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**FIRST JUDICIAL DISTRICT COURT OF NEVADA**  
**IN AND FOR CARSON CITY**

NATIONAL TAXPAYERS UNION, a non-  
profit organization, and ROBIN L. TITUS,  
MD,

Plaintiffs,

v.

THE STATE OF NEVADA, ex, rel., JOSEPH  
LOMBARDO, in his official capacity as  
Governor of the State of Nevada; ZACH  
CONINE, in his official capacity as Nevada  
State Treasurer; RICHARD WHITLEY, in his  
official capacity as Director of the Nevada  
Department of Health and Human Services;  
SCOTT J. KIPPER, in his official capacity as  
the Nevada Commissioner of Insurance; and  
RUSSELL COOK, in his official capacity as  
Executive Director of the Silver State Health  
Insurance Exchange,

Defendants.

Case No. 25020010918

Dept. No. H

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**PLAINTIFFS' APPENDIX TO MOTION FOR PRELIMINARY INJUNCTION**

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M2	A Comprehensive Examination of Nevada's Healthcare Industry Sector's Value Network and Supply Chain (part 2)	1109-1183

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estimated \$289,068,451. Additionally, the industry specific leakages for the hospital, office of physician, and medical and laboratory diagnostic healthcare related industries totaled an estimated \$1,176,542,051.

#### *4.1.c.1 Biological Products (Except Diagnostic)*

Biological products (except diagnostic) had an estimated total economic leakage of approximately \$208.6 million across Clark County in 2022. This healthcare related sector had an RPC of just 0.05 percent, meaning that out of the over \$208.8 million spent per year for biological products, only \$128,389 was produced locally within the region. This related sector had zero reported employees working within this sector in Clark County. This demonstrates a complete lack of an existing workforce for this related sector. Clark County does not have the existing workforce needed to attract new manufacturers or create new ones capable of producing the goods and services that are part of this sector. Examples of manufacturers in this healthcare related sector include medical equipment and supplies manufacturing, glass and glass product manufacturing, medical laboratories, medical, dental, and hospital equipment, supplies merchant wholesalers, and medicinal and botanical manufacturing. For each of these individual manufacturing and supporting industries, just 29 total individuals were employed in these areas in Clark County.

Individuals pursuing a Career and Technical Education in biomedical programs was just 672 total enrollees between 2018 and 2023 across the entire state of Nevada. Of those enrolled specifically in a Nevada System of Higher Education institution in Clark County in 2023, only 169 total students had graduated with a bachelors or masters degree in fields related to biological products. Just 14 total students were pursuing degrees in biochemistry, 154 total students were pursuing degrees in biology/biological sciences, general, and only one student was pursuing a degree as a clinical/medical laboratory technician. Finally, while it is possible to assume some of these technicians and graduates will stay and eventually practice in Clark County, there will remain a shortage of educated professionals that could enhance southern Nevada's biological products industry. Even with 100.0 percent retention, the estimated 338 specialized individuals that would enter the workforce in the near-term will not be enough to address the estimated \$208.6 million current leakage in this specific healthcare related sector. Significant investment in the education of larger workforce capable of manufacturing biological products will be necessary to close this gap in the region's broader Healthcare industry sector.

#### *4.1.c.2 Surgical Appliances and Supplies and Surgical and Medical Instruments*

Surgical appliances and supplies had an estimated \$52,993,379 total economic leakage in just Clark County in 2023. With an average RPC of 0.21 percent, very little of this commodity area was produced within the county. Just one employee currently working in Clark County was employed in this commodity area or a related field. The other commodity area, surgical and medical instruments, had zero reported workers employed in Clark County. Clark County simply does not have the existing workforce to create or attract new manufacturers to the region that could produce the goods and services in either of these commodity areas in order to close the estimated gap. Examples of manufacturers that produce goods and services in these commodity

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areas include rubber manufacturers, plastics manufacturers, glass manufacturers, and hardware manufacturers.

For plastic part manufacturing, there were 21 estimated total individuals working in this area in Clark County. There were zero reported workers in Clark County in rubber product manufacturing and zero reported workers in paper manufacturing. This is likely due to the water-intensive processes that are required to produce the products in both areas. There were just two total individuals working in glass manufacturing, an essential commodity in the region's and statewide Healthcare industry sector given the important role that glass has in the production of autoclavable surgical apparatuses. Clark County had just two individuals working in textile furnishings mills, an area that could provide surgical curtains, linens, gowns, and other important goods used across the broader Healthcare industry sector. Lastly, for handtool manufacturing and hardware manufacturing, both areas had just one worker apiece working in either area. There were 82 total individuals working in engineering services, with many of these individuals likely to be capable of shifting over to a production engineering role.

For Career and Technical Education programs, the same 672 biomedical enrollees are applicable to these two commodity areas. However, these commodity areas, surgical appliances and supplies and surgical and medical instruments, also require general engineering operators, which totaled 650 total enrollees. These engineering enrollees were spread across various disciplines including mechanical engineering, general Engineering, and mechanical technology. These disciplines also include machine operators and designers required to run production processes related to the manufacturing and production of rubber, glass, paper, and metal. Additionally, there were 76 total students enrolled at the College of Southern Nevada pursuing certificates related to mechanical engineering and 2,587 total students enrolled at the University of Nevada, Las Vegas pursuing undergraduate or graduate degrees related to mechanical engineering between 2018 and 2023.

Given the large number of students pursuing engineering and technician related degrees at the various institutions of higher education throughout southern Nevada, it is likely that the some of the low numbers of existing employment in these various related occupations can be attributed to inconsistencies in available workforce data. However, the lack of positions directly related to medical instrument manufacturing suggests that a gap is present, and that this workforce gap could be addressed by providing financial incentives to students to complete related certificate and degree programs. With the promising number of kindergarten through 12<sup>th</sup> grade students enrolled in various biomedical engineering Career Technical Education programs, and the high number of Nevada System of Higher Education enrolled students studying mechanical engineering, there is a potential for the workforce within the Las Vegas Global Economic Alliance region to eventually meet current and future workforce demand levels as new manufacturers in these commodity areas are created or attracted to the region.

#### *4.1.c.3 Hospital and Medical Staff Shortages*

In the context of industry wide leakage, Clark County experienced a total economic leakage of \$740.7 million for hospitals and a total economic leakage of \$328.1 million for offices of physicians. These leakages are generally accounted for by linkages with other industries. In

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2022, there were a reported 115 total employees working across different types of hospitals based on available data from the Nevada Department of Training, Employment, and Rehabilitation. This number, however, is much different than the 29,376 total individuals employed in a hospital in Clark County reported by the 11<sup>th</sup> Edition of the Nevada Rural and Frontier Health Data Book published in 2023 by the University of Nevada, Reno School of Medicine. For 2022, the Nevada Department of Training, Employment, and Rehabilitation also reported that 601 total individuals were working in offices of physicians, with 58 of these 601 total individuals working in offices including mental health specialists. The data book published by the School of Medicine in 2023 lists total employment for hospitals in Clark County at an estimated 19,278 total individuals. Given current population growth trends across Clark County, total employment across these various healthcare related industries is largely insufficient to meet current and projected future demand.

According to the Nevada System of Higher Education, many students are currently pursuing degree programs across Nevada that could eventually fill open positions for hospitals and physician offices. Between 2018 and 2023, an estimated 5,801 total students were enrolled in nursing and 1,207 total students were enrolled in medical imaging at just the University of Nevada, Las Vegas. A total of 816 individual students were also enrolled in neuroscience. For various Career and Technical Education programs, an estimated 672 total students were enrolled in biomedical programs, with many others pursuing completion of a nursing assistant program. Each of these are common majors and areas of study that typically lead to occupations in hospitals or in physician offices.

An estimated 72.0 percent of healthcare related occupations located in Clark County are below a location quotient of 1.0, meaning that Clark County is less specialized in healthcare professions in almost three quarters of the available positions when compared to the nation. Although 67.0 percent of physicians holding an active license in Nevada were in Clark County in 2023, the county would need an estimated 2,475 additional physicians to meet the national average. Although the estimated total employment of healthcare professionals in hospitals and offices of physicians grew between 2018 to 2023 across the Las Vegas Global Economic Alliance's region, more professionals are required to close some of the estimated \$740.7 million being leaked by the hospital sector as well as part of the \$291.7 million in related goods and services that are currently being imported to meet existing commodity demand levels located throughout Clark County.

#### 4.1.d Lincoln County Regional Development Authority

The Lincoln County Regional Development Authority consists of one county, Lincoln County and the region's total estimated population was approximately 5,000 total individuals, making the Lincoln County Regional Development Authority the smallest regional economic development authority in Nevada in terms of total population. The assessment and evaluation of this region's unique Healthcare industry sector's value network and supply chain indicates that nearly all goods and services consumed by firms within this sector and located within Lincoln County are imported from producers and services providers located outside of Lincoln County. Because the total estimated leakage across the county's entire Healthcare industry sector's value network and supply chain is less than \$100,000, it is simply not financially or economically

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feasible to expand local and regional manufacturing and service delivery capacity or capabilities through business creation, attraction, retention, and expansion efforts to close the identified gaps that have emerged in the value network and supply chain of Lincoln County's Healthcare industry sector.

#### 4.1.e Nevada 95-80 Regional Development Authority

The Nevada 95-80 Regional Development Authority consists of Humboldt County and Pershing County and had a total population of 23,734 total individuals. The largest population centers located within this region are the City of Winnemucca in Humboldt County and the City of Lovelock in Pershing County. The Nevada 95-80 Regional Development Authority's region did not have any identified medical related manufacturing capacity located in either county, meaning that nearly all goods and services consumed by the region's unique Healthcare industry sector had to be imported from suppliers located outside the region. The region's most significant healthcare needs were wholesale services of professional and commercial equipment and supplies and dental laboratories. Because of the largely rural and nonmetropolitan nature of both counties that comprise the Nevada 95-80 Regional Development Authority's territory, it may not be financially or economically feasible to establish wholesale supplier or manufacturing capacity within the region due to poor road conditions during inclement seasons, limited access to highways besides the presence of U.S. Interstate 80, weather disruptions, and long distances between established population centers. Because there is only an estimated \$678,000 in total annually estimated local and regional demand for goods and services in these specific commodity areas and no available trained workforce to manufacture these products or provide these services, further development of in-region capabilities and capacities may not be financially or economically viable.

#### 4.1.f Northern Nevada Development Authority

The existing economic base of the Northern Nevada Development Authority's region has increasingly been driven by growth in warehousing, manufacturing, data storage, mining and natural resource extraction, battery storage production, and power generation, supported by major infrastructure assets including major rail, air, and automotive corridors. Despite these strengths, the Northern Nevada Development Authority's regional workforce is relative meager compared to the workforces in more established urban and metropolitan counties and regions, including Clark County and the Las Vegas Global Economic Alliance region in southern Nevada and Washoe County and the Economic Development Authority of Western Nevada in northern Nevada. Despite the region's relative workforce weaknesses, this region could potentially capitalize on its land and transportation infrastructure assets that could support intrastate economies like those in Clark County and Washoe County where a surplus of trained and skilled workers exists. As stated above, the Las Vegas Global Economic Alliance's region in Clark County has the population but not the focused logistical strengths of movement, storage, and supply at reasonable rates and complexity. Lyon County and Storey County specifically are already major logistical force multiplier for production, procurement, and resilience within the broader Healthcare industry sector both in-state and nationwide by utilizing their capability to support the in-state production and distribution of various medical and surgical goods, equipment, and consumables.

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The current value network and supply chain of the Northern Nevada Development Authority's region directly supports various warehousing, energy production, data storage, and manufacturing operations that directly contribute to the growth of the region's and the entire state's Healthcare industry sector. Gaps, however, have formed throughout the region's unique Healthcare industry sector, with estimated total gaps of \$4.4 million for wholesale pharmaceutical consumables, \$5 million for biological products and reagents, and \$6.1 million for base organic materials, botanicals, and medicines. The combined total gap across just these three commodity areas across the Northern Nevada Development Authority's unique Healthcare industry sector's value network and supply chain was an estimated \$15.0 million. Lacking a local or regional workforce, the Northern Nevada Development Authority region could potentially take advantage of the workforce already present in neighboring Washoe County to support targeted business creation, attraction, retention, and expansion efforts designed to close these gaps among these specific commodity areas.

For pharmaceutical consumables, with an estimated total gap of \$4.4 million across the Northern Nevada Development Authority's region, the region could potentially repurpose existing warehouse space support the development of a manufacturing center for pharmaceutical consumables. There were also 2,048 total individuals statewide working towards the completion of or who have already completed Career Technical Education programs in related fields between 2018 and 2022 that could support further closure of gaps in this specific commodity area. As there is a gap of nearly \$5 million in the biological products and reagents commodity area for the Northern Nevada Development Authority's region, this commodity area is also a potential target for expanded business creation, attraction, retention, and expansion efforts. Data from the Nevada System of Higher Education and for Career and Technical Education enrollment and completion rates reveal several promising enrollment figures, with a total of 2,861 total students pursuing degrees and certifications in biomedical and related studies and 35 total students pursuing pharmacology and related studies. Additionally, 5,073 total students are concurrently enrolled in related programs like chemistry, pharmacology, and biochemistry.

The estimated leakage of approximately \$6.1 million for the base organic materials, botanicals, and medicines commodity area for the Northern Nevada Development Authority region is another opportunity for additional business creation, attraction, retention, and expansion efforts designed to close gaps in the value network and supply chain of the region's Healthcare industry sector. This commodity area requires similar workforce needs as the biological products and reagents commodity area. As previously stated, an estimated 5,073 total students are concurrently enrolled in related programs, like chemistry, pharmacology, and biochemistry. Out of the three leakages identified as opportunities for the Northern Nevada Development Authority's region, the smallest gap identified was an estimated \$4.4 million for the pharmaceutical consumables commodity area, an area that is possibly the most attractive for the Northern Nevada Development Authority region to pursue. Employment in the pharmaceutical consumables commodity area and directly and indirectly related occupation sectors aligns with the requirements found for the biological products and reagents commodity area and the base organic materials, botanicals, and medicines commodity areas. A significant portion of the 5,073 total students that are concurrently enrolled in related programs, like chemistry, pharmacology, and biochemistry will be able to fill available positions as new business are created and attracted



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and as existing businesses are retained and expanded to close this particular gap in the region's unique Healthcare industry sector's value network and supply chain.

#### 4.1.g Northeastern Nevada Regional Development Authority

The Northeastern Nevada Regional Development Authority's region, including Elko County, Eureka County, Lander County, and White Pine County, plays a pivotal role in driving activity for the entire state across several key industry sectors. While not as populous as Clark County or Washoe County, there are still significant opportunities for the Northeastern Nevada Regional Development Authority region in terms of potential economic development and diversification. The region's key industry sectors, such as gold and metal mining, wholesale trade in petroleum and petroleum products, real estate, and electric power transmission and distribution, each significantly contribute to the region's overall economic output and total employment. The top five industry sectors identified for Northeastern Nevada Regional Development Authority region include gold ore mining, metal mining services, wholesale trade in petroleum and petroleum products, owner-occupied dwellings, and electric power transmission and distribution.

However, several significant economic leakages were identified across the region's Healthcare industry sector, particularly for in-vitro diagnostic substances, pharmaceuticals, sanitary paper products, and curtains and linens. Addressing these gaps through targeted business creation, attraction, retention, and expansion efforts are opportunities for new regional economic growth and investment. Additionally, wholesale services, specifically professional and commercial equipment and supplies, and drugs and druggists' sundries, each exhibited significant economic leakages. Moreover, management consulting services is another area with notable economic leakage, presenting an opportunity for future investment and improvement. By addressing these supply chain gaps and investing in key related sectors and commodity areas that are critical in growing the region's Healthcare industry sector, the Northeastern Nevada Regional Development Authority's region can further enhance economic growth, create more job opportunities, and strengthen the region's overall level of economic resilience.

There was an estimated gap of \$2,880,825 in professional and commercial equipment and supplies. Keeping in mind that the region has a well-established mining and natural resource extraction sector (and therefore a strong and highly skilled workforce), the ability to produce professional and commercial equipment and supplies may be possible. An estimated 364 total individuals graduated from Nevada System of Higher Education institutions with bachelor's degrees or above in fields related to surgical equipment manufacturing between 2018 and 2022. The second gap identified for the Northeastern Nevada Regional Development Authority region was the lack of drugs and druggists' sundries with an estimated total gap of \$2,022,664 and a relatively small RPC. The production of drugs and druggist sundries are two different items, with the drugs being the chemicals used to produce various medications and the druggists' sundries being related items such as medicine containers and pill dispensers. An estimated 2,048 total individuals throughout the state of Nevada were working towards the completion of or had already completed a Career Technical Education program in several related fields between 2018 and 2022. The last significant gap identified for the Northeastern Nevada Regional Development Authority region was the production of sanitary paper products with an estimated total gap of \$376,723. The relatively low value of this gap for sanitary paper products makes the leakage

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less attractive to address through targeted business creation, attraction, retention, and expansion efforts, including the difficulty of attracting and retaining qualified workers to produce goods and services in this commodity area with only 152 total individuals working in related fields across the entire four-county region as of 2022.

The ability to establish the required manufacturing capacity and develop the needed workforce to address the leakages identified across the value network and supply chain of the Northeastern Nevada Regional Development Authority region's Healthcare industry sector is likely not financially or economically feasible. The commodity areas of professional and commercial equipment and supplies, drugs and druggists' sundries, and sanitary paper products that serve the broader Healthcare industry sector each require workers with a secondary education in related fields, technical training in related fields, and a general education to produce. The production of professional and commercial equipment and supplies has the largest possible existing talent pool with 364 total individuals graduating from Nevada System of Higher Education institutions with related degrees while the production of drugs and druggists' sundries and sanitary paper products each had only 71 total individuals graduating from Nevada System of Higher Education institutions with a bachelor's degree or above in a related field between 2018 and 2022.

#### 4.1.h Southwest Central Regional Economic Development Authority

The estimated total population of the Southwest Central Regional Economic Development Authority, that consists of Esmeralda County and Nye County, was 55,000 total individuals. By itself, Esmeralda County had a total population of 750 total individuals and no individuals working in any related Healthcare industry sector occupations. Nye County had a total population of 54,738 total individuals with no individuals working in active physicians offices or hospitals according to data provided by the Nevada Department of Employment, Training, and Rehabilitation. However, Nye County does currently have one local hospital, the Desert View Hospital located in Pahrump, the largest population center located throughout the entire Southwest Central Regional Economic Development Authority region.

Education and training of a skilled workforce essential in attracting and retaining the proper practitioners and skilled nurses that the region's Healthcare industry sector needs. For the Southwest Central Regional Economic Development Authority's region, the only institution of higher education is an extension campus of Great Basin College, located in Nye County. Great Basin College provides instruction in several associate and bachelor's degree programs that apply to the region's broader economic needs and specific healthcare related fields. The common areas of instruction at Great Basin College include, but are not limited to, land surveying, digital information technology, instrumentation, diagnostic medical sonography, and nursing. Other relatively nearby institutions include the University of Nevada, Las Vegas and the College of Southern Nevada located in neighboring Clark County. For both the University of Nevada, Las Vegas and the College of Southern Nevada, there were on average 36 individuals that graduated with bachelor's degree in nursing between 2019 and 2023, yet the necessary data to identify specific leakages upon their graduation were not available.

Given Esmeralda County's relatively small population and a lack of relevant educational and employment data for the county, further analysis of Esmeralda County's workforce as it relates

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to the county's and the broader region's Healthcare industry sector was not possible. For the state of Nevada, the average general practitioner enrollee rate, the ratio between active practitioners to individual patients, was around one general practitioner per 2,700 total individuals, which would exceed Esmeralda County's total population by approximately three times. Based on the average ratio of practitioners to patients, establishing additional healthcare services throughout the county might not be financially or economically feasible. The population of Esmeralda County size does not generate a significant enough need for healthcare service creation because the system as a whole requires all emergency care transportation by air or vehicle due to long distances between the county's establishes population centers and the current location of existing healthcare services.

An examination of the Healthcare industry sector in Nye County reveals the existence of three individual dentistry offices operating within the county. There is enough dentist related healthcare services being provided in Nye County to meet the population's current needs. While this examination found the presence of individual physicians offices operating within Nye County, there were no providers of mental healthcare services operating anywhere within the county or throughout the Southwest Central Regional Economic Development's region. For the Southwest Central Regional Development Authority region, there may be a gap in mental health services that could be addressed with targeted business creation and attraction efforts. Examining existing wages reported for the period between 2018 and 2022, the Southwest Central Regional Development Authority region experienced an increase in wages paid each year compared to the previous reported year, demonstrating an increase in healthcare related services being provided to the region.

The Southwest Central Regional Authority region is largely underrepresented in the data and the due to the region's relatively low population size. No usable data from either the Department of Employment, Training and Rehabilitation or from the Nevada System of Higher Education was available, impeding the ability to draw definite conclusions and recommendations for this region because the labor force and educational pool largely does not reside within the region. By enhancing the overall reporting of wages and economic activities for the region, the Southwest Regional Development Authority region can improve its strategic planning efforts to be identify and close gaps within the region's existing Healthcare industry sector and across the sector's value network and supply chain.

## **4.2 Evaluating Existing Workforce Characteristics for the entire State of Nevada**

While each of the eight individual regional economic development authorities faces its own unique challenges, the state faces a unique set of challenges in closing identified gaps across the state's broader Healthcare industry sector and the sector's value network and supply chain. Nevada also faces several unique challenges in terms of the workforce challenges the state must contend with to support a broad set of business creation, attraction, retention, and expansion strategies needed to close identified gaps across the statewide sector's value network and supply chain. The state of Nevada faces issues in three main healthcare related sectors where current demand exceeds current supply and where current demand is being met by producers and service

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providers located outside the state, including outpatient care centers, home health care services, and residential mental retardation, mental health, substance abuse, and other care services. Nevada and the state's broader Healthcare industry sector is also still struggling to recover from the COVID-19 global pandemic's effect on the broader labor market and the labor market for the state's Healthcare industry sector. While these labor markets continue to show signs of recovery, there is still room to grow the workforce to support targeted business creation, attraction, retention, and expansion efforts and close the gaps between current levels of demand and current levels of available supply.

For office of dentists, the estimated statewide gap or economic leakage was an estimated \$62.27 million for dental laboratories alone. Medical and diagnostic laboratories had an estimated total gap of approximately for just biological products (except diagnostic). For hospitals, gaps in the supply chain connecting hospitals to in-vitro diagnostic substances was an estimated \$225.7 million statement, the gap for management consulting services was an estimated \$76.0 million, and the gap with pharmaceuticals was an estimated \$71.6 million. Additional gaps and economic leakages between hospitals and other commodity areas across the state included employment services with an estimated \$58.7 million gap, other insurance with an estimated \$51.10 million gap, and surgical appliance and supplies with an estimated \$36.69 million gap. For nursing and community care facilities, the gap in the supply chain between these facilities and specific commodity areas included biological products (except diagnostic) and management consulting services, with estimated total gaps of approximately \$9.87 million and \$9.75 million respectively. For residential mental retardation, mental health, substance abuse, and other care services, gaps in the supply chain for this specific part of the statewide Healthcare industry sector and curtains and linens create was an estimated \$6.0 million. Finally, for individual and family services, there was an estimated gap in the supply chain with management consulting services of approximately \$5.5 million. The estimated RPCs for outpatient care centers, home health care services, and residential mental retardation, mental health, substance abuse and other care services were an estimated 75.78 percent, an estimated 59.00 percent, and an estimated 75.97 percent respectively, indicating that the supply in goods and services produced and provided in each of these related healthcare sectors is significantly lagging behind current levels of demand statewide, requiring that out-of-state suppliers and providers import related products and services to meet statewide demand.

When examining those components of the value network and supply chain of the state's broader Healthcare industry sector that are meeting over 90.0 percent of statewide demand, there is additional room for growth through targeted business creation, attraction, retention, and expansion efforts. These areas include offices of other health practitioners, with an estimated 86.68 percent RSC, medical and diagnostic laboratories, with an estimated 59.60 percent RSC, and other ambulatory health care services, with an estimated 71.87 percent RSC. While all three of these related sectors are mostly meeting current statewide levels of demand, there is still a need to import specific goods and services in each area to fulfill levels of demand that are met by producers and providers operating within the state.

The effects of the COVID-19 global pandemic on Nevada's broader Healthcare industry sector have been significant with an estimated total of 11,600 total jobs lost across the sector, accounting for nearly 11.9 percent of total employment in the sector over the course of the

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pandemic. Washoe County initially experienced a loss of nearly 2,200 total jobs or 8.0 of all Healthcare industry sector related jobs, eventually recovering with a gain of 2.2 percent in total employment across the county's Healthcare industry sector. Statewide, Nevada experienced mixed results in employment growth between 2021 and 2022. Growth occurred in some healthcare related sectors, including growth in ambulatory care, with a net increase in total employment of approximately 16.5 percent, and hospitals, with a net increase in total employment of approximately 4.4 percent. Several healthcare related sectors experience declines in overall employment, including a -9.0 percent decline in employment in nursing care facilities and a -5.5 percent decline in employment in social assistance. Future growth in total employment over the 2020 through 2023 period is anticipated, with an estimated total future growth in employment across the state's Healthcare industry sector projected to reach 28.1 percent, adding 37,611 total jobs by 2023. Except for ambulatory care, almost all healthcare related sectors are projected to outpace overall employment growth across the state for all sectors combined. Hospitals will add 8,979 new jobs, a 23.7 percent increase, ambulatory care services will add 10,355 new jobs, a 17.8 percent increase, social assistance will add 6,961 new jobs, a 30.1 percent increase, and nursing and residential care facilities will add 11,316 new jobs, a 75.8 percent increase.

As of 2022, Nevada was ranked as the 45<sup>th</sup> in the nation for active physicians per 100,000 individuals in total population, 48<sup>th</sup> for primary care physicians, and 49<sup>th</sup> for general surgeons. Nevada also ranks 24<sup>th</sup> among all U.S. states for undergraduate medical students per 100,000 total individuals in total population. More concerning is Nevada's 41<sup>st</sup> ranking nationwide for residents and fellows per 100,000 total individuals in total population. Nevada does, however, have above average completion rates in undergraduate medical education (UME) completion at 8<sup>th</sup> nationwide and 6<sup>th</sup> in graduate medical education (GME) completion. An estimated 76.9 percent of physicians who completed both programs in Nevada were retained. Statewide, Nevada has 33 of 39 specialty areas where the state is below average in physicians per 100,000 total individuals in total population, including general surgery, pediatrics, and psychiatry. Lastly, Nevada averages just 11,506 total individuals per psychiatrist compared to the national average of 8,471 total individuals per psychiatrist.

The Governor's Office of Economic Development states that Nevada's population growth rate is an estimated 1.0 percent compared to the national average of just 0.12 percent. Nevada's aging population, as of 2021, was an estimated 16.5 percent of the state's total population being 65 years of age or older, which increased significantly from 13.4 percent in 2016. Future projections show a similar trend in the continued aging of the state's total population. By 2030, estimates show that Nevada's total population above 65 years of age will reach 20.3 percent. Population growth rates for the entire state, at 12.4 percent, have and will continue to increase along with the urban counties, with Clark County at an estimated 12.2 percent, Washoe County at an estimated 15.8percent, and Carson City at an estimated 6.2%. For Nevada's remaining rural non-metropolitan counties, the total population is and will likely continue to grow at an estimated 9.5 percent. Given these trends, Nevada will continue to experience a shortage of physicians compared to national averages if both growth trends persist and as the deficit in physician retention and growth continues. These overall medical professional growth numbers do not consider the state's growing population and the continued aging of the state's population.

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The analysis of the workforce for Nevada's Healthcare industry sector reveals a landscape with both challenges and opportunities. Several parts of the state's broader Healthcare industry sector and the sector's value network and supply chain continue to lag behind existing and projected future levels of demand, including outpatient care centers, home health care services, and residential mental health facilities. Continued gaps across this value network and supply chain have and will continue to exacerbate the situation and will continue to limit the sector's ability to provide goods and services among individual firms throughout the sectors and to end users. Despite these challenges, there are major opportunities for growth. Sectors like outpatient care centers, home health care services, and residential mental health facilities offer opportunities for growth and broader economic diversification through targeted business creation, attraction, retention, and expansion efforts to meet currently unmet levels of statewide demand. Meanwhile, sectors that are already meeting current levels of demand also have the opportunity for additional growth and diversification, such as offices of other health practitioners and medical laboratories. While some sectors have and will likely continue to experience growth, others faced significant declines in terms of their respective total employment estimates. Projections suggest significant growth in total employment over the entire statewide Healthcare industry sector but persistent shortages in physicians and specialists pose ongoing challenges. A continually aging population and a continually growing population, especially in the state's more urban and metropolitan communities and counties, will compound these challenges.

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## 5.0 Targeted Economic Development Recommendations for Business Creation, Attraction, Retention, and Expansion Strategies

This section of this University Center for Economic Development technical report presents an edited version of the initial white paper developed for Part 4, *Targeted Economic Development Recommendations for Business Creation, Attraction, Retention, and Expansion Strategies*. The fourth and final part of this analysis of the value network and supply chain of Nevada's Healthcare industry sector included the following elements:

- Development of a set of criteria to determine the level of balance, strengths, and resiliency present in Nevada's Healthcare industry sector.
- An evaluation of how balanced, strong, and resilient Nevada's Healthcare industry sector is. This evaluation also includes an assessment of how the Healthcare industry sector in Nevada has been either positively or negatively affected by the COVID-19 global pandemic.
- A series of regional and statewide community and economic development actions that the state of Nevada, each of the eight regional economic development authorities, and local government and industry and occupation sector representatives could potentially develop and implement to capitalize on identified 'gaps' in the value network and supply chain of Nevada's Healthcare industry sector.

This section also provides a detailed discussion regarding three critical terms with respect to value network and supply chain management, including balance, strength, and resiliency. These three terms are often used as a measure of how an individual firm and an entire industry sector deals with uncertainties. Additional analysis on how balanced, strong, and resilient the value network and supply chain of Nevada's Healthcare industry sector is, taking into account the COVID-19 global pandemic and related global supply chain disruptions, is also presented. Balance, strength, and resiliency are essential characteristics for sustainability and competitiveness in the broader Healthcare industry sector.

Balance, strength, and resiliency serve as pivotal indicators of organizational and industry performance as well as their capacity to navigate disruption effectively. Definitions were developed to be stress tested against the recent COVID-19 disruption event to ascertain Nevada's comparative standing with other states. Balance, strength, and resilience were defined using various metrics derived from the findings presented in Part 1, Part 2, and Part 3 of the semester project. Recommendations were provided, highlighting gaps and leakages, along with measurable recommendations and metrics. These measures will enable the state's Healthcare industry sector to discern actions resulting in positive movement and those acting against the best



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interests of the Healthcare industry sector, considering the economic impact, patient well-being, and workforce development in Nevada.

Throughout Nevada's broader Healthcare industry sector, achieving balance, strength, and resiliency requires individual firms across the sector's entire value network and supply chain to have a measured approach to defining, aligning, managing, and optimizing cross-functional metrics. This also requires both the public sector and the private sector in the investment of supportive infrastructure needed to facilitate economic flows of activity across the sector's entire value network and supply chain. The continued growth and relative importance of healthcare across the world means that Nevada's Healthcare industry continues to face increasingly levels of competitive pressures. By achieving balance, strength, and resiliency in these areas, individual firms throughout Nevada can excel and remain competitive as healthcare activities and services continue to evolve in response to the continued growth of and change in the unique needs of the state's population.

## **5.1 Assessment of Balance, Strength, and Resiliency in Nevada's Healthcare Industry Sector Value Network and Supply Chain**

This subsection presents a detailed discussion and assessment of the overall balance, strength, and resiliency of Nevada's Healthcare industry sector and the sector's overarching value network and supply chain. Working definitions of balance, strength, and resiliency are presented along with an assessment of how balanced, how strong, and how resilient Nevada's Healthcare industry sector is relative to the working definitions developed as part of this effort.

### **5.1.a Balance**

Balance is a term applicable to all value networks and supply chains across the globe. As such, it is imperative to determine how balance is defined and applied to the supply chain for the Healthcare industry sector in Nevada. There are many moving parts that play a role in the supply chain with different needs. The largest component of Nevada's Healthcare industry sector is the hospital section. Balancing the value network and supply chain involves aligning the supply of healthcare goods and services with the fluctuating demands of patients and healthcare providers. A large portion of the balance availed for the overall supply chain is dependent on the balance of the supply chain flowing through the hospitals. The goal for a balanced supply chain in Nevada's Healthcare industry sector relies on multiple metrics to illustrate the system's ability to operate.

Balance for the supply chain of Nevada's Healthcare industry sector is having a value network that can maintain sufficient operations for regional demand during disruptions, like the COVID-19 global pandemic. The network should also be able to manage the workforce to create enough supply in the state and within each of the eight regional economic development authorities to support the surrounding population in need of healthcare. These basics would cover general and surgical hospitals as well as offices of physicians, including those specialized in mental health. Enough physicians and mental health specialists would be required to meet the national average to create a more balanced value network for Nevada's Healthcare industry sector. The metrics

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used to measure the industry's overall balance would relate to the amount of regional demand in the state and across each of the eight regional economic development authorities. Healthcare services generally fall short of supplying enough commodities to sustain the regional demand due to lack of sufficient employment. To become balanced, the industry must increase and maintain employment in healthcare professions and fill positions as the workforce begins to retire. Increasing the workforce will help to expand shareholder value across the state and capture part of the value that is currently leaving the state.

The balance of the value network and supply chain of Nevada's Healthcare industry sector can be evaluated and measured in several ways using the definition of balance previously established. One way the balance of Nevada's Healthcare industry sector can be evaluated is by examining the Regional Purchasing Coefficient (RPC) for key parts of the Healthcare industry sector for each of the eight regional economic development authorities, which is the percentage of local demand for a given commodity that is met by regional input. An RPC of 0.0 percent is unfavorable and means that a region is sending money away because none of the local demand is met by manufacturing within the region. If Nevada's Healthcare industry sector was perfectly balanced, each region would be manufacturing and producing 100.0 percent of the supply needed to satisfy existing demand for that product within the region. Another important metric for evaluating this balance is the leakage, or the dollar amount that is not captured within a region due to lack of production; this coincides with the estimates for RPCs for individual parts of the Healthcare industry sector.

When examining Regional Purchasing Coefficients and leakage, each of the eight regional economic development authorities and the state of Nevada as whole should strive to achieve a high percentage RPC and minimal leakage. The Economic Development Authority of Western Nevada, which includes Washoe County, is the second highest spending regional development authority in-terms of healthcare related goods and services and has a significant amount of leakage. In-vitro diagnostic substances has an RPC of 0.0 percent for the Economic Development Authority of Western Nevada, meaning there is no local production in this related subsector, and an estimated total leakage of \$48,409,099. Surgical appliances, supplies, surgical and medical instruments has an RPC of 0.7 percent, meaning that there is no significant local manufacturing. There is a total estimated leakage of \$46,083,342 for surgical appliances, supplies, surgical and medical instructions for the Economic Development Authority of Western Nevada. Biological products has an estimated 0.0 percent RPC as well, with an estimated total leakage of \$7,313,548.

The Las Vegas Global Economic Alliance is the largest of the eight regional economic development authorities by total population, has the largest dollar value of identified gaps in the region's Healthcare industry sector value network and supply chain, and is the most out of balance in terms of estimated RPC and leakage. For biological products, the RPC is an estimated 0.05% for the Las Vegas Global Economic Alliance region, meaning no significant regional production, and a leakage of \$208.6 million. For surgical supplies and medical instruments, there are estimated total leakages of \$53,993,379 and \$27,393,302 respectively. Due to the sheer size and dollar amount, changes made in this region are likely to have large impacts on other regional economic development authorities and on the state's overall Healthcare industry sector.

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When examining and evaluating the balance of the Healthcare industry sector for the smaller and more rural and non-metro regional economic development authorities, it is important to note that the value of the leakage is fairly insignificant when compared to the two largest and more urban and metropolitan regional economic development authorities, the Economic Development Authority of Western Nevada and the Las Vegas Global Economic Alliance, the state. The Northeastern Nevada Regional Development Authority, which contains Elko, Eureka, Lander, and White Pine counties, has an estimated total leakage of just \$5,280,212 in its own Healthcare industry sector. The Nevada 95-80 Regional Development Authority, which includes Humboldt and Pershing counties, also has no medical supply manufacturing presence in the region and just a minimal leakage. The Northern Nevada Development Authority, which includes Carson City, Douglas, Lyon, Mineral, and Storey counties, has a combined total estimated leakage of approximately \$15.0 million across three separate parts of the region's Healthcare industry sector and the industry sector's value network and supply chain, including pharmaceutical consumables, biological products and reagents, and base organic materials, botanicals, and medicines, each with an estimated 0.0 percent RPC. The Southwest Central Regional Development Authority, which includes Esmeralda and Nye counties, has a similar estimated total leakage in terms of dollar amount and an estimated RPC of 0.0 percent. Two of the smallest regional economic development authorities, in terms of total population, are the Churchill Fallon Development Authority, which includes Churchill County, and the Lincoln Development Authority, which includes Lincoln County. These two regional economic development authorities have no medical supply manufacturing presence in their respective region, and each has less than \$1.0 million in total leakage across the value networks and supply chains of their respective Healthcare industry sectors.

In terms of Regional Purchasing Coefficients and Leakage, each of the eight regional economic development authorities across the state of Nevada are very out of balance. There is no significant healthcare industry manufacturing input anywhere in the state and each region must import various supplies and items to support the regional Healthcare industry sector. Each regional development authority region would need a nearly 100.0 percent increase in the current manufacturing output to meet the demand for various business-to-business goods and services across the Healthcare industry sector for each of the regional economic development authorities. The statewide analysis using estimated RPCs across each of the various regional economic development authorities unveiled significant imbalances in Nevada's Healthcare industry sector, resulting in substantial economic leakages. This emphasizes the urgent need for partnerships with existing companies and distributors to mitigate losses, address manufacturing input gaps, and bolster workforce development efforts. Moreover, policy reforms are crucial to attract, train, and retain healthcare professionals across the state. The COVID-19 global pandemic exacerbated disparities and challenges in Nevada's Healthcare industry sector but also helped spur innovation and collaboration, laying the groundwork for a more resilient future system. Despite a 2.3 percent decrease in the number of healthcare workers actively employed across the industry sector post-pandemic, Nevada continues to grapple with discrepancies in the ratio of people per hospital employee across each of the eight existing regional economic development authorities.

Rural areas in Nevada face unique obstacles in accessing healthcare services due to geographical constraints and workforce shortages, exacerbating challenges in service delivery. For example,

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Esmeralda County lacks essential healthcare facilities, forcing its residents to seek care in neighboring counties. Nevada's Healthcare industry sector heavily relies on external suppliers, particularly for pharmaceuticals and surgical supplies, making the supply chain vulnerable to disruptions from global pandemics and trade conflicts. Looking ahead, strategic initiatives for Nevada's Healthcare industry sector should prioritize investments in telemedicine infrastructure, workforce development, supply chain resilience, partnerships, legal compliance, and health equity. Collaborative efforts in addressing these priorities can pave the way for a more resilient, innovative, and equitable healthcare system. The COVID-19 global pandemic has reshaped Nevada's Healthcare industry sector, influencing the dynamics of its value network and supply chain. Assessing balance across Nevada's Healthcare industry sector in the context of the aftermath of the COVID-19 global pandemic entails evaluating various dimensions of the supply chain and healthcare delivery system. While the pandemic revealed vulnerabilities, it also prompted innovation and strategic planning, fostering resilience and adaptability for the future.

#### 5.1.b Strength

There is room for improvement in the strength of Nevada's Healthcare industry sector, apparent when reviewing the benchmark of person per hospital. The research shows that the national average ratio of people to hospital is 23,540 people per hospital for the United States as a whole. For just the state of Nevada, the ratio of people per hospital is 37,110 people per hospital. This demonstrates that the state of Nevada has 57.65 percent more people to service in hospital facilities. While the state of Nevada is below the national average, it is especially important for the state of Nevada because of the many rural areas that make it difficult to get to a hospital within a reasonable amount of time. For example, Esmeralda County does not have any doctor's offices, dentist's offices, or hospitals. Esmeralda County's estimated 744 total residents have no choice but to travel to the nearest county with these facilities in the event of an emergency or for routine appointments.

The national average ratio of people per individual hospital employee is 50 people per hospital employee. Research shows that, in the state of Nevada, there are 33,584 people who work in hospital facilities across the state, a state with an estimated total population of 3,080,156 people. This translates to approximately 93 people per hospital employee for the entire state of Nevada, meaning that the state of Nevada has almost double the amount of people per hospital employee when compared to the United State national average. These benchmarks and estimates are crucial to efficiently and effectively meeting patient needs. Research has shown that nursing staff having patients over the optimal ratio leads to higher rates of preventable deaths, longer hospital stays, worse patient outcomes, higher costs, and more readmissions. Additionally, a study in 2021 found that for every dollar spent on additional healthcare employees, hospital cost savings nearly doubled due to improvements in patient mortality, readmissions, and lengths of hospital stays. When comparing Nevada's largest county, Clark County including the Las Vegas metropolitan statistical area, there are 23,496 people who work in hospitals with a county with an estimated total population of 2,322,985 individuals. This breaks down to about 99 people per hospital facility employee. This is about 25.0 percent greater than the state average and double the national average of 50 people per hospital employee.

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To meet the growing and evolving healthcare needs of the state of Nevada, the state must meet two critical benchmarks, including the national average of 23,540 people per hospital and 50 people per hospital employee. These measures are relevant because it has been shown that a higher person per healthcare worker and hospital leads to worse patient outcomes. Because there are demographic and geographic aspects that are unique to Nevada, similar states were analyzed to highlight the needs in Nevada's Healthcare industry sector. The states chosen to compare Nevada to were Oklahoma, New Mexico, and Wyoming.

Nevada's Healthcare industry sector plays a crucial role in meeting the healthcare needs of its population, yet challenges persist in various aspects of the state's Healthcare industry sector overall. The degree of strength in Nevada's Healthcare industry sector was assessed and evaluated through a multifaceted analysis encompassing the regulatory environment, personnel requirements, county-by-county healthcare needs, economic impact, workforce analysis, and critical value network and supply chain management. By identifying key areas for improvement and opportunities for growth, this analysis aims to inform strategic planning and interventions to enhance the overall strength of Nevada's Healthcare industry sector and the sector's overall value network and supply chain.

#### *5.1.b.1 Regulatory Environment and Personnel Requirements*

The regulatory environment of Nevada's Healthcare industry sector is shaped by a combination of federal and state laws, emphasizing patient well-being, technological advancement, and strategic planning. Federal laws such as the Healthcare Insurance Portability and Accountability Act and the Health Information Technology for Economic and Clinical Health Act lay the foundation for healthcare practices, while state laws like Nevada Revised Statute Chapter 439A and the Prescription Monitoring Program further regulate healthcare practices across the state. Unique aspects of Nevada's regulatory environment, such as the recognition of registered nurses as practitioners and the role of medical assistants, impact healthcare delivery and personnel requirements. Addressing these regulatory challenges and ensuring compliance is essential for maintaining quality, transparency, and adaptability in healthcare practices throughout the state.

#### *5.1.b.2 County-by-County Overview of Healthcare Needs*

Healthcare needs across the state vary significantly by county, with disparities in access to healthcare services and workforce availability. Rural counties face unique challenges, including limited healthcare facilities and workforce shortages, exacerbating disparities in access to care. The analysis underscores the importance of addressing these disparities and improving healthcare infrastructure and workforce capacity, particularly in underserved areas. Strategic investments and collaborations between stakeholders are essential for meeting the diverse healthcare needs of all Nevadans across all counties and across each of the eight regional economic development authorities.

#### *5.1.c.3 Economic Impact and Workforce Analysis*

The Healthcare industry sector plays a vital role in Nevada's economy, contributing to employment opportunities and economic growth. However, the state faces challenges such as a

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shortage of healthcare professionals and disparities in access to care, particularly in rural and non-metro areas. Addressing these challenges requires strategic planning and targeted interventions to enhance workforce capacity, improve access to care, and mitigate economic leakage. Telemedicine expansion, healthcare policy reforms, and healthcare tourism growth present opportunities for enhancing Nevada's Healthcare industry sector and driving economic development across the entire state.

#### *5.1.b.4 Critical Value Network and Supply Chain Management*

An analysis of Nevada's critical value network and supply chain management practices reveals vulnerabilities and dependencies in key industries such as pharmaceuticals and surgical supplies. Addressing these vulnerabilities requires strategic partnerships, diversification of supply sources, and investment in local manufacturing capabilities. By strengthening the supply chain and enhancing collaboration among stakeholders, Nevada can improve access to essential medical goods and services and mitigate risks associated with external threats.

The degree of strength in Nevada's Healthcare industry sector requires a multifaceted approach that addresses regulatory challenges, personnel requirements, county-by-county healthcare needs, economic impact, workforce analysis, and critical value network and supply chain management practices. Strategic planning and targeted interventions are essential for improving patient outcomes, enhancing healthcare delivery, and driving economic development statewide. By leveraging opportunities and addressing challenges, Nevada can build a balanced and resilient and sustainable healthcare system that meets the diverse needs of its population. The COVID-19 global pandemic created a situation that was so dire that it forced companies, individuals, and the entire Healthcare industry sector and supply chain to break its largely complacent attitude when it comes to building strength. The pandemic quickly showed the critical flaws in the logic of the former status quo. The state of Nevada naturally felt the black eye as well along with the motivation to build up strength within the Healthcare industry sector in providers of service, infrastructure, commodities, and transportation which were already known but not given the attention which was truly needed until crisis struck.

#### 5.1.c Resiliency

For every supply chain, resiliency is the ability to prepare for and adapt to unexpected events. Across Nevada's Healthcare industry sector and its supply chain, there are many events that have disrupted and have the potential to disrupt operations. Because of the COVID-19 global pandemic, all counties in Nevada except for Washoe County saw a reduction in the workforce of its own unique Healthcare industry sector's workforce. Throughout the year and more prevalent in the winter months, healthcare facilities in Nevada bear the risk of equipment, supply, and patient transport delays. Global events can also cause widespread supply chain disruptions that impact Nevada's Healthcare industry sector such as when the Ever Given became stuck in the Suez Canal for six days and disrupted global shipping operations. A resilient supply chain is one that can minimize disruptions during such unexpected events and a perfectly resilient supply chain would not experience any disruptions from unexpected events.

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Resiliency in Nevada's Healthcare industry sector and its supply chain consists of two components, including that the industry must be prepared for disruptive events and have contingency operations in place for when unexpected events occur. First, Nevada's Healthcare industry sector should have an appropriate workforce to serve patients and create demand for supplies and equipment. A plan to increase the workforce if another unexpected event such as the COVID-19 global pandemic happens and much of the state experiences an exodus of healthcare workers should be developed. Second, the Healthcare industry sector in Nevada should have the ability to adapt to disruptions in their supply chains for unexpected events both locally and globally. Healthcare facilities in the state should be ready for surges in demand such as those in a mass casualty event and should have the ability to source extra supplies and equipment to meet such a surge in demand. Healthcare facilities should also be able to source adequate amounts of equipment and supplies during times of global disruption. A perfectly resilient Healthcare industry sector in Nevada should always have an adequate workforce with the ability to source sufficient equipment and supplies when they are needed regardless of unexpected events both locally and globally.

The resiliency of Nevada's Healthcare industry sector and its supply chain can be evaluated for each individual regional economic development authority and for the entire state. To evaluate the resiliency of the Healthcare industry sector and its supply chain within Nevada from a demand perspective, first the workforce by each individual regional economic development authority and for the whole state is examined. Regional Purchase Coefficients (RPC) of supplies used in the Healthcare industry sector through business-to-business transactions are then observed to evaluate the resiliency of the supply side of Nevada's Healthcare industry sector and its corresponding value network and supply chain.

The national benchmark for people per hospital is 23,540 and 50 people per hospital employee. Nevada averages 37,110 people per hospital and 94 people per hospital employee. The Las Vegas Global Economic Alliance averages 96 people per hospital employee, the Economic Development Authority of Western Nevada averages 67 people per hospital employee, and the other six regional economic development authorities combined average 93 people per hospital employee. Since the COVID-19 global pandemic exodus of healthcare workers in Nevada, there are still 2.3 percent fewer healthcare workers than before the pandemic. Out of 24 industries that generally encompass the supply side of Nevada's Healthcare industry sector, 13 had RPCs below 75.0 percent with over \$1,000,000,000 being used to purchase these supplies from outside of the state annually. The Las Vegas Global Economic Alliance only produced and purchased 0.05 percent of the biological products except diagnostic consumed with over \$200,000,000 being spent outside of the region annually to satisfy local regional demand. Healthcare firms operating within the Economic Development Authority of Western Nevada spent over \$48,000,000 on in-vitro diagnostic substances supplies with none of the supply being purchased locally.

In examining the resiliency of Nevada's Healthcare industry sector and its supply chain, two key observations emerge, one explicit and one implicit. The explicit observation is the lack of resiliency from a demand perspective. Nevada's average of 94 people per hospital stands nearly double the national benchmark of 50 people per hospital. This glaring disparity underscores the urgent need for the state to devise strategies aimed at attracting and retaining healthcare workers to bolster its resilience in meeting demand. Conversely, the implicit observation suggests

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vulnerability to unforeseen events within Nevada's Healthcare industry sector and across the corresponding supply chain. With 24 supply categories typically covering the needs of the state's Healthcare industry sector, and a concerning 13 of these categories failing to meet at least 75.0 percent of local demand, there exists significant potential for unexpected events to precipitate severe disruptions. From both the standpoint of supply and demand, Nevada's Healthcare industry sector reveals vulnerabilities rather than resilience. To address this, the state must prioritize efforts to attract and retain healthcare workers and devise contingency plans aimed at minimizing supply disruptions during unforeseen events. Bolstering the resiliency of Nevada's Healthcare industry sector necessitates a multifaceted approach, encompassing workforce development initiatives and strategic planning to safeguard against supply chain disruptions. By addressing these critical areas, Nevada can take proactive steps toward fortifying its healthcare infrastructure and ensuring its ability to withstand future challenges.

Assessing the strength, balance, and resilience of Nevada's Healthcare industry sector value network and supply chain, several key findings emerge. Firstly, Nevada's Healthcare industry sector exhibits notable strengths in its regulatory framework, personnel requirements, and overall economic impact. Federal laws like HIPAA and state regulations such as Nevada Revised Statute Chapter 630 Section 0129 contribute to a robust regulatory environment, while the sector's significant economic contribution underscores its vitality. However, an assessment of balance reveals significant imbalances, particularly in the reliance on external suppliers and the lack of local production. Despite efforts to address these vulnerabilities, such as the expansion of telemedicine during the COVID-19 global pandemic, the healthcare sector still faces challenges in meeting demand and ensuring resilience. Moving forward, strategic investments in disaster preparedness, workforce development to attract, train and retain the healthcare workers, and supply chain resilience are essential for improving the sector's overall resilience. Collaboration and partnership among stakeholders will be crucial in driving innovation and implementing sustainable solutions, ultimately ensuring a more robust and adaptive healthcare system for the future.

## **5.2 Overview of the Impact of the COVID-19 Global Pandemic on Nevada's Healthcare Industry Sector's Value Network and Supply Chain**

The impact of the COVID-19 global pandemic on Nevada's Healthcare industry sector has been multifaceted, encompassing various aspects of healthcare delivery, workforce management, resource allocation, and policy response. Initially, the pandemic presented unprecedented challenges, straining local, regional, and statewide healthcare systems, and highlighting vulnerabilities across the industry and across the industry's value network and supply chain.

### **5.2.a Healthcare Infrastructure Strain**

With the rapid spread of the COVID-19 virus across the globe, across the nation, and across the state, Nevada's healthcare infrastructure faced immense pressure. Hospitals, clinics, and medical facilities experienced surges in patient volumes, particularly in urban areas like the Las Vegas metropolitan statistical area and the Reno-Sparks metropolitan statistical area. The influx of COVID-19 patients stretched resources thin, leading to shortages of critical supplies, including



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personal protective equipment (PPE), ventilators, and hospital beds. Intensive care units (ICUs) reached or exceeded capacity, forcing healthcare providers to make difficult decisions about patient care prioritization.

#### 5.2.b Financial Impact

The COVID-19 global pandemic disrupted traditional revenue streams for healthcare providers, as elective procedures and non-urgent medical appointments were postponed or canceled to prioritize COVID-19 response efforts. This reduction in patient volume and revenue placed financial strain on hospitals, clinics, and other healthcare organizations, exacerbating existing financial challenges. Many healthcare facilities faced financial instability, layoffs, and budget cuts, further complicating their ability to respond effectively to the crisis.

#### 5.2.c Workforce Challenges

Healthcare workers faced unprecedented challenges during the COVID-19 global pandemic. Frontline healthcare professionals, including doctors, nurses, and emergency responders, worked tirelessly to care for COVID-19 patients while risking their own personal health and safety. Staffing shortages, particularly in critical care areas, emerged as a significant concern, prompting efforts to recruit and deploy additional healthcare personnel to support overwhelmed facilities. Additionally, healthcare workers experienced burnout, emotional distress, and moral injury due to the prolonged nature of the pandemic and the toll it took on patient care.

#### 5.2.d Telemedicine Adoption

To mitigate the continued spread of the COVID-19 virus and ensure continuity of care, Nevada's Healthcare industry sector rapidly embraced telemedicine and various other virtual care solutions. Telehealth visits surged, allowing patients to consult with healthcare providers remotely for non-urgent medical issues, follow-up appointments, and mental health services. This shift towards telemedicine not only helped reduce the risk of viral transmission but also expanded access to healthcare services, particularly for rural and underserved communities with limited access to traditional in-person care.

#### 5.2.e Policy Response

State and federal governments across the United States implemented various policy measures to address the healthcare challenges posed by the COVID-19 global pandemic. Emergency declarations, public health orders, and regulatory changes were enacted to facilitate pandemic response efforts, enhance healthcare capacity, and support healthcare providers. Funding initiatives, such as the Coronavirus Aid, Relief, and Economic Security (CARES) Act, provided financial assistance to healthcare organizations and facilitated the procurement of essential supplies and equipment.

#### 5.2.f Vaccine Distribution and Immunization Efforts

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The development and distribution of COVID-19 vaccines marked a significant milestone in the pandemic response. Nevada's Healthcare industry sector played a critical role in administering vaccines, coordinating vaccination clinics, and prioritizing high-risk populations for immunization. Mass vaccination efforts were launched to achieve herd immunity and control the spread of the virus, requiring collaboration between healthcare providers, public health agencies, and community organizations.

The impact of the COVID-19 global pandemic on Nevada's Healthcare industry sector and its corresponding value network and supply chain underscored the resilience and adaptability of healthcare professionals and organizations in responding to unprecedented challenges. While the pandemic revealed vulnerabilities within the healthcare system, it also spurred innovation, collaboration, and policy reform to strengthen preparedness for future public health emergencies.

### **5.3 Economic Development Recommendations for Nevada's Healthcare Industry Sector Value Network and Supply Chain**

Five separate recommendations, designed to enhance the overall balance, strength, and resiliency of Nevada's Healthcare industry sector and the sector's corresponding value network and supply chain are presented in this subsection. These recommendations include mental health network improvement, home healthcare services and assisted living, increasing the number of physicians, the status of nursing throughout the state, and public and private entity information.

#### **5.3.a Statewide Recommendation No. 1, Mental Health Network Improvement**

Currently, Nevada is in violation of the Americans with Disabilities Act of 1990, specifically due to the lack of coverage for children in the state with mental health issues. According to Health Professional Shortage Area (HPSA) data managed by the Health Resources and Services Administration (HRSA), 2.8 million Nevadans or nearly 86.9 percent of the state's total population reside in a mental health HPSA, an area that includes 100.0 percent of the state's rural and frontier counties. Washoe County is the only compliant county in Nevada meeting the criteria outlined by Health Resources and Services Administration. Partnering with and aligning state standards with mental health service provision efforts currently being implemented in Washoe County should be explored. Some state resources are already in place but perhaps underutilized are Nevada Crisis Support Services and Nevada Alliance Mental Health. Both organizations are working diligently to provide accessible mental health resources both in-person and via telehealth. Lastly, to highlight the severity of mental health resources in the state, Nevada averages 11,506 people per psychiatrist compared to the national average of 8,471 people per psychiatrist.

#### **5.3.b Statewide Recommendation No. 2, Home Healthcare Services and Assisted Living**

According to Health Professional Shortage Area (HPSA) data managed by the Health Resources and Services Administration (HRSA), currently 2.3 million Nevadans or 69.7 percent of the state's total population reside in primary care health professional shortage areas (HPSA). The United States Department of Justice has noted that Nevada lacks community-based services such

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as intensive in-home services, crisis services, intensive care coordination, respite, therapeutic foster care, and other family-based supports. The only county that is currently in compliance with the Americans with Disabilities Act regarding home healthcare services and assisted living services is Washoe County.

The Governor's Office of Economic Development states that Nevada has a population growth rate trend of 1.0 percent compared to the national average of just 0.12 percent. Nevada's aging population, as of 2021, while still below national average at 16.5 percent of Nevada residents 65 years of age or older, increased significantly from 13.4 percent in 2016. Projections show a similar trend that, by 2030, estimates show Nevada's population above 65 years of age will reach an estimated 20.3 percent of the total population. Population growth trends for the state of Nevada (12.4 percent) increase along with the urban counties, Clark County (12.2 percent), Washoe County (15.8 percent), Carson City (6.2 percent), and an estimated 9.5 percent for rural and frontier counties. This ever-increasing aging population will continue to result in an ever-increasing demand for home healthcare services for both at home care and assisted living facilities.

### 5.3.c Statewide Recommendation No. 3, Increase the Number of Active Physicians

Nevada, as of 2022, is ranked 45<sup>th</sup> nationally for active physicians per 100,000 population, 48<sup>th</sup> for primary care physicians, and 49<sup>th</sup> for general surgeons. Nevada also ranks 24<sup>th</sup> among U.S. states for undergraduate medical students per 100,000 population and is 41<sup>st</sup> for residents and fellows per 100,000 population. Nevada has above average completion numbers in regard to undergraduate medical education (UME) eight and graduate medical education (GME). Nearly 76.9 percent of physicians who completed both programs in Nevada were retained into their professional career. As a state, Nevada has 33 of 39 specialty areas where the state is below the national average in physicians per 100,000 population, including general surgery, pediatrics, and psychiatry.

The Governor's Office of Economic Development has noted that Nevada has a population growth rate trend of 1.0 percent compared to the national average of 0.12 percent. Nevada's aging population, as of 2021, while still below national average at 16.5 percent of Nevada residents 65 years of age or older, increased significantly from 13.4 percent in 2016. Projections show a similar trend that, by 2030, the estimates show Nevada's population above 65 years of age will reach 20.3 percent of the state's total population. Nevada will continue to experience a shortage of physicians compared to national averages if both growth trends persist and there is a deficit in physician retention and growth. Nevada has a nearly 17.0 percent inactive rate for licensed physicians, the shortage of licensed physicians coupled with a growing aging population magnifies the necessity to reverse these trends. In some rural Nevada counties, practicing physicians' average age is nearly ten years older than the national average, at 61.2 years old compared to 52.9 for general practitioners. These overall medical professional growth numbers do not factor in the growing population and the increasingly aging population.

Malpractice laws in the State of Nevada recently changed with two main factors, adjustments to statute of limitations and raising the compensation cap per malpractice lawsuit. The statute of limitations for filing a malpractice case in the state is two years from time of discovery and/or

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three years from the time the provider caused harm. Recently, the statute of limitations increased from one to two years with a revision to Nevada Revised Statute Chapter 41A Section 097 in October 2023. Any acts that occurred before then are still subject to the one-year rule. Nevada Assembly Bill 404, signed into law by Governor Lombardo in June 2023, increases the cap from the previous \$350,000 to \$750,000 by 2028. Increasing by \$80,000 over the next five years, then an annual increase of 2.1 percent starting in 2029. These legal changes provide added friction for growing and retaining physicians and will likely result in higher insurance costs as it incentivizes physicians to practice medicine outside Nevada.

#### 5.3.d Statewide Recommendation No. 4, Status of Nursing in Nevada

Nursing is another area where employee numbers are lagging behind national averages. Recent trends over the past five years show a strong growing industry with proper resources aligned to help improve upon and expand nursing in Nevada. Over the past decade, licensed registered nurses in Nevada have increased from 20,214 total individuals in 2012 to an estimated 31,152 total individuals in 2022, a total increase of 10,938 total registered nurses or by 54.1 percent. The number of licensed registered nurses per 100,000 population during this same ten-year period increased from 735.2 registered nurses per 100,000 population to 971.0 registered nurses per 100,000 population, a percentage increase of 32.1 percent. This is buoyed by a recent spike, as of 2018, Nevada as a state had regressed to 706.6 registered nurses per 100,000 population.

Nursing program graduates is one area where Nevada can access current structures towards improvement through comparisons of prior years and historical trends. Graduates from nursing programs, both public and private institutions, have steadily increased from 2012 through 2022. There was a minor drop in graduates from 2022 to 2023, likely influenced by the COVID-19 global pandemic. Graduation estimates for 2020 through 2021 for Nevada were 1,737 total graduated nurses, with 2021 through 2022 experiencing the highest state total to date of 2,115 graduated nurses. For 2022 through 2023, Nevada had 2,071 students graduate with a nursing degree. One outstanding program with a significant improvement was Las Vegas College's Associates of Applied Science in Nursing. This program graduated just two students in 2020 through 2021, with a large jump to 146 graduated students in 2021 through 2022.

#### 5.3.e Statewide Recommendation No. 5, Public and Private Entity Information

Data accessed through the Office of Workforce Innovation's Nevada P-20 to Workforce Research Data System (NPWR) are specific only to public universities and institutions. However, this data does not tell the entire story for the state and for each of the eight regional economic development authorities. Information from private universities is not stored in the NPWR database and therefore is not included in models based on this data. It is recommended that the state of Nevada work to incorporate a comprehensive dataset which includes all educational institutions in Nevada. By creating a single source of data, the state can make more accurate predictions of where resources need to be allocated to meet present and future healthcare issues. Collecting data of this scale is arduous and costly but having a complete understanding of important workforce development efforts, efforts undertaken by the state's public institutions of higher education as well as private institutions, is essential in better

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understanding the state's Healthcare industry sector workforce and in making better informed decisions regarding how the workforce must be improved to meet current and future demand.

## **5.4 Economic Development Recommendations for Nevada's Healthcare Industry Sector Value Network and Supply Chain by Regional Economic Development Authority**

Given the unique opportunities and challenges present in the Healthcare industry sector for each of Nevada's eight existing regional economic development authorities, a series of tailored economic development recommendations have been developed for each regional economic development authority. These tailored economic development recommendations for each individual regional economic development authority are presented in this subsection.

### 5.4.a Churchill Fallon Development Authority

With a population of 25,843 total individuals and no medical center or manufacturers located in this region currently, it is suggested to follow the statewide recommendations outlined in the above subsection. One of these statewide recommendations that is most applicable to the Churchill Fallon Development Authority is a program focused on improving telehealth medicine services for mental health appointments. Given the current state of mental healthcare services statewide, this could be vital to correct statewide compliance with the Americans with Disabilities Act.

### 5.4.b Economic Development Authority of Western Nevada

The Economic Development Authority of Western Nevada is centered in a growing region that has the beginnings of a strong industrial base in manufacturing and healthcare. However, gaps in these industries exist that are exacerbated by poor completion and retention rates in related fields. The Economic Development Authority of Western Nevada should seek to improve its educational quality to meet the demand of industry to move the strong enrollment count through to the next step. Doing so is imperative to enhance the workforce's development to meet the growing need for skilled workers in the area. Specifically for healthcare workers, it is recommended that the Economic Development Authority of Western Nevada increase the residency, retention, incentive and opportunities for its in-state physicians and nurses. Because of the University of Nevada, Reno offering tuition payment for physicians who practice in rural areas, the addition of more specialized residency programs could help to retain specialized physicians. These specialized physicians could meet shortages in this region, in neighboring regions, and across the entire state.

### 5.4.c Las Vegas Global Economic Alliance

Due to its large population and concentration of existing educational and human resources, the Las Vegas Global Economic Alliance should seek to increase its medical device manufacturing capabilities. The attraction of larger medical device manufacturers could cut into the almost \$53 million gap that exists within the value network and supply chain in the Las Vegas Global

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Economic Alliance region. New manufacturers would be some of the first major contributors to this industry in the area, with only 0.21 percent of local demand currently being met by local producers. Local educational institutions such as the University of Nevada, Las Vegas and the College of Southern Nevada each can develop the workforce needed to meet this demand. A strong manufacturing base already exists in this region, which enables many employees to apply transferable skills to new fields. The attraction of large medical device manufacturers to the area will benefit from the Kirk Kerkorian School of Medicine at the University of Nevada, Las Vegas. Opened in 2014, this School is growing and has the potential to help bring more surgeries and operations to the area which will continue to grow the medical device industry's leakage if not addressed. Additional investment into the Kirk Kerkorian School of Medicine will also help to address the physician shortage in the region and throughout the entire state. With nearly 67.0 percent of Nevada physicians located in Clark County, an increase in new physician output at the University of Nevada, Las Vegas could fill the immediate regional needs and carry over into neighboring counties.

#### 5.4.d Lincoln County Regional Development Authority

The area inside of the Lincoln County Regional Development Authority is rural with lower amounts of practicing physicians. In situations like this where the ability for in-person physician care is limited, telehealth becomes a favorable option. However, these rural areas do not have the infrastructure built up to maintain the connections and communication needed to support telehealth systems. This is especially apparent in the winter months where patients may be less likely to travel distances to practicing physicians and the existing communication lines may be taxed by inclement weather. It is recommended that the Lincoln County Regional Development Authority improve its telecommunication capability to better support the growth of telehealth services within the region's boundaries.

#### 5.4.e Nevada 95-80 Regional Development Authority

Due to geographical challenges and limited access to healthcare services in rural areas, the region should seek to increase investment in telemedicine centers to provide virtual healthcare services. Telemedicine can help reduce the need for costly healthcare expansions while improving access to medical services for residents in remote areas. Additional effort should be made in addressing major gaps in the Healthcare industry sector's supply chain, such as sanitary paper products, wholesale services of professional and commercial equipment and supplies, and dental laboratories. The region should also seek to develop strategies to retain capital within the local economy by addressing these gaps. Additionally, the Nevada 95-80 Regional Development Authority should explore the development of partnerships with neighboring regions or counties to establish shared healthcare supply chain infrastructure and collaborate with other regional economic development authorities to leverage resources and address common challenges. Investment in infrastructure improvement projects to address road conditions, enhance highway access, and mitigate weather disruptions should also be made and the region should further strive to improve transportation networks to facilitate the movement of goods and services within and outside the region. The Nevada 95-80 Regional Development Authority should develop training programs to prepare the local workforce for jobs in healthcare supply chain management,

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including manufacturing and logistics by collaborating with educational institutions and training providers to offer tailored programs that meet the specific needs of the healthcare industry.

#### 5.4.f Northern Nevada Development Authority

The Northern Nevada Development Authority and its partners should invest in further development and maintenance of transportation infrastructure, including roads, railways, and airports, to facilitate the movement of goods and people. Focusing on improving connectivity and efficiency to attract businesses looking for easy access to transportation routes and encouraging the development of intermodal transportation facilities that facilitate the seamless transfer of goods between different modes of transportation, such as rail to truck or air to truck, should also be explored. It is essential that the Northern Nevada Development Authority and its various partners establish partnerships with logistics companies to optimize transportation routes and reduce shipping times and costs and create new incentives for companies involved in trade and logistics to establish operations in the region. Additional related efforts include streamlining customs and border procedures to expedite the movement of goods across borders and developing logistics hubs strategically located near transportation nodes to serve as distribution centers for goods moving in and out of the region. The Northern Nevada Development Authority should also explore the possibility of providing support for the development of warehousing and storage facilities to meet the increasing demand for storage space. Embracing emerging technologies such as autonomous vehicles, drones, and blockchain to improve the efficiency and reliability of transportation and logistics operations and supporting research and development efforts focused on enhancing transportation and logistics systems should also be explored.

#### 5.4.g Northeastern Nevada Regional Development Authority

The Northeastern Nevada Regional Development Authority should seek to develop targeted workforce training programs in collaboration with local educational institutions to address the shortage of skilled professionals in key sectors such as in-vitro diagnostic substances, biological products (except diagnostic), and surgical appliances and supplies. Establishing partnerships between local industries and academic institutions to create tailored educational programs that address the specific needs of biomedical and pharmaceutical sectors should be explored by offering internships, apprenticeships and on the job training opportunities to students and graduates to provide them with practical experience and facilitate their transition into the workforce. The region should also introduce policies and incentives to attract skilled professionals to the region, such as student loan forgiveness programs for graduates who choose to work in key sectors (biomedical engineering and pharmaceuticals). Tax incentives for companies that invest in workforce development and training programs and affordable housing initiatives to make the region more attractive to young professionals and families are part of the strategy the region should explore to attract and retain skilled professionals. The region and the region's partners and stakeholders should allocate funding for research and development initiatives aimed at driving innovation and advancing manufacturing capabilities in key sectors (biomedical engineering and pharmaceuticals) and establish innovation hubs or technology parks to facilitate collaboration between research institutions, companies, and entrepreneurs. Launching awareness campaigns to promote careers in those key sectors and highlight the

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opportunities available within the region and engaging with local schools, colleges, and community organizations to inform students and parents about career pathways in biomedical and pharmaceutical industries could potentially aid in the overall improvement of the region's Healthcare industry sector.

#### 5.4.h Southwest Central Regional Economic Development Authority

The Southwest Central Regional Economic Development Authority did not have adequate datasets available to draw confident conclusions. The region is massive in geographic area but has a very low population density. The town of Pahrump, however, has experienced significant population growth over the past decade, possibly due to its proximity to the city of Las Vegas and the larger Las Vegas metropolitan statistical area. Given this opportunity of a growing town in a mainly rural county, the Southwest Central Regional Economic Development Authority should seek to enhance its overall reporting of wages and economic data. Doing so will enable the regional economic development authority to draw additional conclusions about the region's unique Healthcare industry sector's demand characteristics.



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## **Appendix A – Churchill Fallon Development Authority**

<b>Table A.1 – Top Industry Sectors Churchill Fallon Development Authority 2022</b>					
<b>Description</b>	<b>Sum of Total Output</b>	<b>Sum of Wage and Salary Employment</b>	<b>Sum of Proprietor Employment</b>	<b>Sum of Total Employment</b>	<b>Sum of Proprietor Income</b>
Employment and payroll of federal govt, military	\$ 178,104,599.74	1,452	-	1,452	-
Owner-occupied dwellings	\$ 152,630,778.87	-	-	-	-
Dry, condensed, and evaporated dairy product manufacturing	\$ 122,453,808.72	91	15	106	\$ 272,846.57
Facilities support services	\$ 97,433,510.70	407	108	515	\$ 1,366,638.64
Scenic and sightseeing transportation and support activities for transportation	\$ 86,826,158.70	636	4	640	\$ 194,024.90
Search, detection, and navigation instruments manufacturing	\$ 81,972,404.76	140	9	149	\$ 448,525.79
Hospitals	\$ 78,848,265.96	376	4	380	\$ 38,454.46
Dairy cattle and milk production	\$ 74,826,829.25	39	18	57	\$ 3,467,494.24
Secondary processing of other nonferrous metals	\$ 65,861,873.93	72	2	74	-\$350,983.80
* Employment and payroll of federal govt, non-military	\$ 56,339,302.79	460	-	460	-

Source: IMPLAN

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## **Appendix B – Economic Development Authority of Western Nevada**

<b>Table B.1 – Top Industry Sectors</b> <b>Economic Development Authority of Western Nevada</b> <b>2022</b>					
<b>Description</b>	<b>Sum of Total Output</b>	<b>Sum of Wage and Salary Employment</b>	<b>Sum of Proprietor Employment</b>	<b>Sum of Total Employment</b>	<b>Sum of Proprietor Income</b>
Owner-occupied dwellings	\$3,423,224,647.06	-	-	-	-
Other real estate	\$3,197,571,607.61	3,006	14,035	17,041	-\$15,690,631.39
Other communication and energy wire manufacturing	\$1,892,051,572.22	2,807	13	2,819	\$832,796.26
Insurance carriers, except direct life	\$1,615,641,298.77	1,211	555	1,766	\$1,849,055.17
Hospitals	\$1,502,502,978.07	7,232	14	7,246	\$3,632,965.52
Management of companies and enterprises	\$1,372,554,290.44	3,738	880	4,618	\$3,973,899.69
Construction of new single-family residential structures	\$1,242,746,808.44	4,481	685	5,167	\$120,322,046.28
Truck transportation	\$1,161,050,684.64	3,630	715	4,345	\$111,505,273.25
Warehousing and storage	\$1,140,587,563.08	9,543	127	9,670	\$6,788,053.23
Hotels and motels, including casino hotels	\$1,120,648,009.02	7,830	204	8,034	\$17,469,069.56

Source: IMPLAN

<b>Table B.2 – Output and Employment, Healthcare Industry Sector Economic Development Authority of Western Nevada 2022</b>		
<b>Category</b>	<b>Sum of Total Output</b>	<b>Sum of Total Employment</b>
Surgical appliance and supplies manufacturing	\$ 31,339,805.49	48
Ophthalmic goods manufacturing	\$ 22,779,747.29	40
Dental laboratories	\$ 20,036,970.77	111
Surgical and medical instrument manufacturing	\$ 14,743,537.23	29
Dental equipment and supplies manufacturing	\$ 4,192,468.83	9
<b>Total</b>	<b>\$ 93,092,529.61</b>	<b>237</b>

Source: IMPLAN

<b>Table B.3 – Total Employment Estimates for Related Sectors and Commodity Areas, In-Vitro Diagnostic Substances</b> <b>Economic Development Authority of Western Nevada</b>		
<b>NAICS Code</b>	<b>Sector and Commodity Area Description</b>	<b>Total Employment</b>
446199	Chemist/Pharmacies and Drug Stores	3
541714	Biologist/Biotechnologists	26
339112	Engineers specialized in medical device manufacturing	16
926150	Quality Assurance/Regulatory Compliance Specialists	2

*Source: Nevada Department of Employment, Training, and Rehabilitation; Office of Workforce Innovation, Nevada P-20 to Workforce Research Data System (NPWR)*

<b>Table B.4 – Total Employment Estimates for Related Sectors and Commodity Areas, Biological Productions, Except Diagnostics</b> <b>Economic Development Authority of Western Nevada</b>		
<b>NAICS Code</b>	<b>Sector and Commodity Area Description</b>	<b>Total Employment</b>
5417	Biologist/ Biotechnologists	26
6213	Biomedical Technicians/ Microbiologists	49
5413	Pharmaceutical & Medicine Engineers	52
926150	Quality Assurance/ Regulatory Compliance Specialists	2

*Source: Nevada Department of Employment, Training, and Rehabilitation; Office of Workforce Innovation, Nevada P-20 to Workforce Research Data System (NPWR)*

<b>Table B.5 – Total Employment Estimates for Related Sectors and Commodity Areas, Surgical Equipment and Manufacturing Economic Development Authority of Western Nevada</b>		
<b>NAICS Code</b>	<b>Sector and Commodity Area Description</b>	<b>Total Employment</b>
339	Engineers specializing in medical device design and manufacturing.	16
811310	Machinists	6
926150	Quality Assurance/ Regulatory Compliance Specialists	2
6213	Biomedical Technicians/ Microbiologists	49
326	Plastic Product Manufacturing	13
3552	Resin, Synthetic Rubber, and Artificial and Synthetic Fibers Manufacturing	0
3262	Rubber Product Manufacturing	1
3222	Converted Paper Product Manufacturing	3
3221	Pulp, Paper, and Paperboard Mills	3
3141	Textile Furnishing Mills	0

*Source: Nevada Department of Employment, Training, and Rehabilitation; Office of Workforce Innovation, Nevada P-20 to Workforce Research Data System (NPWR)*



<b>Table B.6 – Total Employment Estimates for Related Sectors and Commodity Areas, Healthcare, Medical Practitioners and Administration Economic Development Authority of Western Nevada</b>		
<b>NAICS Code</b>	<b>Sector and Commodity Area Description</b>	<b>Total Employment</b>
621111	Physicians	80
623110	Skilled Nurses	13
6213	Healthcare Practitioners	49
561110	Administrative Staff	1
561990	Support Staff	3
621498	Doctor of Medicine and Doctor of Dental Medicine	91

*Source: Nevada Department of Employment, Training, and Rehabilitation; Office of Workforce Innovation, Nevada P-20 to Workforce Research Data System (NPWR)*

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## **Appendix C – Las Vegas Global Economic Alliance**

<b>Table C.1 – Top Industry Sectors</b> <b>Las Vegas Global Economic Alliance</b> <b>2022</b>					
<b>Description</b>	<b>Sum of Total Output</b>	<b>Sum of Wage and Salary Employment</b>	<b>Sum of Proprietor Employment</b>	<b>Sum of Total Employment</b>	<b>Sum of Proprietor Income</b>
Hotels and motels, including casino hotels	\$14,096,413,226.83	87,906	1,546	89,452	\$109,057,147.59
Owner-occupied dwellings	\$13,536,734,120.79	-	-	-	-
Other real estate	\$12,736,492,510.79	13,531	46,217	59,747	\$458,620,205.15
Management of companies and enterprises	\$7,836,301,201.99	24,473	4,823	29,295	-\$133,782,473.45
Full-service restaurants	\$6,715,882,041.44	54,301	4,416	58,718	\$425,574,083.33
Air transportation	\$5,772,834,130.31	8,546	415	8,961	\$20,515,007.92
Limited-service restaurants	\$5,358,363,481.30	44,178	3,042	47,220	\$302,424,938.11
Hospitals	\$5,043,787,420.27	23,429	67	23,496	\$20,130,494.63
Insurance carriers, except direct life	\$4,750,576,611.66	4,644	1,733	6,377	\$10,129,803.85
Gambling industries (except casino hotels)	\$4,549,222,778.53	24,041	2,377	26,418	\$186,086,010.85

Source: IMPLAN

<b>Table C.2 – Output and Employment, Healthcare Industry Sector Las Vegas Global Economic Alliance 2022</b>		
<b>Category</b>	<b>Sum of Total Output</b>	<b>Sum of Total Employment</b>
Surgical appliance and supplies manufacturing	\$107,182,286.89	170
Surgical and medical instrument manufacturing	\$91,353,988.86	193
Dental laboratories	\$38,504,582.68	219
Ophthalmic goods manufacturing	\$9,551,924.03	22
Dental equipment and supplies manufacturing	-	-
<b>Total</b>	<b>\$ 246,592,782.46</b>	<b>604</b>

Source: IMPLAN

<b>Table C.3 – Total Employment Estimates for Related Sectors and Commodity Areas, Biological Products, Except Diagnostics Las Vegas Global Economic Alliance</b>		
<b>NAICS Code</b>	<b>Sector and Commodity Area Description</b>	<b>Total Employment</b>
3391	Medical Equipment and Supplies Manufacturing	2
3272	Glass and Glass Product Manufacturing	3
621511	Medical Laboratories	10
423450	Medical, Dental, and Hospital Equipment and Supplies Merchant Wholesalers	10
325411	Medicinal and Botanical Manufacturing	4

*Source: Nevada Department of Employment, Training, and Rehabilitation; Office of Workforce Innovation, Nevada P-20 to Workforce Research Data System (NPWR)*

<b>Table C.4 – Total Employment Estimates for Related Sectors and Commodity Areas, Surgical Equipment Manufacturing Las Vegas Global Economic Alliance</b>		
<b>NAICS Code</b>	<b>Sector and Commodity Area Description</b>	<b>Total Employment</b>
3261	Plastic Product Manufacturing	21
3252	Resin, Synthetic Rubber, and Artificial and Synthetic Fibers Manufacturing	0
3262	Rubber Product Manufacturing	0
3222	Converted Paper Product Manufacturing	0
3221	Pulp, Paper, and Paperboard Mills	0
3141	Textile Furnishings Mills	2
3272	Glass and Glass Product Manufacturing	3
3391	Medical Equipment and Supplies Manufacturing	2
3322	Cutlery and Handtool Manufacturing	1
3325	Hardware Manufacturing	0
541330	Engineering Services	82

*Source: Nevada Department of Employment, Training, and Rehabilitation; Office of Workforce Innovation, Nevada P-20 to Workforce Research Data System (NPWR)*

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## **Appendix D – Lincoln County Regional Development Authority**

<b>Table D.1 – Top Industry Sectors</b> <b>Lincoln County Regional Development Authority</b> <b>2022</b>					
<b>Description</b>	<b>Sum of Total Output</b>	<b>Sum of Wage and Salary Employment</b>	<b>Sum of Proprietor Employment</b>	<b>Sum of Total Employment</b>	<b>Sum of Proprietor Income</b>
Owner-occupied dwellings	\$27,745,314.06	-	-	-	-
All other crop farming	\$19,205,490.98	92	132	224	\$5,612,326.01
Rail transportation	\$15,768,886.90	19	-	19	-
Monetary authorities and depository credit intermediation	\$15,223,398.85	27	2	29	\$36,439.46
Beef cattle ranching and farming, including feedlots and dual-purpose ranching and farming	\$14,670,180.16	2	16	18	\$3,244,563.61
* Employment and payroll of local govt, education	\$14,299,606.50	166	-	166	-
Local government electric utilities	\$14,111,243.98	19	-	19	-
Wholesale - Petroleum and petroleum products	\$13,959,829.42	3	4	7	\$1,596.35
Other real estate	\$9,897,623.99	5	67	72	-\$179,265.75
Animal, except poultry, slaughtering	\$9,788,012.86	10	2	13	\$28,133.70

Source: IMPLAN



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## **Appendix E – Nevada 95-80 Regional Development Authority**

<b>Table E.1 – Top Industry Sectors</b> <b>Nevada 95-80 Regional Development Authority</b> <b>2022</b>					
<b>Description</b>	<b>Sum of Total Output</b>	<b>Sum of Wage and Salary Employment</b>	<b>Sum of Proprietor Employment</b>	<b>Sum of Total Employment</b>	<b>Sum of Proprietor Income</b>
Gold ore mining	\$1,323,495,718.31	2,167	158	2,325	\$9,081,928.02
Metal mining services	\$311,280,037.19	348	21	370	\$1,051,051.65
Owner-occupied dwellings	\$144,872,827.45	-	-	-	-
All other crop farming	\$132,313,529.82	386	355	741	-\$1,910,047.23
Silver ore mining	\$123,853,065.30	241	19	260	\$1,122,485.48
Electric power transmission and distribution	\$107,360,035.84	61	-	61	-
Beef cattle ranching and farming, including feedlots and dual-purpose ranching and farming	\$67,950,731.38	7	29	37	-\$1,768,044.49
* Employment and payroll of local govt, hospitals and health services	\$58,713,570.16	422	-	422	-
Construction of new power and communication structures	\$56,899,636.27	162	19	182	\$909,066.11
* Employment and payroll of local govt, education	\$53,229,610.39	621	-	621	-

Source: IMPLAN

<b>Table E.2 – Top Industry Sectors Humboldt County 2022</b>					
<b>Description</b>	<b>Sum of Total Output</b>	<b>Sum of Wage and Salary Employment</b>	<b>Sum of Proprietor Employment</b>	<b>Sum of Total Employment</b>	<b>Sum of Proprietor Income</b>
Gold ore mining	\$917,743,953.61	1,456	138	1,594	\$194,564,662.26
Metal mining services	\$294,434,070.21	330	18	349	-\$337,827.43
Owner-occupied dwellings	\$109,208,174.81	0	0	0	\$78,400,249.90
Electric power transmission and distribution	\$107,360,035.84	61	0	61	\$36,369,979.06
All other crop farming	\$106,174,404.97	276	250	526	\$20,726,340.48
Silver ore Mining	\$86,071,822.95	162	17	179	\$12,614,159.60
Plastic pipe and pipe fitting manufacturing	\$51,942,836.57	67	3	70	\$6,721,228.79
Beef cattle ranching and farming, including feedlots and dual-purpose ranching and farming	\$51,503,705.78	5	19	24	\$7,624,252.00
* Employment and payroll of local govt, hospitals and health services	\$50,565,152.31	354	0	354	\$7,528,638.67
Other basic inorganic chemical manufacturing	\$48,127,882.86	46	11	57	\$5,161,320.25

Source: IMPLAN

<b>Table E.3 – Top Industry Sectors Pershing County 2022</b>					
<b>Description</b>	<b>Sum of Total Output</b>	<b>Sum of Wage and Salary Employment</b>	<b>Sum of Proprietor Employment</b>	<b>Sum of Total Employment</b>	<b>Sum of Proprietor Income</b>
Gold ore mining	\$405,751,764.70	711	20	731	\$74,354.65
Silver ore Mining	\$37,781,242.35	79	2	81	\$9,189.90
Owner-occupied dwellings	\$35,664,652.64	0	0	0	\$0.00
All other crop farming	\$26,139,124.85	110	105	215	\$2,042,299.43
*Employment and payroll of state gov, other services	\$21,957,793.81	172	0	172	\$0.00
Hotels and motels, including casino hotels	\$17,031,315.12	105	1	107	\$133,490.71
Metal mining services	\$16,845,966.98	18	3	21	\$19,413.06
Beef cattle ranching and farming, including feedlots and dual-purpose ranching and farming	\$16,447,025.60	2	10	13	\$972,566.06
Construction of new power and communication structures	\$15,345,235.33	46	3	49	\$8,016.02
Retail - Gasoline stores	\$14,352,975.86	77	0	78	\$138,073.36

Source: IMPLAN

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## **Appendix F – Northern Nevada Development Authority**

<b>Table F.1 – Top Industry Sectors</b> <b>Northern Nevada Development Authority</b> <b>2022</b>					
<b>Description</b>	<b>Sum of Total Output</b>	<b>Sum of Wage and Salary Employment</b>	<b>Sum of Proprietor Employment</b>	<b>Sum of Total Employment</b>	<b>Sum of Proprietor Income</b>
Owner-occupied dwellings	\$1,145,755,797.64	-	-	-	-
Petroleum refineries	\$1,025,484,731.57	92	3	95	\$9,059,312.21
Storage battery manufacturing	\$831,937,991.36	1,818	41	1,859	\$1,382,844.48
Other real estate	\$797,138,558.20	529	4,141	4,668	\$40,650,819.22
* Employment and payroll of state govt, other services	\$600,270,616.95	5,400	-	5,400	-
Warehousing and storage	\$570,742,479.79	4,659	20	4,681	\$1,441,849.48
Data processing, hosting, and related services	\$435,022,670.69	374	157	532	\$1,863,564.37
Hotels and motels, including casino hotels	\$373,709,347.51	2,457	38	2,496	\$8,655,036.62
Hospitals	\$356,010,130.93	1,779	5	1,785	\$1,752,026.72
Retail - Nonstore retailers	\$306,461,364.71	452	876	1,328	\$6,132,288.12

Source: IMPLAN

<b>Table F.2 – Output and Employment, Healthcare Industry Sector Northern Nevada Development Authority 2022</b>		
<b>Category</b>	<b>Sum of Total Output</b>	<b>Sum of Total Employment</b>
Surgical appliance and supplies manufacturing	\$2,977,979.20	6
Surgical and medical instrument manufacturing	\$2,716,827.49	6
Dental equipment and supplies manufacturing	\$2,610,286.37	6
Dental laboratories	\$664,022.59	4
Ophthalmic goods manufacturing	-	-
<b>Total</b>	<b>\$ 8,969,115.65</b>	<b>22</b>

Source: IMPLAN

<b>Table F.3 – Top Industry Sectors Carson City 2022</b>					
<b>Description</b>	<b>Sum of Total Output</b>	<b>Sum of Wage and Salary Employment</b>	<b>Sum of Proprietor Employment</b>	<b>Sum of Total Employment</b>	<b>Sum of Proprietor Income</b>
Employment and payroll of state govt, other services	\$578,521,606.22	5,206	-	5,206	-
Owner-occupied dwellings	\$369,423,633.75	-	-	-	-
Hospitals	\$259,121,909.37	1,272	1	1,274	\$447,766.00
Other real estate	\$237,084,390.09	130	1,252	1,382	\$25,439,637.64
Office of Physicians	\$192,642,412.78	846	154	1,000	\$9,733,494.90
Management of companies and enterprises	\$161,433,858.59	566	273	840	-\$683,028.95
Data processing, hosting, and related services	\$119,741,208.89	191	274	465	\$32,933,663.57
Hotels and motels, including casino hotels	\$117,018,976.08	240	31	271	\$15,237,112.22
Turned product and screw, nut, and bolt manufacturing	\$116,040,607.58	344	31	375	\$22,911.09
Limited-service restaurants	\$114,819,749.37	943	44	987	\$8,321,214.17

Source: IMPLAN



<b>Table F.4 – Top Industry Sectors Douglas County 2022</b>					
<b>Description</b>	<b>Sum of Total Output</b>	<b>Sum of Wage and Salary Employment</b>	<b>Sum of Proprietor Employment</b>	<b>Sum of Total Employment</b>	<b>Sum of Proprietor Income</b>
Other real estate	\$433,381,389.65	274	2,270	2,543	\$9,057,529.78
Owner-occupied dwellings	\$371,921,497.30	-	-	-	-
Hotels and motels, including casino motels	\$259,475,288.95	1,756	15	1,771	\$1,419,273.21
Industrial process variable instruments manufacturing	\$152,005,120.54	345	31	375	\$58,001.33
Oil and gas extraction	\$149,478,739.07	-	179	179	-\$2,227,183.44
Retail - Nonstore retailers	\$125,215,903.18	199	307	506	\$613,113.72
Wholesale - Petroleum and petroleum products	\$114,832,636.02	26	25	51	\$2,012,585.26
Management of companies and enterprises	\$107,312,627.96	234	195	429	-\$1,444,645.03
* Employment and payroll of state govt, other services	\$107,162,587.98	876	-	876	-
Frozen fruits, juices and vegetables manufacturing	\$103,594,730.46	178	14	192	\$326,216.32

Source: IMPLAN

<b>Table F.5 – Top Industry Sectors Lyon County 2022</b>					
<b>Description</b>	<b>Sum of Total Output</b>	<b>Sum of Wage and Salary Employment</b>	<b>Sum of Proprietor Employment</b>	<b>Sum of Total Employment</b>	<b>Sum of Proprietor Income</b>
Other real estate	\$357,008,694.39	-	-	158	-
Owner-occupied dwellings	\$210,293,335.17	146	12	482	\$24,759,514.25
Hotels and motels, including casino motels	\$156,011,435.13	309	15	481	-\$121,872.73
Industrial process variable instruments manufacturing	\$136,653,095.95	144	13	327	\$2,282,776.50
Oil and gas extraction	\$134,040,727.70	152	19	874	\$1,194,309.94
Retail - Nonstore retailers	\$118,308,953.01	117	587	874	\$5,935,721.49
Wholesale - Petroleum and petroleum products	\$112,452,723.68	106	65	1,355	\$1,532,648.46
Management of companies and enterprises	\$99,226,225.57	1,184	-	1,991	-
Employment and payroll of state govt, other services	\$95,880,830.15	797	9	915	\$426,289.77
Frozen fruits, juices and vegetables manufacturing	\$89,289,005.52	94	14	19,661	\$938,764.77

Source: IMPLAN

<b>Table F.6 – Top Industry Sectors</b> <b>Mineral County</b> <b>2022</b>					
<b>Description</b>	<b>Sum of Total Output</b>	<b>Sum of Wage and Salary Employment</b>	<b>Sum of Proprietor Employment</b>	<b>Sum of Total Employment</b>	<b>Sum of Proprietor Income</b>
Hotels and motels, including casino motels	\$63,221,239.72	355	1	356	-\$22,369.52
Metal mining Services	\$59,643,170.38	70	2	72	\$478,056.60
Gold ore mining	\$26,098,592.48	38	14	52	\$629,059.59
Gambling Industries (except casino hotels)	\$20,919,182.08	98	11	109	\$591,952.95
Owner-occupied dwellings	\$20,187,918.22	-	-	0	-
Facilities support services	\$15,296,260.13	54	23	77	\$349,244.89
All other crop farming	\$14,361,983.47	3	70	73	\$2,925,857.62
*Employment and payroll of local govt, hospitals and health services	\$13,659,148.26	134	-	134	-
* Employment and payroll of state govt, other services	\$12,920,210.27	155	-	155	-
Other local government enterprises	\$12,199,222.83	29	-	29	-

Source: IMPLAN

<b>Table F.7 – Top Industry Sectors</b> <b>Storey County</b> <b>2022</b>					
<b>Description</b>	<b>Sum of Total Output</b>	<b>Sum of Wage and Salary Employment</b>	<b>Sum of Proprietor Employment</b>	<b>Sum of Total Employment</b>	<b>Sum of Proprietor Income</b>
Petroleum refineries	\$988,578,087.57	92	-	92	-
Storage battery manufacturing	\$831,937,991.36	1,818	41	1,859	\$1,382,844.48
Warehousing and storage	\$437,884,006.35	3,583	0	3,583	\$83,105.25
Data processing, hosting, and related services	\$358,162,083.15	321	102	423	\$82,587.04
Electric power generation - Fossil fuel	\$124,975,128.00	63	1	64	\$1,054,251.33
Other basic organic chemical manufacturing	\$106,464,849.89	53	1	53	\$110,564.52
Metal cans manufacturing	\$100,898,872.67	100	1	101	-\$9,111.30
Other plastic product manufacturing	\$88,802,460.86	258	-	258	-
Paint and coating manufacturing	\$86,056,230.85	100	0	101	\$79,592.66
Truck transportation	\$84,531,144.21	332	1	334	\$1,125,358.07

Source: IMPLAN

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## **Appendix G – Northeastern Nevada Regional Development Authority**

<b>Table G.1 – Top Industry Sectors</b> <b>Northeastern Nevada Regional Development Authority</b> <b>2022</b>					
<b>Description</b>	<b>Sum of Total Output</b>	<b>Sum of Wage and Salary Employment</b>	<b>Sum of Proprietor Employment</b>	<b>Sum of Total Employment</b>	<b>Sum of Proprietor Income</b>
Gold ore mining	\$3,889,522,612.69	5,710	985	6,693	\$70,367,611.77
Metal mining services	\$1,409,146,409.05	1,594	64	1,658	\$4,699,860.08
Wholesale - Petroleum and petroleum products	\$455,432,579.08	204	9	213	\$242,441.32
Owner-occupied dwellings	\$440,391,074.64	-	-	-	-
Electric power transmission and distribution	\$431,583,155.58	247	7	255	\$349,684.07
Silver ore mining	\$367,117,057.96	634	121	756	\$8,697,120.55
Copper, nickel, lead, and zinc mining	\$327,838,833.99	429	16	445	\$266,781.68
Hotels and motels, including casino hotels	\$309,142,740.20	2,268	13	2,281	\$1,924,563.95
Wholesale - Machinery, equipment, and supplies	\$276,041,035.69	709	43	752	\$469,663.85
Construction of new power and communication structures	\$211,614,077.28	585	88	672	\$7,050,501.06

Source: IMPLAN

<b>Table G.2 – Top Industry Sectors Elko County 2022</b>					
<b>Description</b>	<b>Sum of Total Output</b>	<b>Sum of Wage and Salary Employment</b>	<b>Sum of Proprietor Employment</b>	<b>Sum of Total Employment</b>	<b>Sum of Proprietor Income</b>
Metal mining services	\$884,884,929.94	990	42	1,032	\$2,055,759.47
Gold ore mining	\$575,750,408.14	803	274	1,076	\$1,536,653.08
Wholesale - Petroleum and petroleum products	\$405,092,582.06	183	6	189	\$60,303.02
Owner-occupied dwellings	\$330,779,935.59	-	-	0	\$0.00
Hotels and motels, including casino hotels	\$287,811,515.33	2,078	9	2,087	\$1,373,169.04
Wholesale - Machinery, equipment, and supplies	\$254,077,587.79	657	24	681	\$178,457.47
Management of companies and enterprises	\$144,638,503.26	365	54	419	\$100,444.58
Electric power transmission and distribution	\$129,181,298.66	76	6	83	\$80,627.21
Other real estate	\$128,535,386.20	135	619	753	\$3,095,907.73
Retail - Nonstore retailers	\$118,223,744.89	173	270	443	\$1,585,363.42

Source: IMPLAN

<b>Table G.3 – Top Industry Sectors Eureka County 2022</b>					
<b>Description</b>	<b>Sum of Total Output</b>	<b>Sum of Wage and Salary Employment</b>	<b>Sum of Proprietor Employment</b>	<b>Sum of Total Employment</b>	<b>Sum of Proprietor Income</b>
Gold ore mining	\$2,002,389,361.87	2,996	364	3,360	\$38,457,368.01
Metal mining services	\$380,263,452.22	439	14	453	\$1,715,317.80
Silver ore mining	\$188,645,939.17	333	45	378	\$4,753,157.84
Electric power transmission and distribution	\$104,710,256.74	59	-	59	-
Construction of new power and communication structures	\$78,221,959.64	196	22	217	\$2,279,299.16
Electric power generation - Fossil fuel	\$71,453,127.22	36	-	36	-
All other crop farming	\$50,610,163.08	82	71	153	\$952,986.35
Prefabricated wood building manufacturing	\$22,373,296.34	65	5	69	\$194,416.46
Beef cattle ranching and farming, including feedlots and dual-purpose ranching and farming	\$16,048,435.95	1	4	4	\$228,709.93
Monetary authorities and depository credit intermediation	\$14,271,993.82	16	1	17	\$20,786.49

Source: IMPLAN



<b>Table G.4 – Top Industry Sectors</b> <b>Lander County</b> <b>2022</b>					
<b>Description</b>	<b>Sum of Total Output</b>	<b>Sum of Wage and Salary Employment</b>	<b>Sum of Proprietor Employment</b>	<b>Sum of Total Employment</b>	<b>Sum of Proprietor Income</b>
Gold ore mining	\$795,774,246.91	1,046	320	1,365	\$26,097,123.96
Support activities for agriculture and forestry	\$32,920,088.31	335	10	345	-\$284,114.37
Silver ore mining	\$75,853,773.44	116	40	156	\$3,225,487.23
Electric power transmission and distribution	\$147,162,903.57	81	-	81	-
Warehousing and storage	\$19,691,896.98	122	1	122	\$2,670.50
* Employment and payroll of local govt, education	\$13,901,191.31	175	-	175	-
* Employment and payroll of local govt, other services	\$13,785,235.32	138	-	138	-
Construction of new power and communication structures	\$32,258,821.36	75	-	75	\$1,509,005.65
Employment services	\$19,239,998.00	117	1	119	\$11,054.93
* Employment and payroll of local govt, hospitals and health services	\$10,981,785.95	105	-	105	-

Source: IMPLAN

<b>Table G.5 – Top Industry Sectors White Pine County 2022</b>					
<b>Description</b>	<b>Sum of Total Output</b>	<b>Sum of Wage and Salary Employment</b>	<b>Sum of Proprietor Employment</b>	<b>Sum of Total Employment</b>	<b>Sum of Proprietor Income</b>
Gold ore mining	\$515,608,595.77	865	27	892	\$4,276,466.72
Copper, nickel, lead, and zinc mining	\$327,838,833.99	429	16	445	\$266,781.68
Metal mining services	\$94,962,544.11	109	5	114	\$761,954.65
Owner-occupied dwellings	\$59,128,018.46	-	-	-	-
Electric power transmission and distribution	\$50,528,696.61	31	1	32	\$269,056.86
Silver ore mining	\$48,166,622.24	96	3	99	\$528,552.07
Employment and payroll of state govt, other services	\$30,129,855.63	243	-	243	-
Construction of new power and communication structures	\$28,867,937.07	82	8	90	\$1,064,444.18
Employment and payroll of local govt, hospitals and health services	\$24,918,775.73	162	-	162	-
Other real estate	\$22,664,976.57	16	135	151	\$918,639.00

Source: IMPLAN

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## **Appendix H – Southwest Central Regional Economic Development Authority**

<b>Table H.1 – Top Industry Sectors</b> <b>Southwest Central Regional Economic Development Authority</b> <b>2022</b>					
<b>Description</b>	<b>Sum of Total Output</b>	<b>Sum of Wage and Salary Employment</b>	<b>Sum of Proprietor Employment</b>	<b>Sum of Total Employment</b>	<b>Sum of Proprietor Income</b>
Gold ore mining	\$538,545,226.43	810	130	940	\$18,704,131.77
Scientific research and development services	\$441,912,771.88	1,259	448	1,706	\$7,370,284.52
Owner-occupied dwellings	\$313,769,848.20	-	-	-	-
Electric power transmission and distribution	\$283,762,471.01	170	4	175	\$111,949.06
Other real estate	\$145,137,780.69	140	647	787	\$5,049,996.26
Copper, nickel, lead, and zinc mining	\$112,928,164.93	132	26	158	\$418,825.96
Facilities support services	\$102,774,172.55	243	201	443	\$3,042,449.28
Retail - Nonstore retailers	\$81,537,317.71	133	224	357	\$1,661,994.64
* Employment and payroll of local govt, education	\$74,628,657.16	943	-	943	-
Petroleum refineries	\$71,444,584.59	1	5	6	\$6,252,826.30

Source: IMPLAN

<b>Table H.2 – Output and Employment, Healthcare Industry Sector Southwest Central Regional Economic Development Authority 2022</b>		
<b>Category</b>	<b>Sum of Total Output</b>	<b>Sum of Total Employment</b>
Surgical appliance and supplies manufacturing	\$2,391,754.83	5
Dental laboratories	\$489,154.11	4
Surgical and medical instrument manufacturing	-	-
Ophthalmic goods manufacturing	-	-
Dental equipment and supplies manufacturing	-	-
<b>Total</b>	<b>\$2,880,908.94</b>	<b>9</b>

*Source: IMPLAN*

<b>Table H.3 – Top Industry Sectors Esmeralda County 2022</b>					
<b>Description</b>	<b>Sum of Total Output</b>	<b>Sum of Wage and Salary Employment</b>	<b>Sum of Proprietor Employment</b>	<b>Sum of Total Employment</b>	<b>Sum of Proprietor Income</b>
Gold ore mining	\$44,888,387.21	76	14	90	\$277,898.23
Electric power transmission and distribution	\$10,212,931.40	7	-	7	-
Metal mining services	\$7,480,131.09	7	2	9	\$4,282.83
Other animal food manufacturing	\$6,266,143.45	3	2	5	\$54,079.04
All other crop farming	\$6,155,135.77	17	32	49	-\$1,116,749.93
Silver ore mining	\$4,220,204.80	8	2	10	\$34,346.97
Owner-occupied dwellings	\$4,000,775.03	-	-	0	-
* Employment and payroll of local govt, other services	\$3,008,606.94	52	-	52	-
* Employment and payroll of local govt, education	\$2,622,855.10	32	-	32	-
Other communication and energy wire manufacturing	\$2,504,654.72	-	5	5	\$37,909.22

Source: IMPLAN

<b>Table H.4 – Top Industry Sectors Nye County 2022</b>					
<b>Description</b>	<b>Sum of Total Output</b>	<b>Sum of Wage and Salary Employment</b>	<b>Sum of Proprietor Employment</b>	<b>Sum of Total Employment</b>	<b>Sum of Proprietor Income</b>
Gold ore mining	\$493,656,839.22	734	116	850	\$18,426,233.54
Scientific research and development services	\$441,418,500.40	1,257	447	1,704	\$7,358,418.68
Owner-occupied dwellings	\$309,769,073.17	-	-	0	-
Electric power transmission and distribution	\$273,549,539.61	163	4	168	\$111,949.06
Other real estate	\$144,026,463.80	140	638	778	\$5,054,494.34
Copper, nickel, lead, and zinc mining	\$112,928,164.93	132	26	158	\$418,825.96
Facilities support services	\$102,774,172.55	243	201	443	\$3,042,449.28
Retail - Nonstore retailers	\$80,698,051.14	133	217	350	\$1,630,230.16
Employment and payroll of local govt, education	\$72,005,802.06	911	-	911	-
Petroleum refineries	\$71,444,584.59	1	5	6	\$6,252,826.30

Source: IMPLAN

<b>Table H.5 – Total Employment Estimates for Related Sectors and Commodity Areas, Healthcare, Medical Practitioners and Administration Southwest Central Regional Economic Development Authority</b>		
<b>NAICS Code</b>	<b>Sector and Commodity Area Description</b>	<b>Total Employment</b>
621111	Office of Physicians	0
623110	Skilled Nurses Facilities	0
561110	Administrative Staff	0
561990	Support Staff	0
621210	Office of Dentist	3

*Source: Nevada Department of Employment, Training, and Rehabilitation; Office of Workforce Innovation, Nevada P-20 to Workforce Research Data System (NPWR)*



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## **Appendix I – State of Nevada**

<b>Table I.1 – Backward Linkages, Offices of Dentists</b> <b>State of Nevada</b> <b>2022</b>							
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

Source: IMPLAN

<b>Table I.2 – Backward Linkages, Medical and Diagnostic Laboratories</b> <b>State of Nevada</b> <b>2022</b>							
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

Source: IMPLAN

<b>Table I.3 – Backward Linkages, Hospitals</b> <b>State of Nevada</b> <b>2022</b>							
<b>Code</b>	<b>Description</b>	<b>RPC</b>	<b>Gross Absorption</b>	<b>Gross Inputs</b>	<b>Regional Absorption</b>	<b>Regional Inputs</b>	<b>Gaps</b>
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

Source: IMPLAN

<b>Table I.4 – Backward Linkages, Nursing and Community Care Facilities State of Nevada 2022</b>							
<b>Code</b>	<b>Description</b>	<b>RPC</b>	<b>Gross Absorption</b>	<b>Gross Inputs</b>	<b>Regional Absorption</b>	<b>Regional Inputs</b>	<b>Gaps</b>
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

Source: IMPLAN

<b>Table I.5 – Backward Linkages, Residential Mental Retardation, Mental Health, Substance Abuse and Other Care Services State of Nevada 2022</b>							
<b>Code</b>	<b>Description</b>	<b>RPC</b>	<b>Gross Absorption</b>	<b>Gross Inputs</b>	<b>Regional Absorption</b>	<b>Regional Inputs</b>	<b>Gaps</b>
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

Source: IMPLAN

<b>Table I.6 – Backward Linkages, Individual and Family Services State of Nevada 2022</b>							
<b>Code</b>	<b>Description</b>	<b>RPC</b>	<b>Gross Absorption</b>	<b>Gross Inputs</b>	<b>Regional Absorption</b>	<b>Regional Inputs</b>	<b>Gaps</b>
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

Source: IMPLAN

Table I.7 – Forward Linkages, Hospitals State of Nevada 2022				
Commodity Codes		Description	Average RPC	Average RSC
118	3118	Curtains and linens	0.15%	1.37%
150	3150	Sanitary paper products	11.20%	8.86%
171	3171	Medicines and botanicals	0.83%	0.76%
172	3172	Pharmaceuticals	0.24%	1.14%
173	3173	In-vitro diagnostic substances	0.02%	0.59%
174	3174	Biological products (except diagnostic)	0.04%	0.26%
317	3317	Analytical laboratory instruments	0.07%	1.35%
376	3376	Surgical and medical instruments	0.23%	1.67%
377	3377	Surgical appliance and supplies	0.26%	1.23%
378	3378	Dental equipment and supplies	0.21%	1.79%
379	3379	Ophthalmic goods	0.31%	1.42%
380	3380	Dental laboratories	1.36%	1.51%
397	3397	Wholesale services - Drugs and druggists' sundries	65.09%	89.19%
470	3470	Office administrative services	3.11%	99.75%
471	3471	Facilities support services	0.04%	99.61%
472	3472	Employment services	76.93%	98.93%
483	3483	Offices of physicians	95.26%	90.41%
484	3484	Offices of dentists	97.85%	97.44%
485	3485	Offices of other health practitioners	97.14%	86.69%
486	3486	Outpatient care centers	75.78%	99.44%
487	3487	Medical and diagnostic laboratories	95.21%	59.60%
488	3488	Home health care services	59.00%	99.93%
489	3489	Other ambulatory health care services	98.08%	71.87%
490	3490	Hospital services	92.35%	99.53%
491	3491	Nursing and community care services	93.11%	95.93%
492	3492	Residential mental retardation, mental health, substance abuse and other care services	75.97%	95.26%
493	3493	Individual and family services	88.11%	98.44%
494	3494	Child day care services	90.88%	98.23%

Source: IMPLAN