



Exploring Healthcare Workforce Projections in Minnesota



A customized report produced by the Office of Academic Clinical Affairs (OACA) and U-Spatial using Human Resource Service Administration (HRSA) data

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OFFICE OF ACADEMIC
CLINICAL AFFAIRS

UNIVERSITY OF MINNESOTA
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Past Trends

To explore past trends in healthcare workforce availability and their regional variations, we aggregated county-level healthcare provider data (1) to Planning Areas – the official federal configuration for Minnesota substate geographies (2). *Number of Providers* in a given Planning Area equals to the total number of providers in counties comprising this Planning Area. The professionals availability *Rate* for the Planning Area is the total number of professionals in the Planning Area divided by the total population (and then multiplied by 10,000). We note that using the *Rate* values might be more appropriate for assessment of regional disparities in healthcare workforce availability given the differences in total population across the geographies.

Key findings:

- Time series for most geographies and professions show slight positive trends after normalizing by total Planning Area population. This indicates an overall increase in the availability of providers over time.
- Although the Metro Planning Area has the highest total *Number of Providers* for all examined professions (which is expected considering its total population), the *Rate* of primary care providers (Nurse Practitioners, Physicians, and Physician Assistants) has been consistently higher in the Southeast Planning Area.

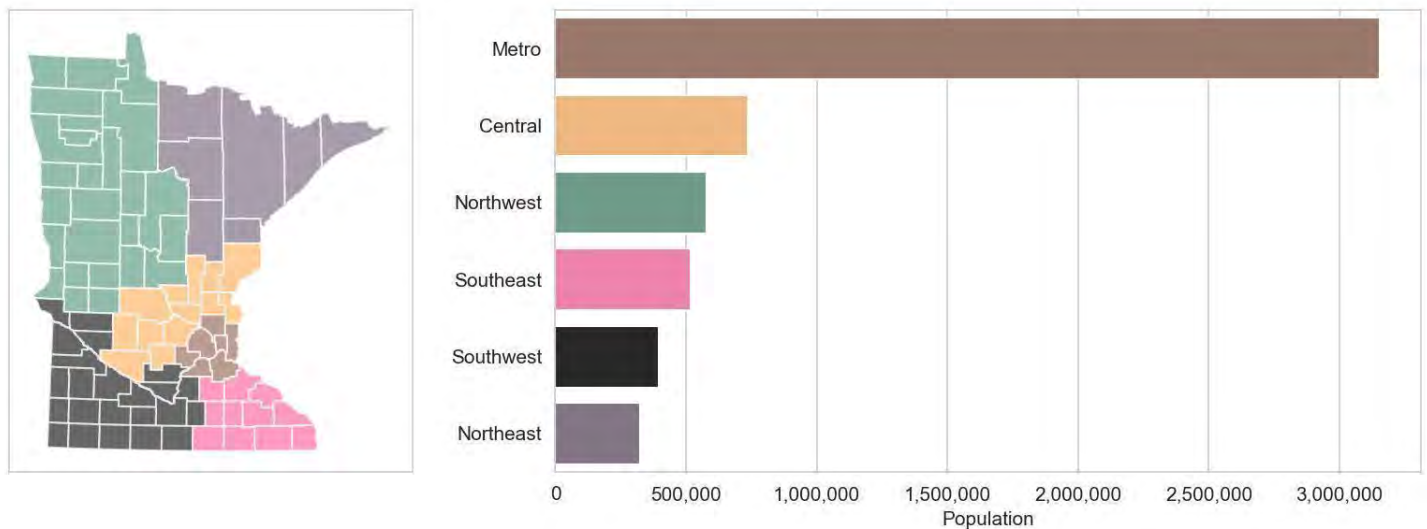
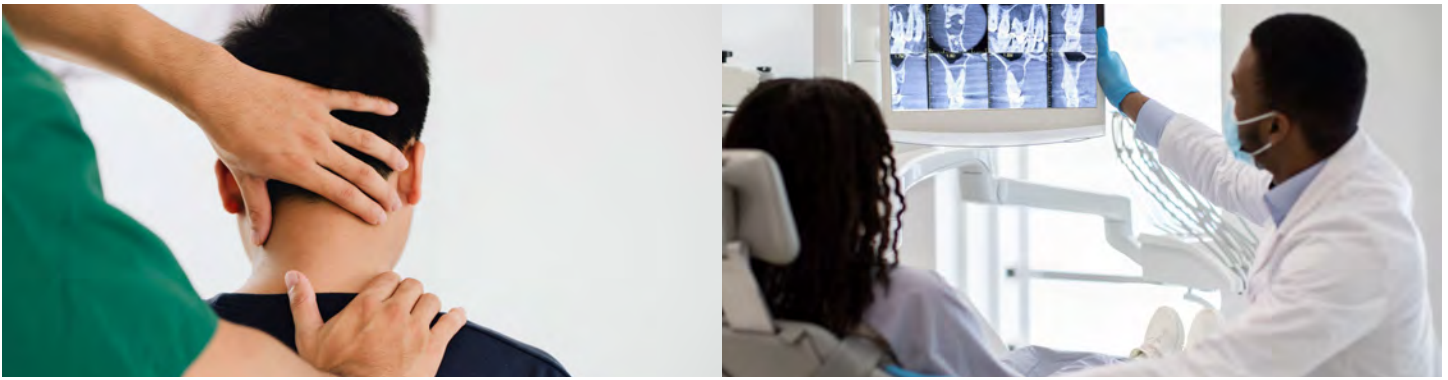
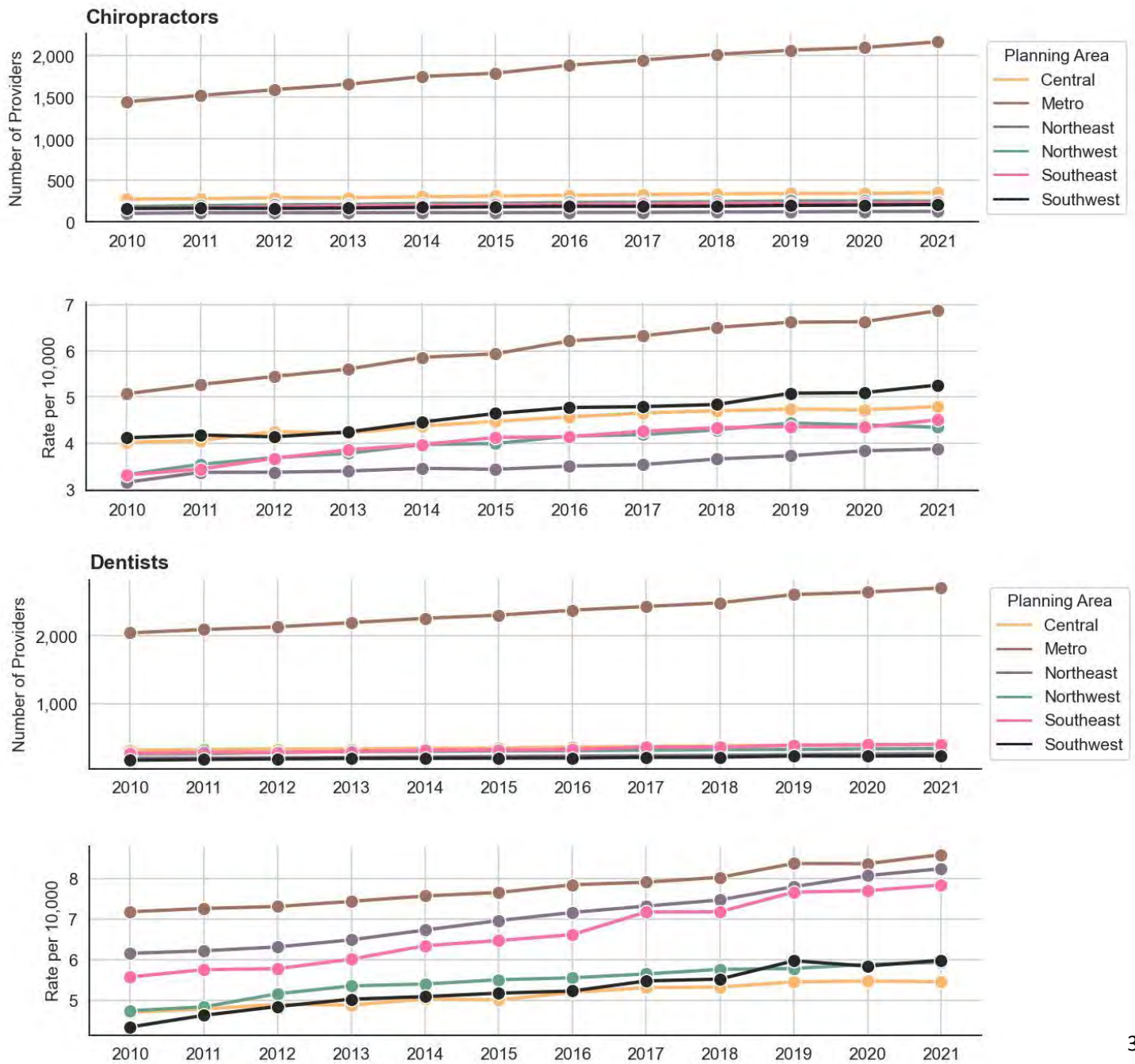


Figure 1. Population of regions in Minnesota

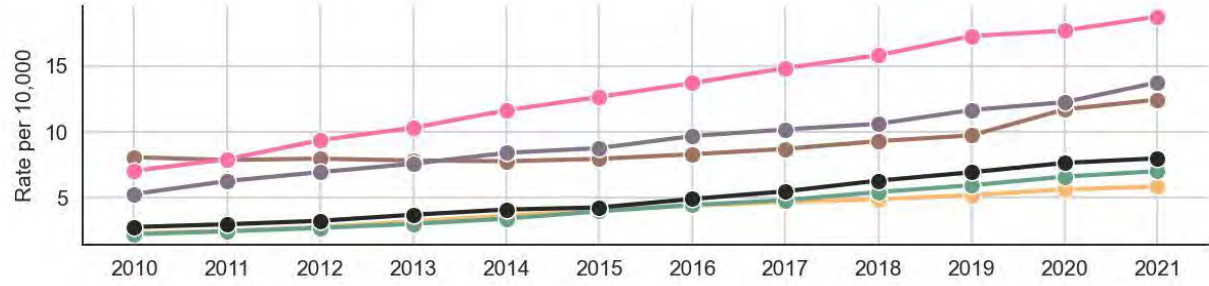
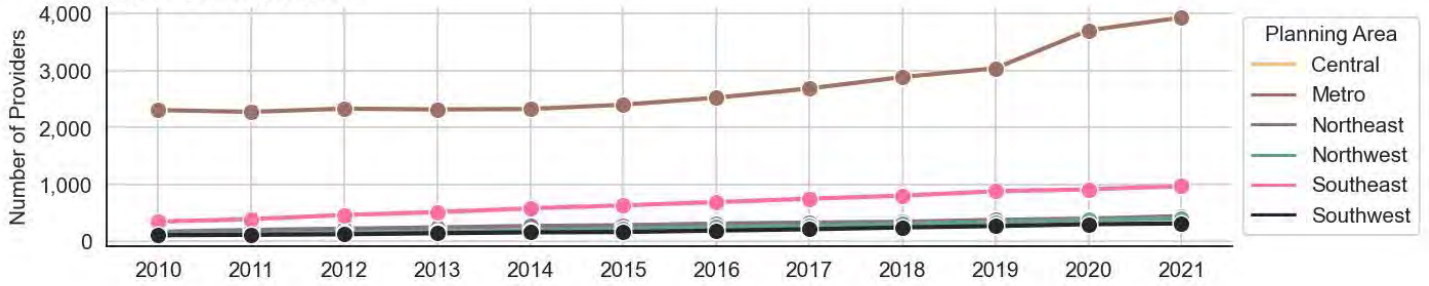


Number and Rate of Select Providers

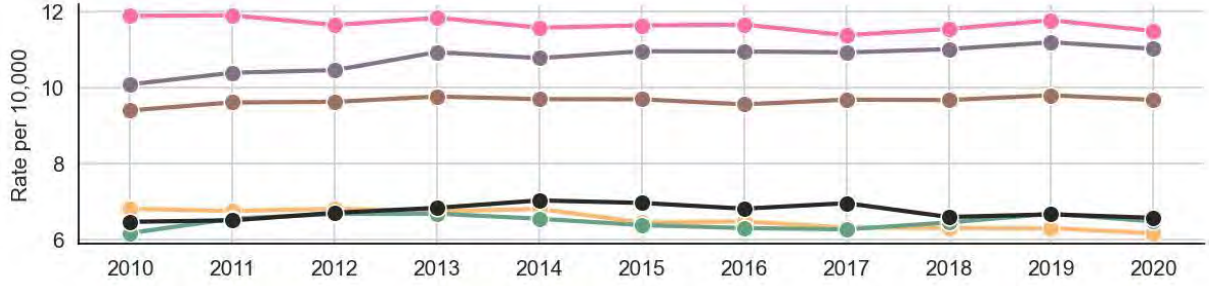
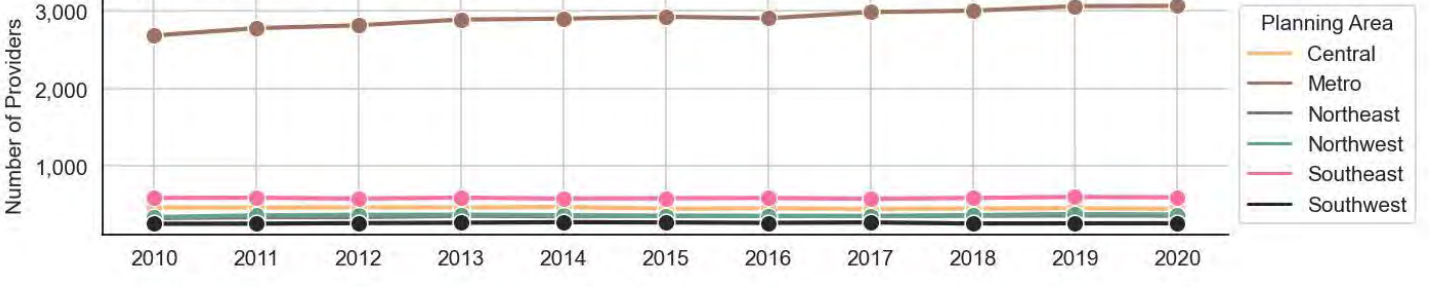




Nurse Practitioners

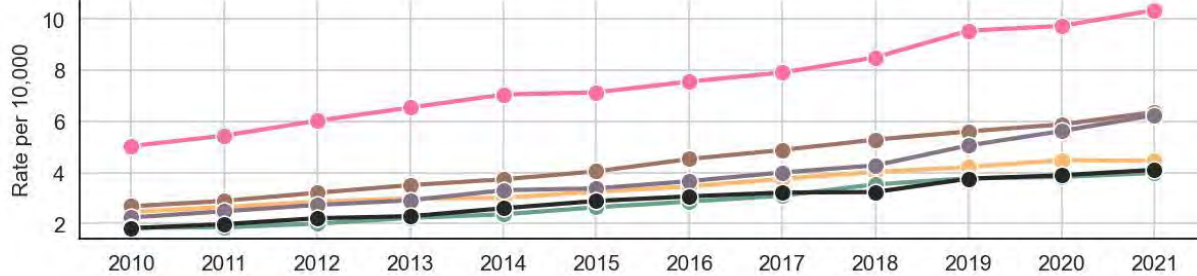
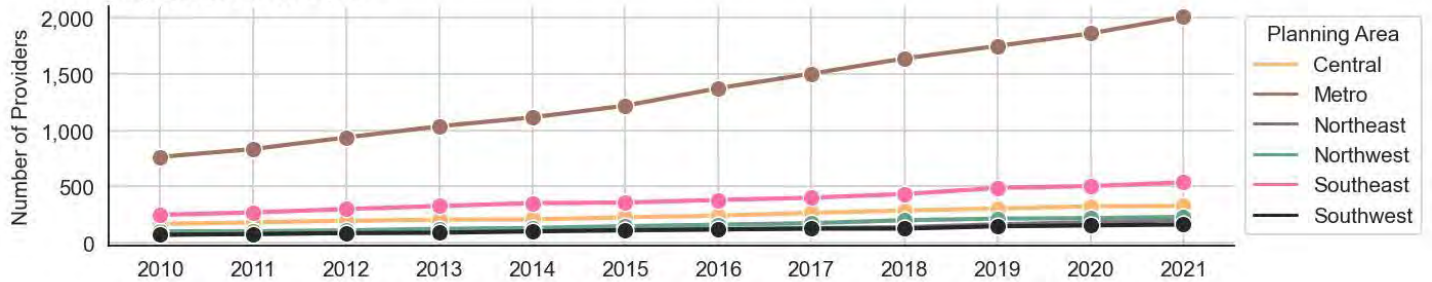


Physicians, Primary Care, Patient Care





Physician Assistants





Future Trends

Future workforce trends at a state level for Minnesota are based on the dataset produced with the Health Workforce Simulation Model (HWSM) that describes projected workforce for numerous healthcare professions from 2021 to 2036 (3).¹ The primary objective of the HWSM is to assess the adequacy of the nation's projected workforce supply to meet the demand and prevent shortages and surpluses. Line plots presented below show projected estimates of supply and demand measured in full-time equivalents (FTEs) for specific provider and healthcare professional groups. To draw meaningful conclusions from the visualizations presented in this report, we recommend getting familiar with the methodology behind the HWSM (see references). Note:

- All up to date available data for the Minnesota healthcare workforce are summarized below.
- HRSA labels certain professions in atypical ways; our report mirrors most of those labels although they are not necessarily how we describe our professions in typical day to day workforce discussions.
- We have included national trends to characterize Minnesota projections in the context of the national healthcare workforce availability. This approach of comparative analysis allows us to make a more informed assessment than would be possible examining Minnesota projections alone.

Although these are the most thorough predictive data available for many healthcare professional groups, there are some important data considerations and limitations to note:

- The impact of COVID-19 (late 2019-present) is only partially considered because many implications, for example, long-COVID-19 symptoms, are not yet well understood with respect to workforce trends.
- The possibility of care migration is not incorporated into the model and it is likely that some people may receive care outside of or away from their residence area.
- The model is largely based on projecting current healthcare use and delivery patterns, but changing technology, market forces, and many other factors can and likely will disrupt these patterns.
- High supply at a state level does not account for potential disparity in provider distribution at smaller geographic scales, and unfortunately, HRSA does not provide projections data that are more granular than state-level.
- When supply exceeds demand, there could be under-employment of healthcare workers in certain geographical areas.

¹ For this report we used workforce projections data released in October 2023; at that time updated nursing professions data were not yet published. A separate nursing report will be provided when those data are released.



Key findings:

- Future healthcare workforce availability in Minnesota varies across specialties. For most professions we observe an increase in the availability of providers (supply). At the same time demand also generally exhibits a positive trend highlighting the importance of developing planning strategies to mitigate shortages and surpluses.
- There is a projected shortage in Minnesota for some professional groups, such as Hospital Medicine Physicians (the job class title HRSA uses), General Internal Medicine Physicians, Pediatricians, Pharmacy Technicians, Physical Therapists, Respiratory Therapists, Speech-Language Pathologists, Dental Hygienists, and several behavioral health occupations (see details in data below).

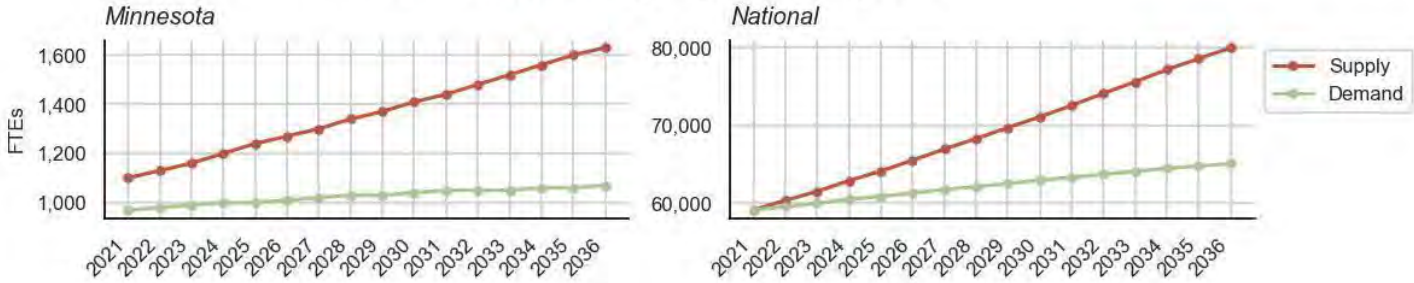


All Health Workforce

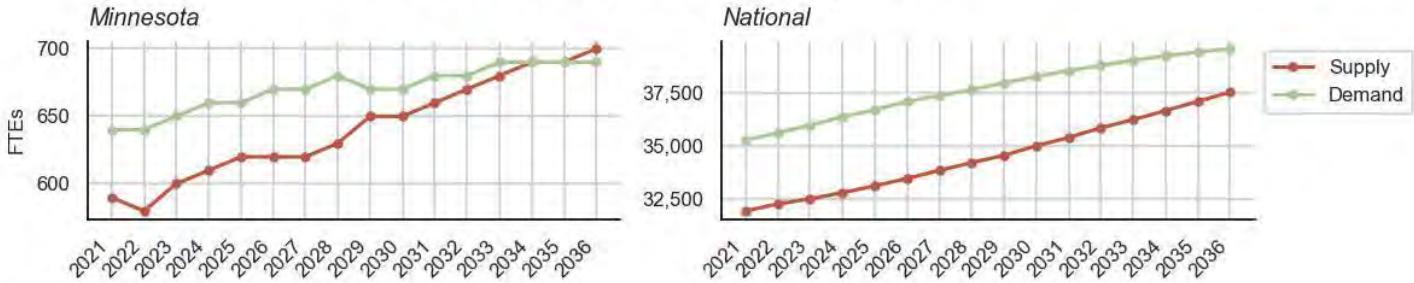
Key Takeaway

We expect shortages at both Minnesota and national scales of Anesthesiology Physicians and Hospital Medicine Physicians. On the other hand, a surplus of providers is expected for Emergency Medicine Physicians and Physician Assistants. Availability of Orthopedic Surgery Physicians will be sufficient in Minnesota but inadequate on a national scale.

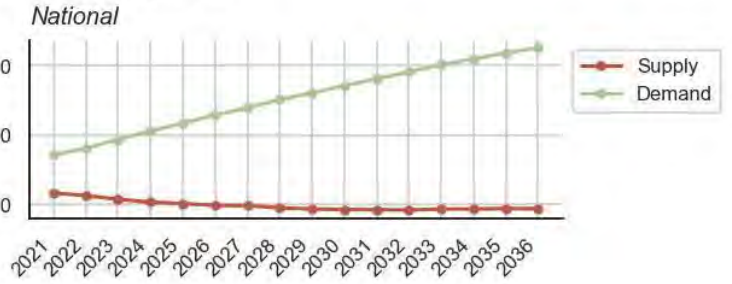
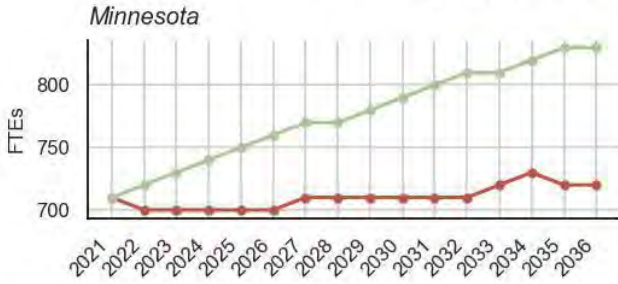
All Health Workforce - Emergency Medicine Physicians



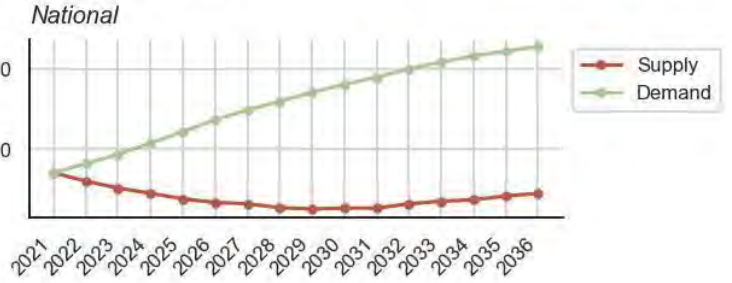
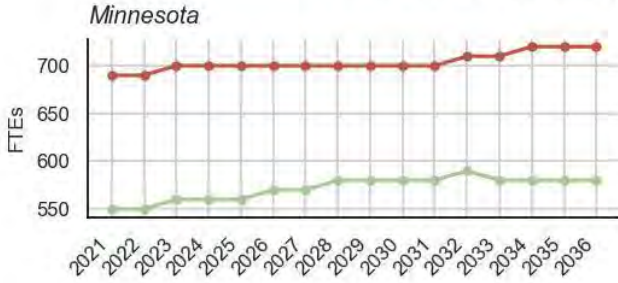
All Health Workforce - General Surgery Physicians



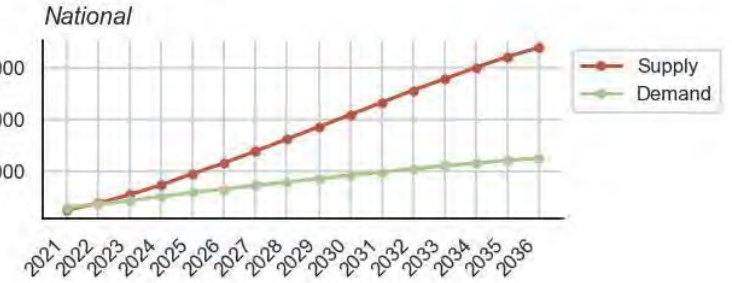
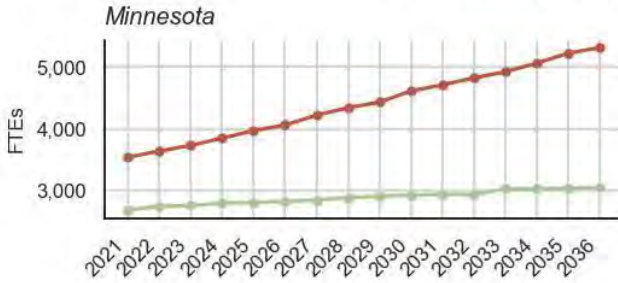
All Health Workforce - Hospital Medicine Physicians



All Health Workforce - Orthopedic Surgery Physicians



All Health Workforce - Physician Assistants





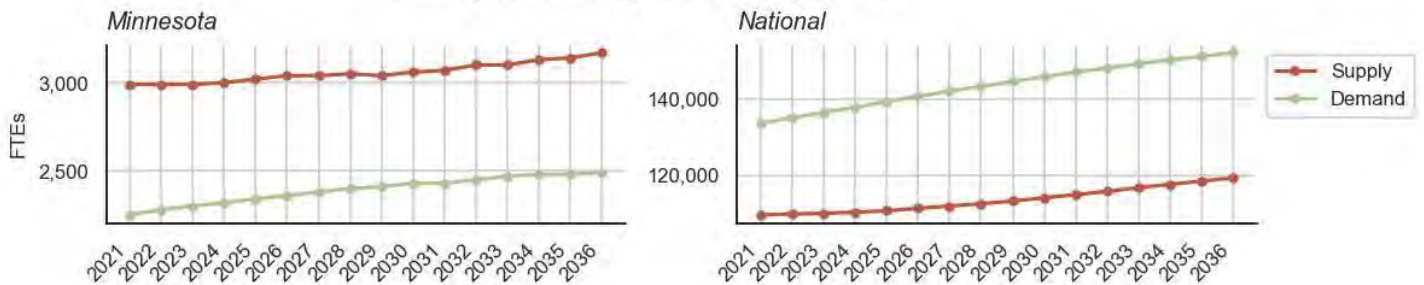
Primary Care

Key Takeaway

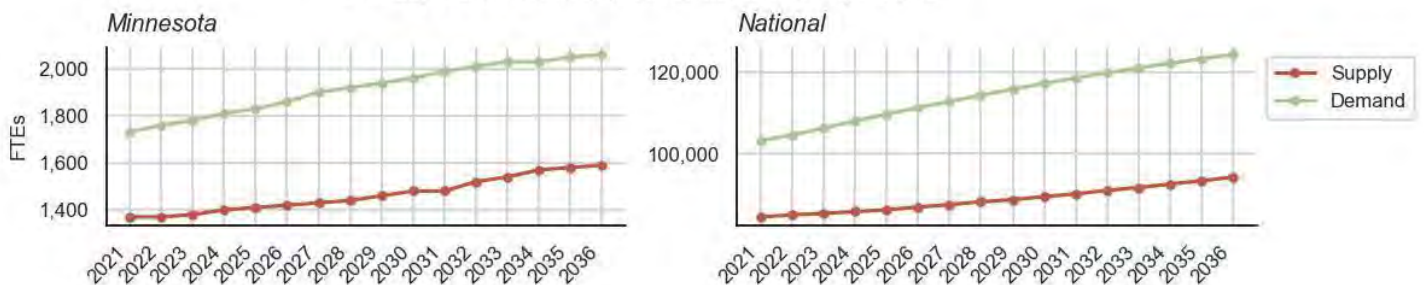
Shortages of General Internal Medicine Physicians and Pediatricians are expected at a national level and in Minnesota. It is worth noting the shortages can be mitigated by increased use of other professionals within the same group to perform certain services.

While on a national scale a shortage is projected also for Family Medicine Physicians, Minnesota trend shows surplus for this profession, indicating a possibility that the shortages within Primary Care can potentially be managed.

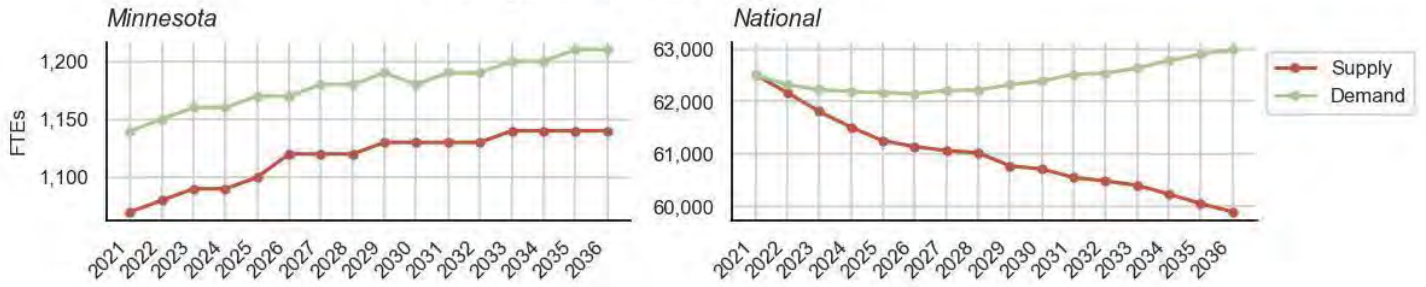
Primary Care - Family Medicine Physicians



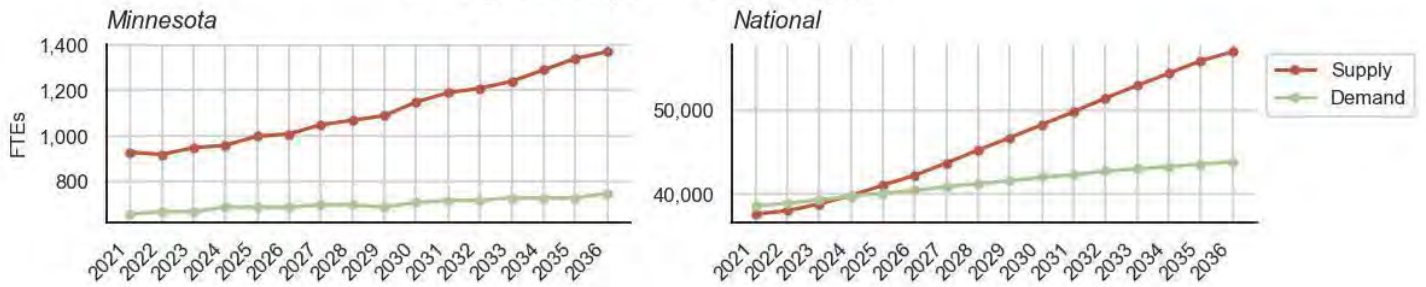
Primary Care - General Internal Medicine Physicians



Primary Care - Pediatrics Physicians



Primary Care - Physician Assistants (PC)



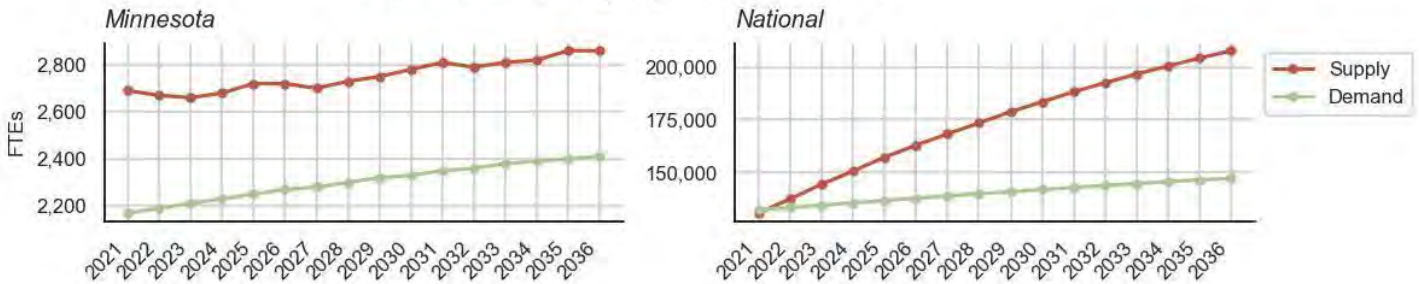


Allied Health

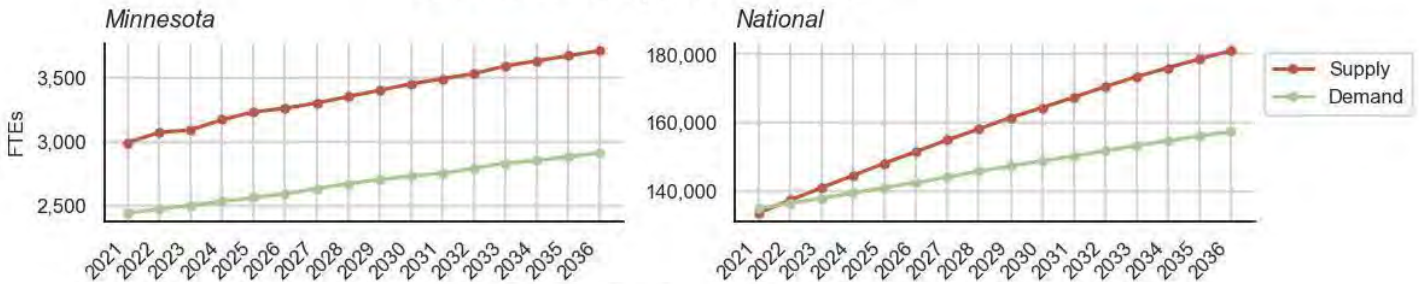
Key Takeaway

We observe some similar trends in Minnesota and at a national level of projected shortages of Pharmacy Technicians and Respiratory Therapists. There are also some diverging trends; for example Speech-Language Pathologists are projected to be in shortage in Minnesota but at a national scale the number of providers of this profession will be sufficient to meet demand nationally.

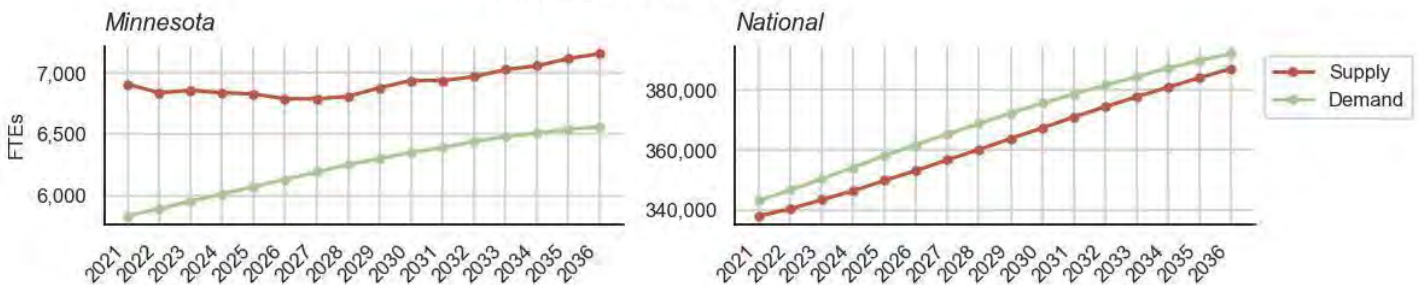
Allied Health - Emergency Medical Technicians



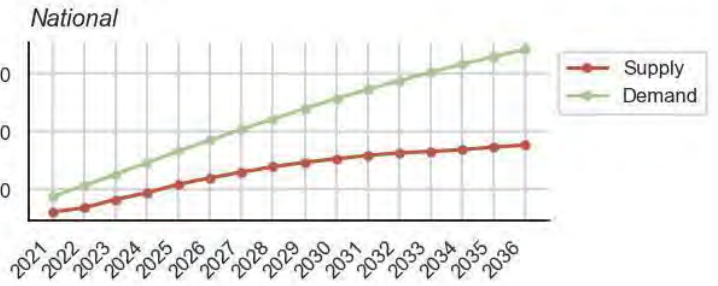
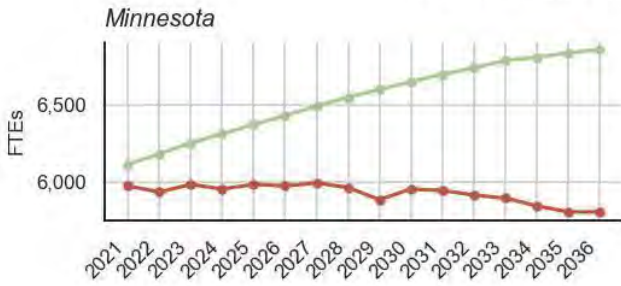
Allied Health - Occupational Therapists



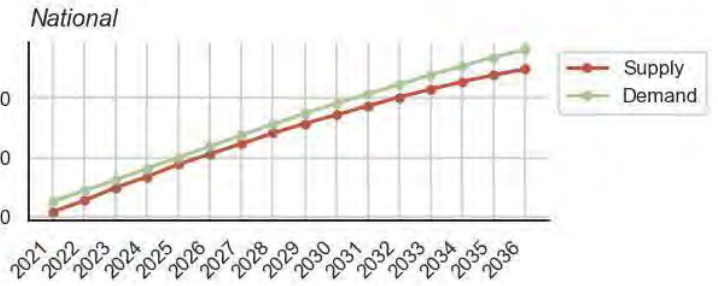
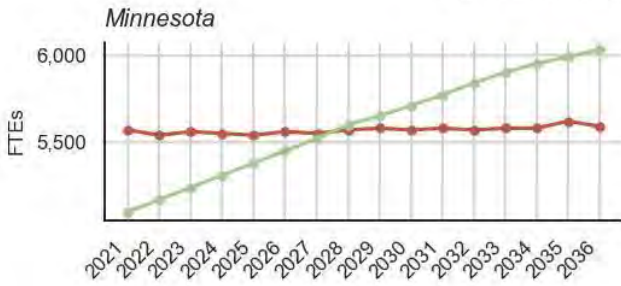
Allied Health - Pharmacists



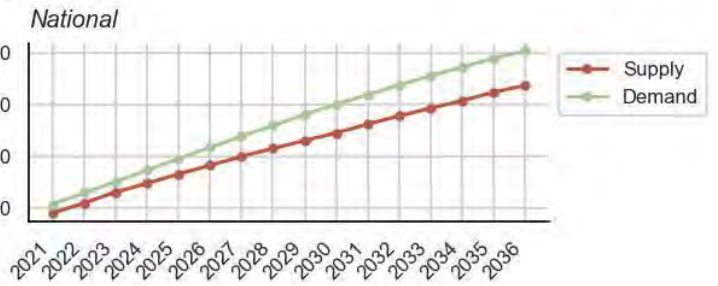
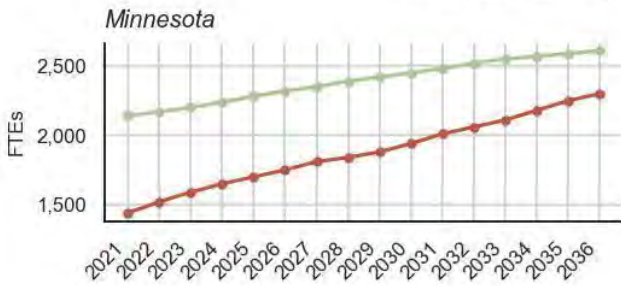
Allied Health - Pharmacy Technicians



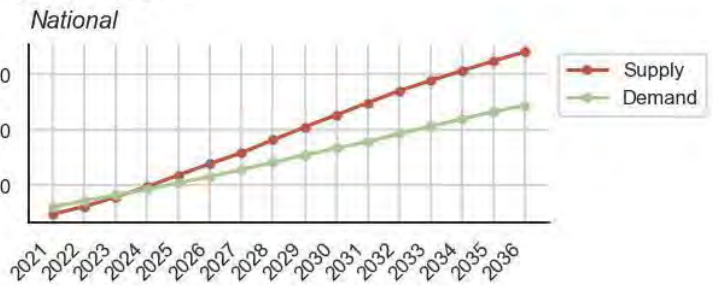
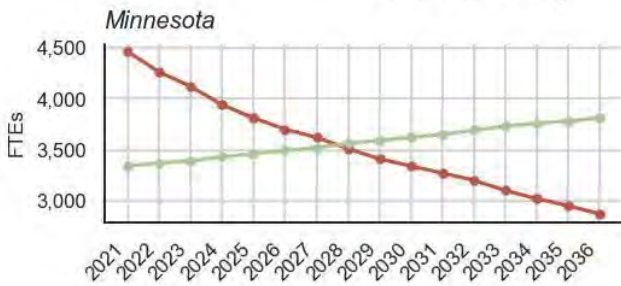
Allied Health - Physical Therapists



Allied Health - Respiratory Therapists



Allied Health - Speech-Language Pathologists



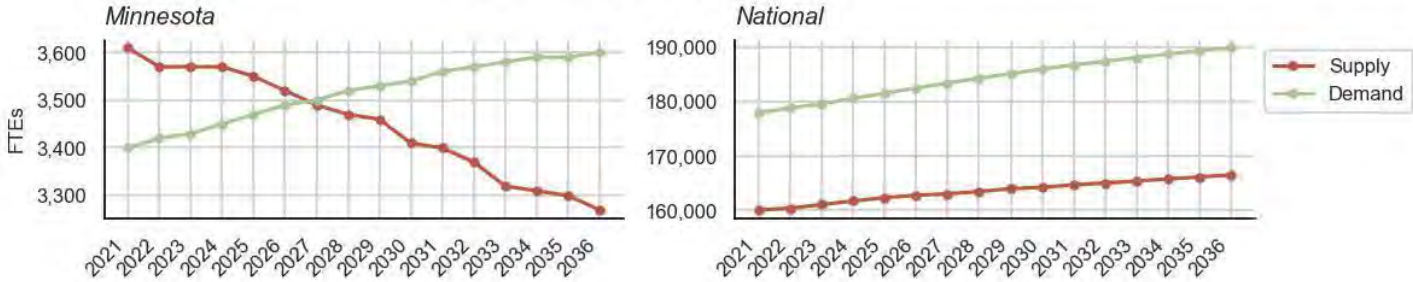


Oral Health

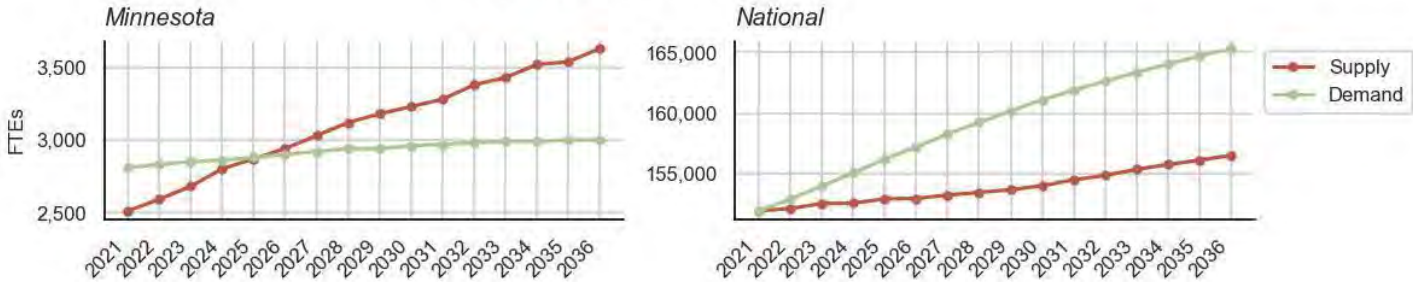
Key Takeaway

HWSM projects national shortages in key oral health occupations, such as Dental Hygienists and General Dentists. The projected availability of General Dentists in Minnesota is expected to meet the demand.

Oral Health - Dental Hygienists



Oral Health - General Dentists



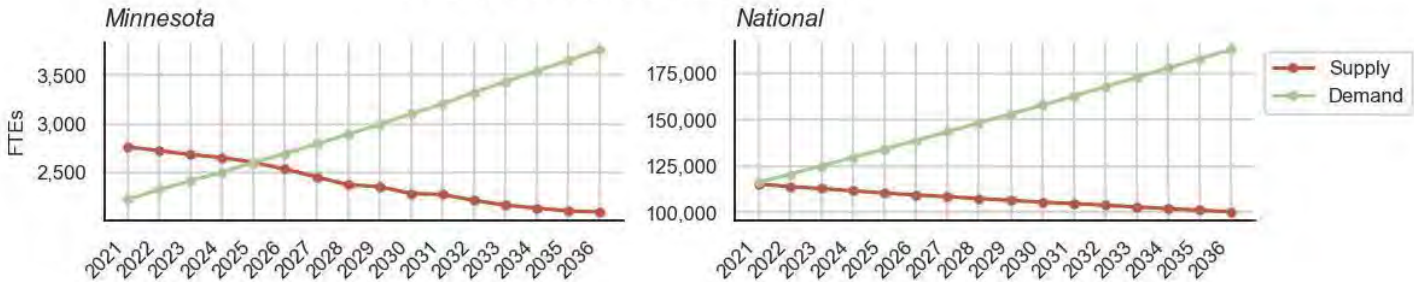


Behavioral Health

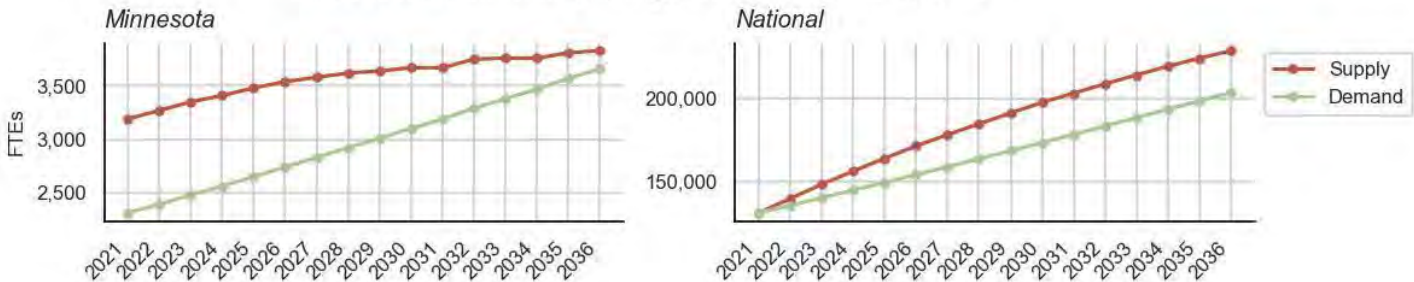
Key Takeaway

Projections indicate shortages in both Minnesota and the US in many key behavioral health occupations, including Addiction Counselors and Mental Health Counselors.

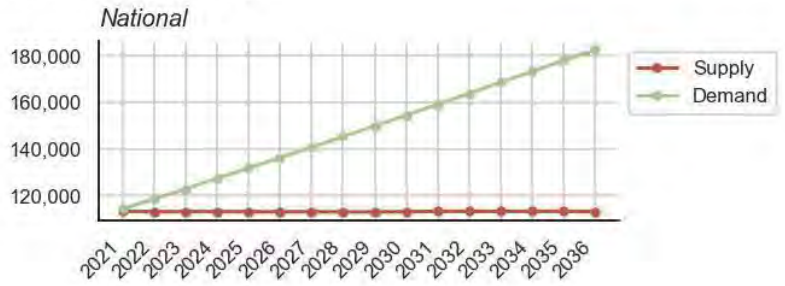
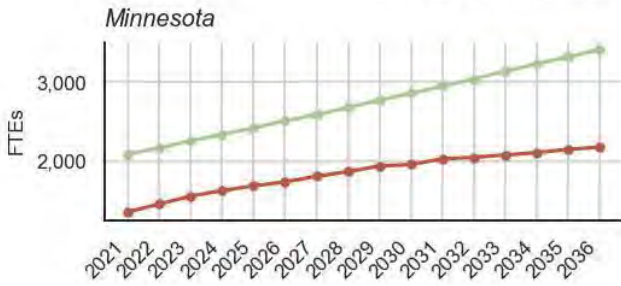
Behavioral Health - Addiction Counselors



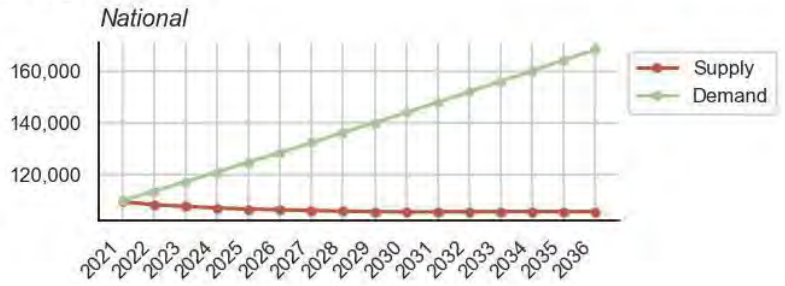
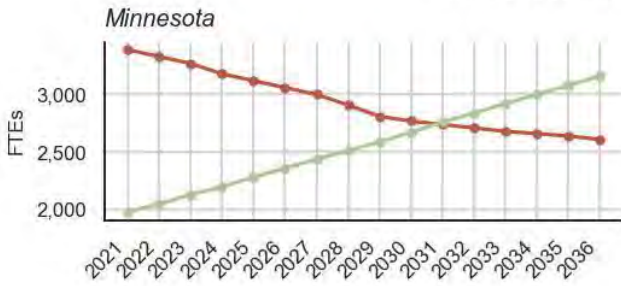
Behavioral Health - Child, Family, and School Social Workers



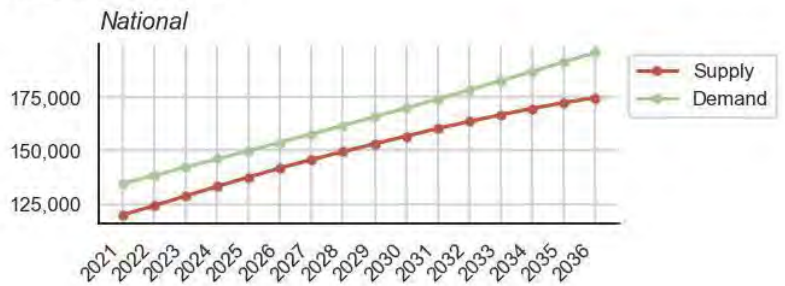
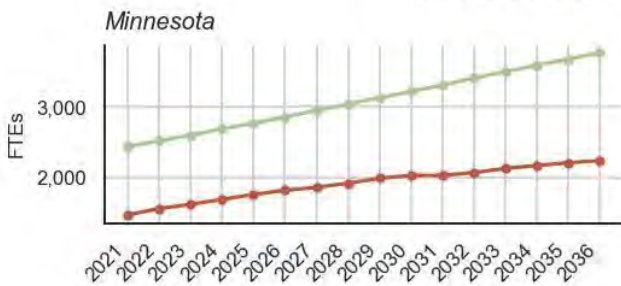
Behavioral Health - Mental Health Counselors



Behavioral Health - Psychologists



Behavioral Health - School Counselors

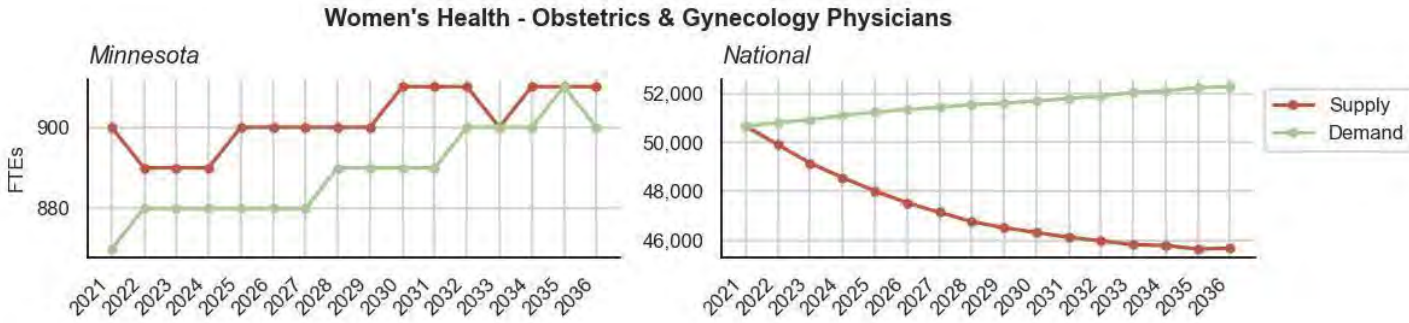




Women's Health

Key Takeaway

Although the projections indicate shortages of OB-GYNs on a national scale, supply and demand of providers of this profession in Minnesota are expected to be roughly in equilibrium.



References

1. Department of Health and Human Services, Health Resources and Services Administration, Area Health Resources Files, 2021-2022 County Level Data. Accessed August 2023. Available at <https://data.hrsa.gov/topics/health-workforce/ahrf>
2. Minnesota Employment and Economic Development. Area Definitions. Accessed October 2023. Available at <https://mn.gov/deed/data/lmi-help/area-maps/>
3. Department of Health and Human Services, Health Resources and Services Administration, The National Center for Health Workforce Analysis (NCHWA). Health Workforce Projections. Accessed November 2023. Available at <https://bhw.hrsa.gov/data-research/projecting-health-workforce-supply-demand>



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