

Assessing Workforce Availability and Associated Skills Needed to Close Gaps in the Value Network and Supply Chain of Nevada's Healthcare Industry Sector

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University of Nevada, Reno

The Research Project

- **Title:** Assessing Workforce Availability and Associated Skills Needed to Close Gaps in the Value Network and Supply Chain of Nevada's Healthcare Industry Sector
- **Research Question:** Nevada's Healthcare industry sector plays a vital role in the broader community and economic development efforts across the state and has become a limiting factor in the growth of Nevada's workforce. Students in the College of Business's Spring 2024 **BADM 779 Graduate Seminar in Logistics and Supply Chain Management** sought to determine the specific workforce development 'gaps' in the value network and supply chain of Nevada's Healthcare industry sector.
- **Published Results:** *A Comprehensive Examination of Nevada's Healthcare Industry Sector's Value Network and Supply Chain*; UCED Technical Report 2023/24-14, May 2024



The Research Team

Graduate Student Researchers

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Methodology

Four Components:

- Historical Overview and Evaluation of the “State” of the State of Nevada’s Healthcare Industry Sector
- A Comprehensive Value Network and Supply Chain Map of Nevada’s Healthcare Industry Sector
- Identification of Workforce Development “Gaps” in the Value Network of the State’s Healthcare Industry Sector
- Targeted Economic Development Recommendations for Business Creation, Attraction, Retention, Expansion Efforts



Methodology

Utilization of Multiple Data Sources and Points of Analysis:

- ***NPWR Data:***
 - Career Technical Education (CTE) and Department of Employment, Training, and Rehabilitation (DETR)
 - Career Technical Education (CTE) and Nevada System of Higher Education (NSHE)
 - Career Technical Education Only (CTE)
- ***U.S. Bureau of Labor Statistics, U.S. Bureau of Economic Analysis***
 - IMPLAN
- ***Nevada Health Workforce Research Center***
 - University of Nevada, Reno School of Medicine



Methodology

Key ‘Sub-Sectors’ of the State’s Healthcare Industry Sector:

- Offices of Dentists
- Medical and Diagnostic Laboratories
- Hospitals
- Nursing and Community Care Facilities
- Residential Mental Retardation, Mental Health, Substance Abuse and Other Care Services
- Individual and Family Services



**Backward Linkages, Offices of Dentists
State of Nevada
2022**

Code	Description	RPC	Gross Absorption	Gross Inputs	Regional Absorption	Regional Inputs	Gaps
3380	Dental laboratories	1.36%	4.82%	\$63,134,122	0.07%	\$860,884	\$62,273,238
3393	Wholesale services - Professional and commercial equipment and supplies	74.66%	3.64%	\$47,698,000	2.72%	\$35,611,153	\$12,086,846
3174	Biological products (except diagnostic)	0.04%	0.54%	\$7,061,155	0.00%	\$3,162.03	\$7,057,993
3378	Dental equipment and supplies	0.21%	0.53%	\$6,974,520	0.00%	\$14,478	\$6,960,042



**Backward Linkages, Medical and Diagnostic Laboratories
State of Nevada
2022**

Code	Description	RPC	Gross Absorption	Gross Inputs	Regional Absorption	Regional Inputs	Gaps
3174	Biological products (except diagnostic)	0.04%	4.96%	\$50,096,462	0.00%	\$22,433	\$50,074,029
3462	Management consulting services	49.85%	2.60%	\$26,224,490	1.30%	\$13,073,670	\$13,150,820
3397	Wholesale services - Drugs and druggist' sundries	65.09%	2.55%	\$25,746,230	1.66%	\$16,757,457	\$8,988,773
3163	Other basic organic chemicals	0.12%	0.70%	\$7,067,989	0.00%	\$8,211	\$7,059,777



**Backward Linkages, Hospitals
State of Nevada
2022**

Code	Description	RPC	Gross Absorption	Gross Inputs	Regional Absorption	Regional Inputs	Gaps
3173	In-vitro diagnostic substances	0.02%	3.18%	\$225,762,147	0.00%	\$37,488	\$225,724,659
3462	Management consulting services	49.85%	2.14%	\$151,695,411	1.06%	\$75,624,566	\$76,070,845
3172	Pharmaceuticals	0.24%	1.01%	\$71,743,962	0.00%	\$170,293	\$71,573,668
3472	Employment services	76.93%	3.58%	\$254,364,401	2.75%	\$195,682,914	\$58,681,487
3444	Other insurance	85.67%	5.02%	\$356,748,528	4.30%	\$305,643,991	\$51,104,536
3377	Surgical appliance and supplies	0.26%	0.52%	\$36,793,047	0.00%	\$96,569	\$36,696,477
3154	Refined petroleum products	14.49%	0.49%	\$34,833,076	0.07%	\$5,046,665	\$29,786,411
3397	Wholesale services - Drugs and druggists' sundries	65.09%	1.07%	\$76,134,488	0.70%	\$49,553,677	\$26,580,810



**Backward Linkages, Nursing and Community Care Facilities
State of Nevada
2022**

Code	Description	RPC	Gross Absorption	Gross Inputs	Regional Absorption	Regional Inputs	Gaps
3174	Biological products (except diagnostic)	0.04%	0.90%	\$9,882,714	0.00%	\$4,425	\$9,878,289
3462	Management consulting services	49.85%	1.78%	\$19,454,741	0.89%	\$9,698,753	\$9,755,988
3089	Meat (except poultry) produced in slaughtering plant	0.43%	0.62%	\$6,732,070	0.00%	\$29,125	\$6,702,944
3472	Employment services	76.93%	2.33%	\$25,554,457	1.79%	\$19,659,082	\$5,895,375



**Backward Linkages, Residential Mental Retardation, Mental Health, Substance Abuse and Other
Care Services
State of Nevada
2022**

Code	Description	RPC	Gross Absorption	Gross Inputs	Regional Absorption	Regional Inputs	Gaps
3118	Curtains and linens	0.15%	1.95%	\$6,056,776.22	0.00%	\$9,124.08	\$6,047,652.14
3089	Meat (except poultry) produced in slaughtering plant	0.43%	1.28%	\$3,965,983.80	0.01%	\$17,158.28	\$3,948,825.52
3150	Sanitary paper products	11.20%	0.86%	\$2,669,745.10	0.10%	\$299,001.69	\$2,370,743.41
3088	Processed poultry meat products	0.61%	0.44%	\$1,354,496.43	0.00%	\$8,203.48	\$1,346,292.95



**Backward Linkages, Individual and Family Services
State of Nevada
2022**

Code	Description	RPC	Gross Absorption	Gross Inputs	Regional Absorption	Regional Inputs	Gaps
3462	Management consulting services	49.85%	1.36%	\$10,987,659.77	0.68%	\$5,477,667.35	\$5,509,992.42
3438	Internet publishing and broadcasting and web search portals	36.14%	1.05%	\$8,484,934.06	0.38%	\$3,066,610.06	\$5,418,324.00
3089	Meat (except poultry) produced in slaughtering plant	0.43%	0.61%	\$4,946,735.38	0.00%	\$21,401.36	\$4,925,334.02
3472	Employment services	76.93%	2.15%	\$17,301,228.25	1.65%	\$13,309,860.77	\$3,991,367.48



Key Findings

Mental Health Services:

- Health Professional Shortage Area (HPSA) data managed by the Health Resources and Services Administration (HRSA):
 - 2.8 Million Nevadans - 86.9% live in a mental health shortage area (HPSA)
 - Including 100% of residents in rural and frontier counties.
- Nevada is in violation of the American with Disabilities Act of 1990: Lack mental health coverage for children.

Home Health Care Services including Nursing Care Facilities:

- Health Professional Shortage Area (HPSA) data managed by the Health Resources and Services Administration (HRSA); 2.3 Million Nevadans - 69.7% live in a primary care health shortage area.
- Nevada lacks community-based services: Intensive in-home services, crisis services, intensive care coordination.
- Governor's Office of Economic Development states Nevada's growth rate trend is 1% annually, compared to the national average of 0.12%:
 - As of 2021, Nevada's population was 16.5%, still below national average.
 - By 2030, trends estimate Nevada's population above 65 years of age at 20.3%.
 - Trends estimate growth from 2020-2030 at 12.4% for State of Nevada.



Key Findings

Physician Shortage, Nevada's Employee Rankings per 100,000 Population:

- 45th - active physicians, 48th - primary care physicians, 49th - general surgeons.
- Averages 11,506 people per psychiatrist compared to 8,471 national average.

Physician Shortage, Nevada's Higher Education Rankings per 100,000 Population:

- 41st - for residents & fellows
- Retain 76.9% of medical students upon completion of Undergraduate medical education (UME) & Graduate medical education (GME) in state; 227 out of 295 physicians as of 2020 (8th best in US).



Key Findings

Physician Shortage and Potential Hurdles; Malpractice Laws:

- Statute of limitations: Increased from one to two year with revision to NRS 41A.097 in Oct. 2023.
- AB404 - Signed into law by Governor Lombardo June 2023: Prior cap was \$350,000 per incident; will increase \$80,000 for next five years until total of \$750,000 in 2028.

Physician Shortage and Potential Hurdle, Increase Available Resident & Fellowship Positions:

- Nevada would need to add and fill 153 total resident and fellowship positions to meet the national average, prior to including state projected growth.



Key Findings

Nursing Initiatives:

- Licensed Registered Nurses (RNs) in Nevada:
Increase from 20,214 in 2012 to 31,152 in 2022.
10,938 additional RN's, a 54.1% increase.
- Nevada's Registered Nurses per 100,000 population from 2012 - 2022:
Increased from 735 to 971, 32.1% increase.
Buoyed by growth following 2018 low of 706 RNs per 100,000 population.
- Graduates from Nevada Nursing programs:
2020/2021 - 1,737
2021/2022 - 2,115
2022/2023 - 2,071



Thank You.

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