

Evaluating Healthcare Access for Migrant Agricultural Workers

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- Occupational illness and injury rates are high in the U.S. agricultural sector.
- Spatial correlations are low between migrant health centers and population concentrations of H-2A workers.
- Furthermore, migrant health centers are scarce in areas with high environmental risks, suggesting that many H-2A workers are underserved.

Overview

The H-2A visa allows agricultural employers, in the face of a labor shortage, to bring foreign workers on a temporary or seasonal basis. Agricultural work has been long-documented to be dangerous (e.g., McCurdy and Carroll, 2000) and concerns about disproportionate injuries and illnesses in comparison to alternative occupations persist through today (e.g., Adhikari, et al., 2024; Pena, 2025).

Migrant health centers (MHCs) provide specialized medical services for migrant populations. They are equipped to address specific occupational health concerns for migrant agricultural workers, e.g., reactions to pesticides. Analyzing correlations between the numbers of H-2A workers, the quantity of MHCs, and indicators of environmental risk at low geographic levels provides insight into the spatial match, or mismatch, between the supply and demand sides of dedicated healthcare to farmworkers.

We focus on the six-state region of Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming that is served by the [High Plains Intermountain Center for Agricultural Health and Safety \(HICAHS\)](#). HICAHS and partners with Colorado State University’s [Geospatial Centroid](#) have aggregated county-level data on H-2A workers from the U.S. Department of Labor with information on healthcare accessibility from the National Center for Farmworker Health and a wide variety of geographic indicators for climate and environmental risk from ArcGIS Living Atlas and other sources.

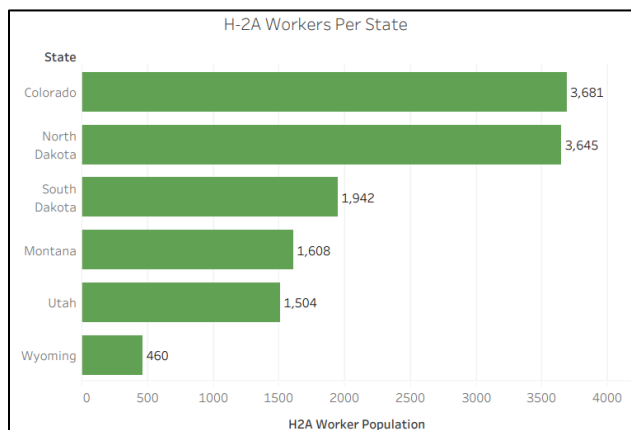


Figure 1: Number of H-2A workers by state

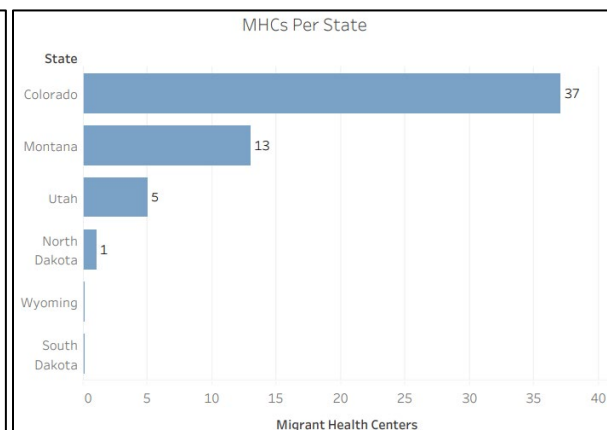


Figure 2: Number of MHCs per state

Migrant Workers and Healthcare Supply

In 2023, there were 12,840 H-2A workers and 56 MHCs across the focal states. Worker populations varied from 460 workers in Wyoming to more than 3,600 in Colorado and North Dakota (Figure 1). MHCs varied from zero in South Dakota and Wyoming to 37 facilities in Colorado (Figure 2).

Comparisons between where migrant farm workers and where migrant health centers are located show that the relationship is weak (Table 1). Across the HICAHS region, the statistical correlation (tau) is 0.113 (or 0.055 when adjusted for square miles). The correlation scale is from -1 to 1, with zero indicating no direct association. All within-state correlations are positive, indicating that there are more MHCs in counties with more workers. However, these correlations are all less than 0.5 signifying relatively weak connections. Wyoming and South Dakota are excluded due to the absence of MHCs.

Correlation Between H-2A Workers and MHCs		
State	Tau	Tau: Per Sq. Miles
HICAHS Region	0.1130	0.0550
Colorado	0.3250	0.2950
Montana	0.3590	0.2580
North Dakota	0.4730	0.4860
Utah	0.1960	0.3550

Table 1: Correlation between H-2A workers and MHCs, raw and weighted by square miles

Colorado can be used to illustrate potential gaps in health care services. Colorado has the highest number of MHCs, but the second lowest correlation between these MHCs and the H-2A worker population. Adams County, for example, has the highest population by county but only two MHCs. Mesa County has the second-most H-2A workers with no MHCs at all.

Exposure to Fire, Drought, and Heat

Many migrant workers live and work in areas with the looming environmental risks of wildfires, droughts, and heat waves and this is true within the mountain west region. In fact, Colorado’s Department of Labor and Employment formalized regulatory standards for heat-related illness and injury protections on farms (e.g., provision of water, shade, rest) in 2022 via new Agricultural Labor Conditions Rules (7 CCR 1103-15).

Since heat-related health conditions are of ongoing concern for farmwork and can require medical treatment, we continue our analysis by exploring correlations between worker locations and risk factors. Table 2 illustrates patterns suggestive of worker concentrations in areas vulnerable to drought (especially in Colorado, Montana, and North Dakota) and in areas sensitive to heat waves (especially in Utah). Table 3 then shows that correlations between MHCs and risk factors are low in general, meaning that in general there are not more facilities in counties where exposure is more prominent.

Correlation Between H-2A Workers and Wildfire/Drought/Heatwave						
Exposure	Colorado	Montana	North Dakota	South Dakota	Utah	Wyoming
Total Wildfire	0.1810	0.0330	0.3020	0.0020	0.4750	-0.0760
Total Drought	0.4310	0.4550	0.4860	0.1460	0.3900	0.1730
Total Heat Wave	0.1960	0.1450	0.3490	0.2590	0.4130	0.2040

Table 2: Correlations between H-2A worker counts and environmental exposure

Correlation Between MHCs and Wildfire/Drought/Heatwave				
Exposure	Colorado	Montana	North Dakota	Utah
Total Wildfire	0.0720	0.3520	-0.0220	0.2070
Total Drought	0.4120	0.1700	0.1870	0.1810
Total Heat Wave	-0.1220	0.2320	0.0910	0.2930

Table 3: Correlations between migrant health centers and environmental exposure

Conclusion

Our definition of MHC provides a lower bound on locations where farmworkers may have access to care. MHC information comes from the National Center for Farmworker Health, which reports on specific sites that provide health care services to migratory farmworkers regardless of legal status or ability to pay. Health departments and other community health clinics in rural areas may provide additional services, and some primary care clinics also receive grant funding to support migrant health. Furthermore, H-2A worker totals provide a lower bound for the number of agricultural workers in any given location.

Still, the analysis indicates potential misalignment between the distribution of MHCs and the concentration of H-2A agricultural workers across six western states. Gaps may be seen as particularly concerning in places with higher environmental risk factors, such as wildfires, droughts, and heat waves. Given the specialized healthcare needs of migrant agricultural workers who face occupational and environmental health risks, areas with high concentrations of H-2A workers and elevated exposure to environmental hazards could be prioritized in future planning of MHCs. Expansion of MHCs, guided by data on worker population density and climate exposure, could improve the effectiveness and availability of care to support both public health and the quality of life for agricultural workers and their families and for rural communities broadly.

References

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