doctor in regions of the state where labor markets are particularly tight. The distribution of PAs in Montana suggests they are more concentrated in counties where there are few medical doctors per person. **Figure 4** shows the distribution of actively licensed PAs in Montana. When compared to medical doctors, it becomes clear that counties under served by medical doctors are substituting the services of a physician assistant to meet consumer needs.

Figure 4 suggests rural counties in Montana may be substituting PAs for doctors. However, in many counties, there are fewer PAs than doctors. In counties that are considered to have the highest concentration

Figure 4

Actively Licensed Physician Assistants per Person by County



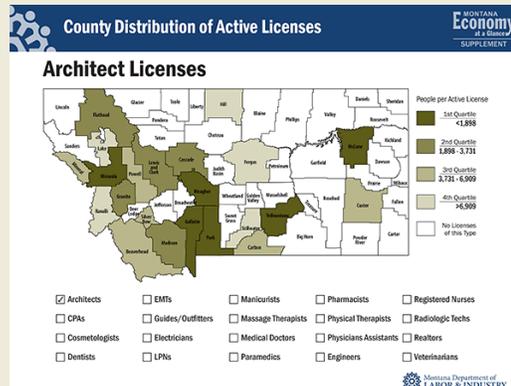
of PAs, there are still only one PA per 1,500 people. Although PAs are an alternative way to provide healthcare services, the licensure data does not suggest there are enough PAs in the under served areas to compensate for the lack of medical doctors. In most cases, to alleviate a worker shortage, both labor mobility and substitutability are required.

In order for Montanans to overcome a worker shortage, it is important to focus on recruiting the available workforce and making them more mobile to serve all areas of the state. Consumers in under served areas may need to recruit services from other areas of the state to meet their needs. Employers that are living in rural areas where the shortage is more severe may need to offer higher wages, better benefits, or more flexible work schedules to recruit and retain qualified employees. Employers that have the resources to provide employee-training will have more flexibility in hiring, and may not feel the labor market tightness other employers will.

The Montana Department of Labor & Industry offers many resources to help match workers and employers. Information about local labor markets and training opportunities is available on the MT DLI website (dli.

mt.gov), or at any of the 23 local job service offices throughout the state. The Business Standards Division of the Montana Department of Labor & Industry also provides a [searchable list](#) of licensed professionals on their website.

Interactive Map Online Supplement



Want to see where active licenses are concentrated in Montana? Our interactive map lets you choose among 20 licensed occupations. Just click the link below or type the address into your browser.

mi.mt.gov/media/98048/licensemap-eag1015.pdf