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Fueling Prosperity: The Positive Economic Ripple Effects of Increasing Wages for Nebraska's Direct Care Workforce

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Fueling Prosperity: The Positive Economic Ripple Effects of Increasing Wages for Nebraska's Direct Care Workforce



Produced for:
Nebraska Association of Service Providers
January 11, 2024
Goss & Associates, Economic Solutions

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Preface

The subsequent analysis was prepared for the Nebraska Association of Service Providers by Principal Investigators, Ernest Goss, Ph.D., and Susan Reay, Ed. D., Senior Research Economist Scott Strain, Research Economists Monique Devillier and Elizabeth Wolman all of Goss & Associates. Findings remain the sole property of the Nebraska Association of Service Providers and may not be used without prior approval of this organization. The authors' biographies are provided in Appendix C. Please address all correspondence to:

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Goals of the Study

The goals of this study are to estimate the impact of increasing support for direct service providers for individuals with intellectual and developmental disabilities (IDD) and its impact on the state economy.

Specific goals of the study are to:

1. Estimate the economic impact to Nebraska if the state increased the pay to direct service providers delivering care to individuals with intellectual and developmental disabilities (hereafter IDD) to a level more competitive with other states.
 - a. Estimate the impact on the overall state economy, employment in the state and on the top 20 Nebraska industries.
 - b. Estimate the impact of state and local tax collections and the overall rate-of-return for taxpayer provided funding.
2. Quantify important social impacts, where appropriate, on the service provider community and the State of Nebraska
3. Quantify the spillover effects of the industry on new business venture formation, enterprise growth, employment, and state and local tax collections.

The Goss & Associates research team thanks the Board of Directors and staff of the Nebraska Association of Service Providers (NASP) for their input. However, any errors, omissions, or misstatements are solely the responsibility of Goss & Associates and the principal investigators. This study, while funded by NASP, was developed independently of this organization.

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Glossary	
Term	Definition
Current Dollars	Dollars in the year stated (i.e. not discounted).
DDS	Developmental Disability Services
DHHS	Department of Health and Human Services
Direct Care Provider / Personnel	Individuals that interact directly with individuals with IDD. Provider: the agency/organization; Direct Support: (DSP) the front-line individual direct care worker; Personnel: all provider agency staff - not all will have direct care roles.
Discounted Dollars	Unless stated otherwise, all financial data in this report are stated in 2023 dollars.
DSP	Direct Support Professionals
HCBS	Home and Community Based Services
IDD	Intellectual and Developmental Disabilities
IMPLAN	IMPLAN uses classic input-output analysis in combination with regional specific Social Accounting Matrices and Multiplier Models, IMPLAN provides a highly accurate and adaptable model for its users.
Jobs Supported	A job in IMPLAN = the annual average of monthly jobs in that industry.
Labor Income	Wages & salaries plus self-employment income.
Living Wage	Level of income that is meant to show how much money is needed for people to afford things like food and shelter.
Location Quotient (LQ)	A location quotient (LQ) is an analytical statistic that measures a region's industrial specialization relative to a larger geographic unit (usually the nation). An LQ is computed as an industry's share of a regional total for some economic statistic (earnings, GDP by metropolitan area, employment, etc.) divided by the industry's share of the national total for the same statistic.
National Core Indicators (NCI)	A national effort to measure and improve the performance of state developmental disabilities service systems. https://www.nationalcoreindicators.org/
Olmstead	1999 Supreme Court Case found the unjustified segregation of people with disabilities is a form of unlawful discrimination under the Americans with Disabilities Act (ADA).
Overall Sales Impacts, or Total Impacts	Amount of additional sales, retail sales, wholesale expenditures contractions sales, etc. It is analogous to gross domestic product (GDP) but will include some double counting and thus will exceed GDP.
Private Workers	All those working excluding government workers (state, local, and federal).
Productivity Growth	Growth in value-added (Gross Domestic Product, GDP) per worker.
The Region or Nebraska Neighbors	The region is defined as Nebraska and its border states of Colorado, Iowa, Kansas, Missouri, South Dakota, and Wyoming.
Self-Employment Income	Income of proprietors of non-incorporated companies including attorneys, accountants and consultants.
Spillover Impact	Impacts in businesses and industries tied indirectly to the DDS spending. For example, wholesale firms that sell to the DDS industry spillover impacts.
Wages and Salaries	Wages and salaries represent the total payroll cost of the employee paid by the employer. This includes, wage and salary, all benefits (e.g., health, retirement, etc.).

Fueling Prosperity: The Positive Economic Ripple Effects of Increasing Wages for Nebraska's Direct Care Workforce

Executive Summary

Overall Findings: It was concluded that Nebraska has a significant shortage of Direct Support Professionals (DSP) to provide services to the state's individuals with intellectual and developmental disabilities. For Nebraska, DSP wages are 66.9% of the state's living wage, producing a DSP shortage of 711 workers, or 18.6%. The lower Nebraska DSP wages have contributed to Nebraska's higher turnover rate at 50.2%, eleventh highest in the nation, and 2,418 individuals on the waiting list for IDD services.

It is concluded by this study that increasing Nebraska funding for DSP positions by \$54 million would generate \$401.3 million in sales, \$171.5 million in wages and salaries and \$21.7 million in self-employment income.

Furthermore, the boost to state funding would support 4,245 jobs annually and add \$13.8 million in state and local tax collections. As a result of these impacts, plus federal matching funds, Nebraska taxpayers would experience a rate-of-return of \$1.40 for every \$1.00 of support for DSP hiring.



Detailed Impacts

- I. Average Nebraska wages for IDD support personnel was well below its neighbors and the U.S.
 - a. The average annual wage for *Home Health & Personal Care Aides* in Nebraska was 54.6% of the average for all occupations in the state. Nebraska ranked fifth among its neighbors in average wage for this occupation. Nebraska's wage at \$30,070 was exceeded by Wyoming's \$38,220, Colorado's \$34,710, Iowa's \$32,090, and South Dakota at \$31,610.
 - b. The average pay for Direct Support Professional (DSP) was \$21,900 which was 66.9% of Nebraska's living wage.
 - c. The DSP starting salaries of recently hired at six of Nebraska's largest service providers was \$15.01 per hour compared to \$21.34 per hour at the Beatrice State Development Center.
- II. Low wages for DSP resulted in negative outcomes. These outcomes included:
 - a. The turnover rate for Nebraska DSP was 11th highest among the 28 states surveyed by NCI.¹ The turnover rate for Nebraska DSPs was 50.2% compared to the National Core Indicators' average of 43.3%.
 - b. Currently there are 2,418 individuals waiting to receive Nebraska IDD services resulting in up to a six-year wait. The average wait-time to receive services once offered in Nebraska is 122 days.
 - c. Due to low wages, there was an estimated shortfall of 711 DSP in Nebraska for 2021.
- III. Increasing the salaries of Nebraska DSP to a median of \$38,558 produces many positive outcomes over and above the quality-of-life of current family providers and the individuals with IDD.

These impacts are:

 - a. Direct impacts:
 - i. Increase in hours worked of current DSP results in an equivalent of 612 DSP added.
 - ii. Approximately 711 new agency DSP would be added to the Nebraska provider workforce.
 - iii. An estimated 1,724 parents/caregivers currently out of the workforce will enter the Nebraska workforce.

The average pay for Direct Support Professional (DSP) was \$21,900 which was 66.9% of Nebraska's living wage.

¹ National Association of State Directors of Developmental Disabilities Services, May 2023. <https://legacy.nationalcoreindicators.org/about/indicators>

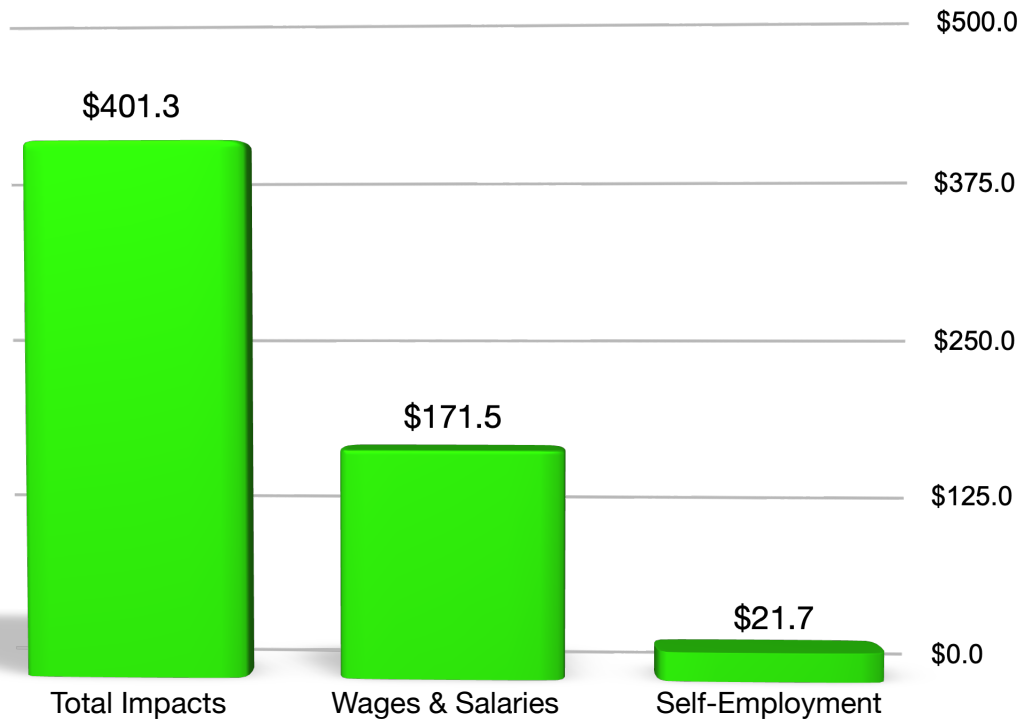
- iv. Once the likelihood of unemployment is taken into account an estimated 2,953 workers will be added to Nebraska employment.
- b. Total impacts (direct plus spillover):
 - i. \$401.3 million in sales.
 - ii. \$171.5 million in wages and salaries.
 - iii. \$21.7 million in self-employment income.
 - iv. 4,245 jobs annually.
 - v. \$13.8 million in state and local tax collections.
 - vi. Top three industries experiencing impacts would be: Business support services at \$128.3 million; Home health care services at \$103.6 million and; Food services and drinking places at \$8.9 million.
- c. Rate-of-return for taxpayer provided funding of DSP increased wage rate:
 - i. Excluding local tax collections, an estimated \$1.14 for each state provided \$1.00 of funding, or a total increase in state funding of \$54.4 million.
 - 1. Increase of \$7.7 million of state tax collections.
 - 2. Receipt of federal matching funds of \$54.4 million.
 - ii. Including local tax collections of \$13.8 million, an estimated \$1.40 for each \$1.00 of Nebraska taxpayer provided funds are produced.
 - 1. Increase of \$13.8 million of state and local tax collections.
 - 2. Receipt of federal matching funds of \$54.4 million.

Including local tax collections of \$13.8 million, an estimated \$1.40 for each \$1.00 of Nebraska taxpayer provided funds are produced.



IV. Graphical Summary of Impacts²

Figure Ex1: 2023 Impacts (in Millions of 2023 Dollars)



² Due to rounding total may not be equal to the sum.

Figure Ex2: Jobs Supported for 2023

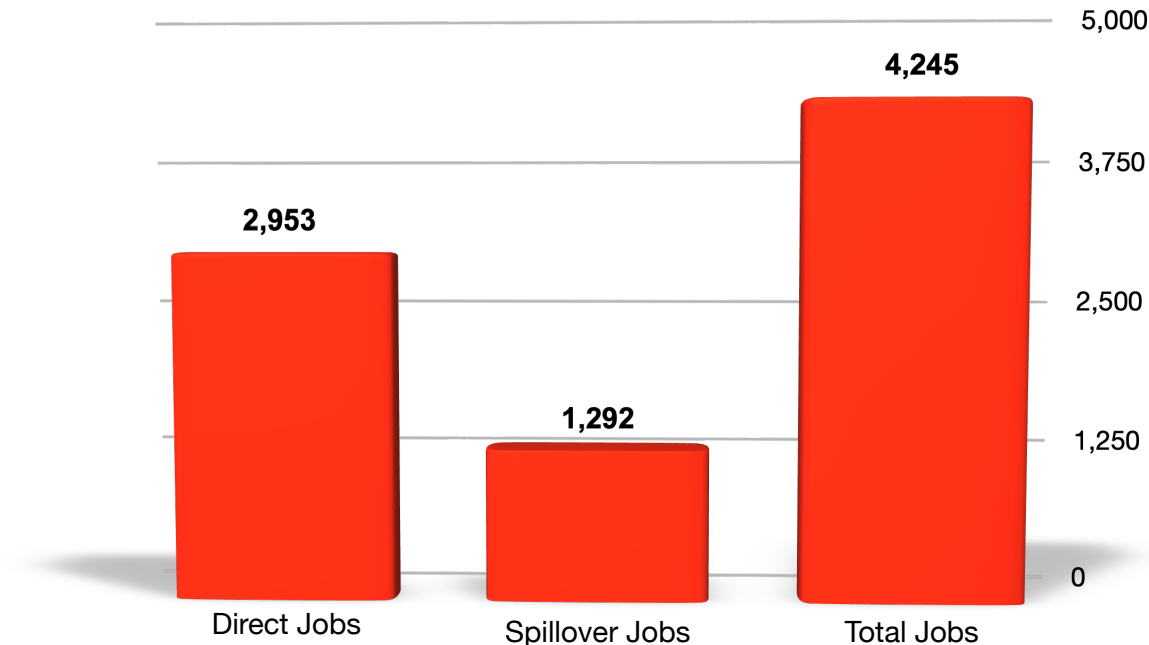


Figure Ex3: Top Industries Experiencing Total Impacts (in Millions of 2023 Dollars)

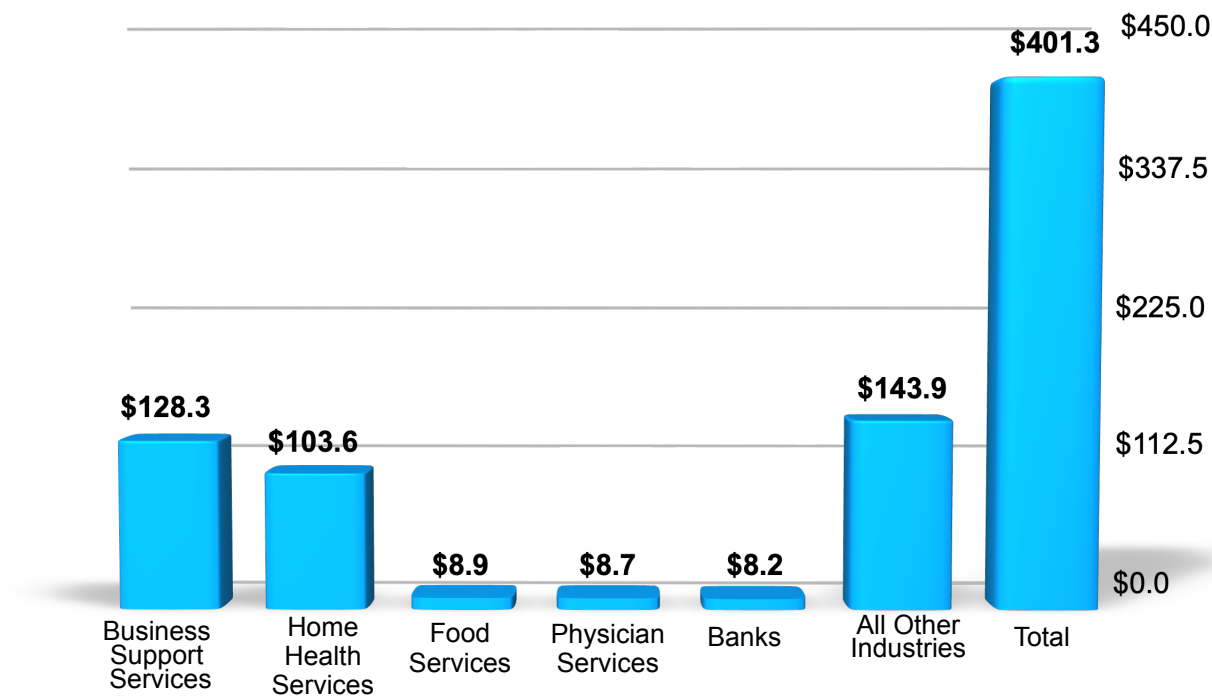


Figure A4: State and Local Taxes Produced (in Millions of 2023 Dollars)

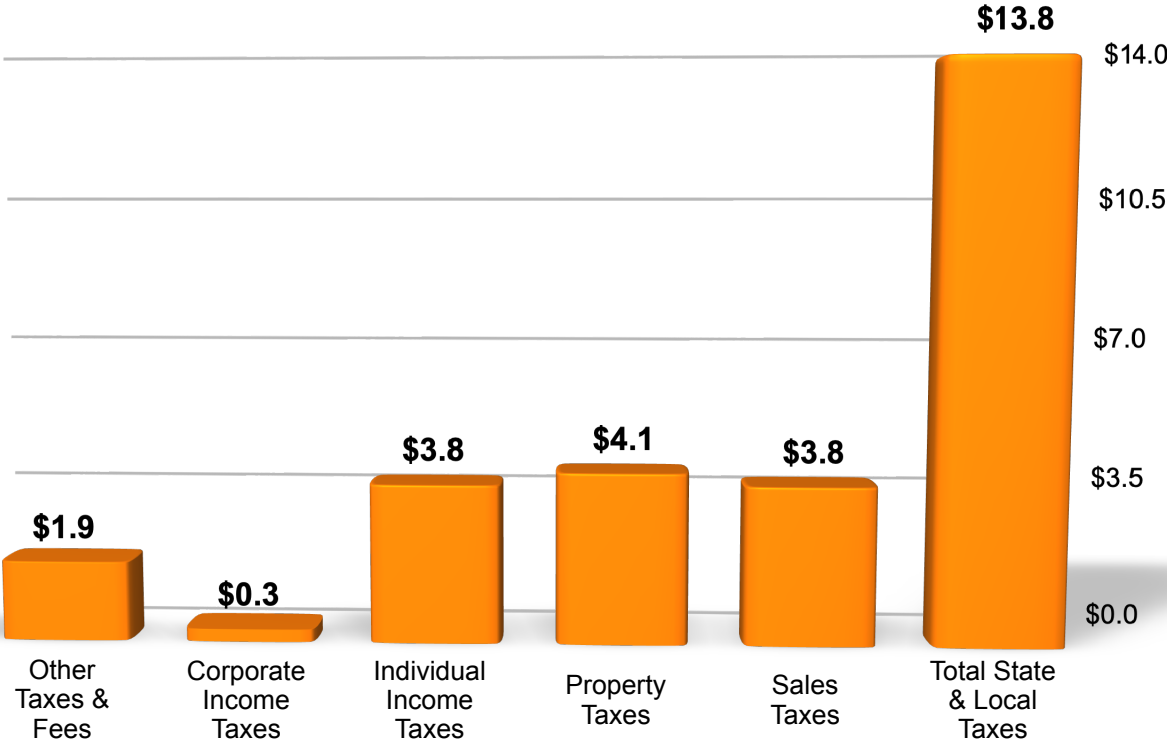
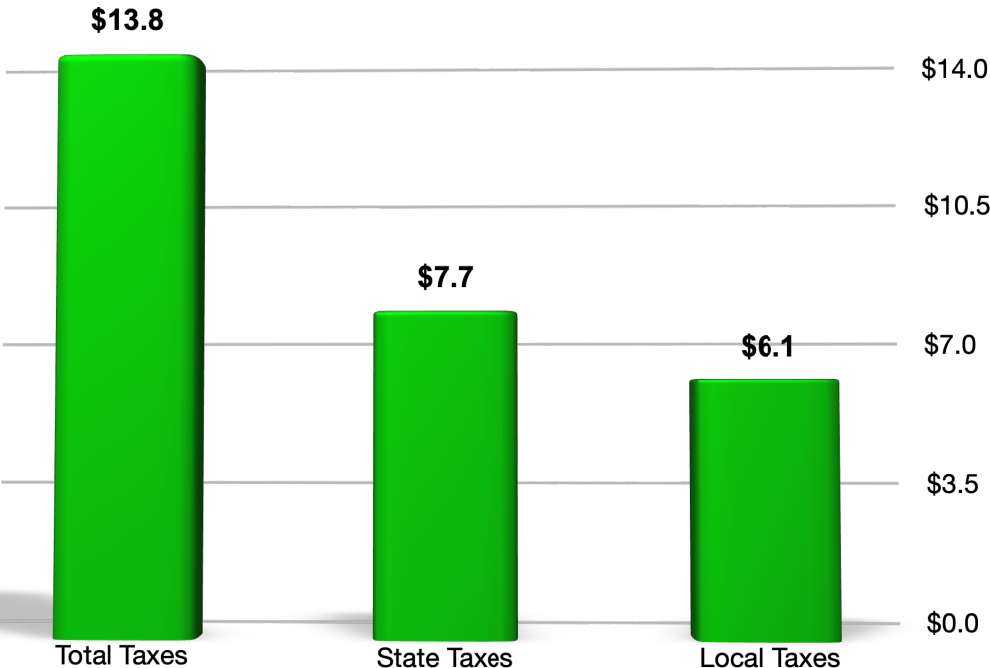


Figure A5: State and Local Taxes (in Millions of 2023 Dollars)



Section 1- Nebraska's Current State of Affairs: Delivering Care to Individuals with IDD

Introduction

States have a legal obligation to provide supports and services to individuals with intellectual and developmental disabilities (IDD) under the Olmstead Act. Home and community-based service (HCBS) providers partner with the state to provide these services. Quality and accessibility of services for individuals with IDD are dependent upon the staff HCBS providers are able to attract, hire, and retain. We are currently experiencing a crisis of care due to staff shortages among providers. Without staff, services cannot be provided.

In order to address the crisis of care in Nebraska, reimbursement rates set by the state must be sufficient to support competitive wages for direct care workers. HCBS IDD services are a program of Medicaid, and as such, providers are dependent upon reimbursement rates set by the state. Unlike other industries, HCBS IDD providers cannot offset the rising costs of doing business by adjusting prices or business hours. This issue is compounded in Nebraska by our rising minimum wage and low unemployment rate.



Despite the indispensable role these dedicated caregivers play in fostering independence and quality-of-life for those in need, the persistent undervaluing of their labor has triggered detrimental consequences, ranging from high turnover rates to the risk of compromised care quality. According to the Nebraska Department of Health and Human Services (DHHS), Nebraska's average 2021 Direct Support Professional (DSP) turnover rate was the 11th highest out of the 28 states included in the survey. The turnover ratio for DSPs in Nebraska was 50.2% and the National Core Indicators (NCI) average was 43.3%.³

The turnover ratio for DSPs in Nebraska was 50.2% and the National Core Indicators (NCI) average was 43.3%.

³ <https://dhhs.ne.gov/DD%20Documents/DD%20Provider%20Grant%205.26.2023.pdf> (accessed Dec. 17, 2023)

According to Alana Schriver, Executive Director of NASP, “Individuals with IDD are entitled to receive services in the least restrictive setting possible and to have a choice in the services provided to them.” Furthermore, contends that when those services are unavailable due to the consequences of insufficient wages for direct care providers, it prevents people from receiving the care they need and are legally entitled to. As the demand for compassionate and competent assistance continues to rise, the glaring disparity in compensation not only undermines the well-being of those requiring support, but also poses a substantial threat to the overall sustainability of the workforce and the Nebraska economy according to Schriver.

The Financial Impact of Underpaying Care Providers

Direct care workers are employed by agencies that provide Community-based direct care workers are employed at agencies that have Home and Community-Based Services

(HCBS), which is a Medicaid waiver program. HCBS provides opportunities for Medicaid beneficiaries to receive services in their own home or community rather than other isolated settings and at a cost-savings when compared to state-run institutions.

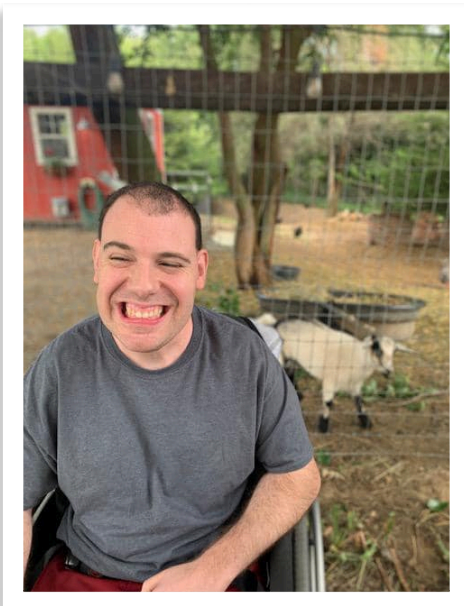
HCBS programs serve a variety of targeted population groups, such as people with intellectual or developmental disabilities, physical disabilities, and/or mental illnesses. Not only are the HCBS programs significant employers for the state, but their employees are vital to enriching the lives of Nebraska’s most vulnerable residents.

HCBS service allows for family members to take jobs in the Nebraska workforces. In many cases, people with disabilities can remain living and working in the community with HCBS support rather than being housed

in nursing homes, regional centers, jails, and hospitals.

However, for that to occur, services must be provided to facilitate their habilitation, which requires paying community-based direct care staff competitive wages to support these initiatives.

Direct care workers encapsulate several titles, including nursing assistants, direct support professionals, home health aides, and personal care aids. Direct care workers are the largest growing field of



HCBS services allows for family members to take jobs in the Nebraska workforces.

any occupation in the country, but the compensation for these roles is significantly lacking. In total, there are 4.5 million direct care workers in the United States with expected increases of 1.3 million in the following 10 years.⁴ The most recent data available from 2021 identifies 25,170 individuals employed as direct care workers in the state, and these numbers are projected to continue to grow rapidly in the next 10 years.⁵ These employees have a far-reaching impact on the individuals they serve and provide individuals receiving services with habilitation, supervision, and much-needed connection, and inclusion into the community. These essential, life-enriching supports are provided at a fraction of the cost of institutional care, even when direct care staff are adequately compensated for their services.

The Nebraska median wage falls somewhat below the national number at \$14.17, with Nebraska median earnings at \$21,900.

Nationally, according to the U.S. Bureau of Labor Statistics, **the median hourly wage** for direct care staff is \$14.51 per hour, or \$30,180 annually. As for other compensation measures, such as full-time schedules, health coverage, and paid sick leave, the reality is that this support is not consistently available for direct care staff. The Nebraska **median wage** falls somewhat below the national number at \$14.17, with Nebraska median earnings at \$21,900.

Unlike other industries, developmental disability service providers are not able to adjust wages or hours to offset costs in a highly competitive labor market. Providers are dependent on rates set or heavily influenced by the legislature. The cost of doing business has outpaced the significant provider rate increase of FY2023. Table 1.1 compares Nebraska to its neighbors in terms of all occupations and for health care occupations. As listed, Nebraska ranked second in average salary for all occupations, but fourth in terms of average salary for Home Health & Personal Care Aides. DSP workers would be included in this latter category



⁴ McCall, S., & Scales, K. (2022). *Direct care worker disparities: Key trends and challenges*. PHI. <https://www.phinational.org/resource/direct-care-worker-disparities-key-trends-and-challenges/>

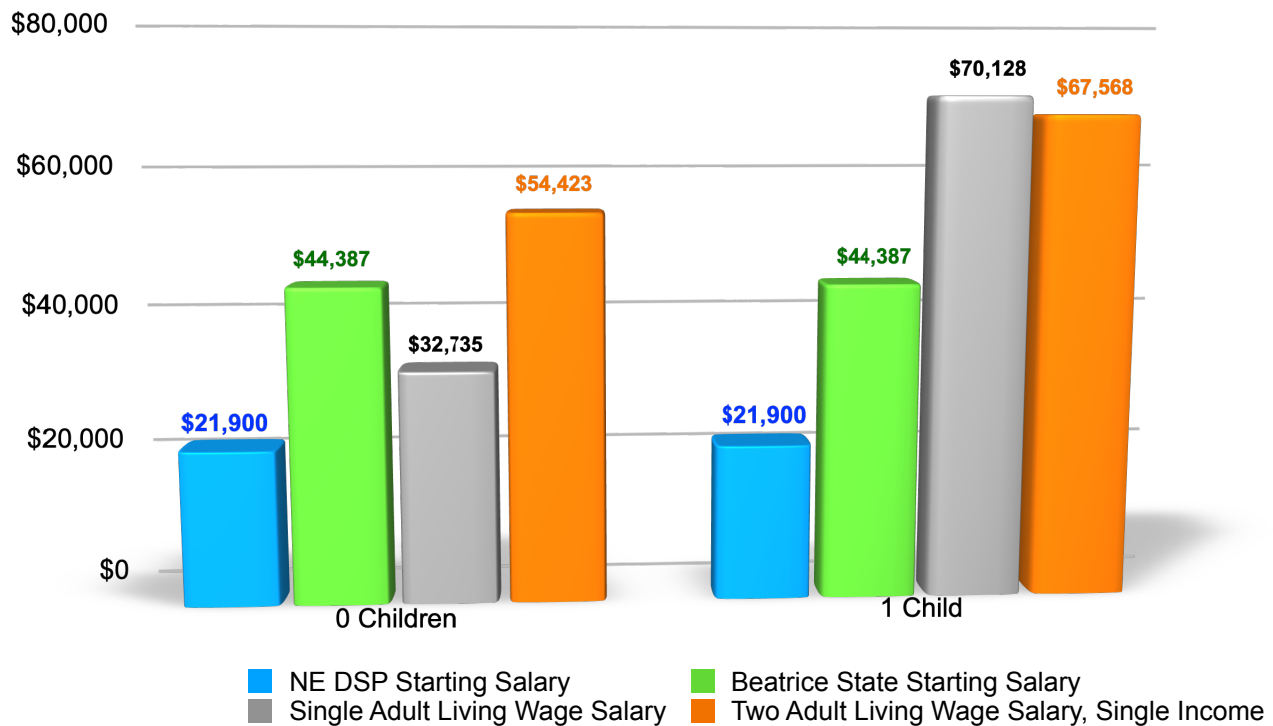
⁵ PHI (2022). *Nebraska key state characteristics*. <https://www.phinational.org/state/nebraska/>

State	All occupations	Health care support occupations	Home health & personal care aides
Colorado	\$67,870 (100%)	\$40,120 (59.1%)	\$34,710 (51.1%)
Iowa	\$53,520 (100%)	\$35,770 (66.8%)	\$32,090 (60.0%)
Kansas	\$52,850 (100%)	\$31,550 (59.7%)	\$25,750 (48.7%)
Missouri	\$54,520 (100%)	\$31,350 (57.5%)	\$27,390 (50.2%)
Nebraska	\$55,070 (100%)	\$35,190 (63.9%)	\$30,070 (54.6%)
South Dakota	\$49,890 (100%)	\$34,250 (68.7%)	\$31,610 (63.4%)
Wyoming	\$54,440 (100%)	\$36,210 (66.5%)	\$38,220 (60.3%)

Source: Goss & Associates based on U.S. BLS data

As demonstrated in Figure 1.1 below, the **starting salary** for DSP in Nebraska is significantly lower than the Nebraska living wage estimates. On average, a DSP staff, who is a single person with no children, makes 66.9% of the Nebraska living wage standard. It is argued that someone whose job is vital to the health and wellbeing of some of Nebraska’s most vulnerable citizens is not able to earn a living wage.

Figure 1.1: Nebraska Living Wage Before Taxes Compared to Nebraska DSP Salary



The Nebraska Association of Service Providers (NASP) is a Nebraska statewide membership association unifying the voice of community-based organizations providing support to IDD. In a 2023 workgroup of NASP member CFOs from 6 of Nebraska’s largest service providers (Mosaic, ILC, Apace-formerly Region V Services, Duet, Vodec, Hands of Heartland), data was compiled from their most recent cost reports from 2023. When looking at the 10 most recent Direct Support Professionals hired at those agencies, the average starting pay was \$15.01 per hour (\$31,221 annually).



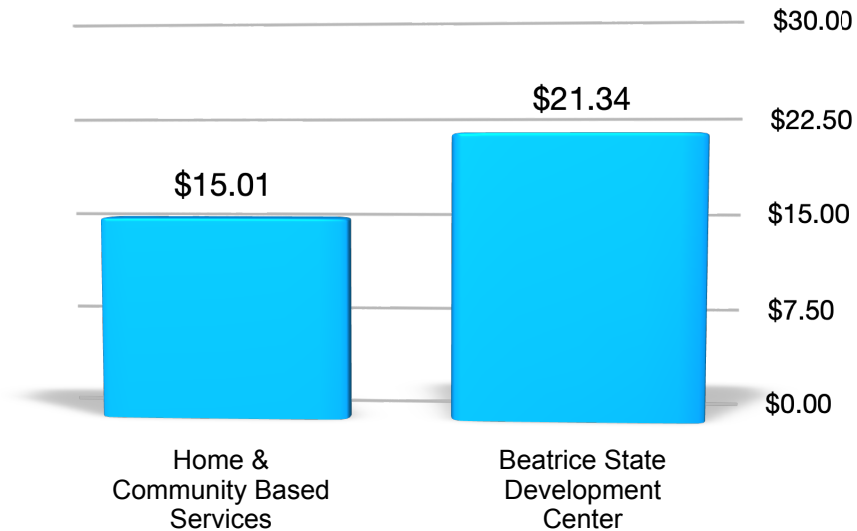
For comparison to similar jobs in state owned and operated 24-hour facility-based settings such as the Beatrice State Development Center, the starting wage is \$21.34 per hour with increased differentials for overnight shifts.

As demonstrated in Figure 1.2, the starting wage for direct care staff in the home and

community-based service sector is 30% lower than the wage for direct care staff at Beatrice State Development Center, the state-run facility for individuals with disabilities. The pay differential between community and state-run facility direct-care staff could be perceived as undermining the Olmstead Act if the higher salary for state-run facilities is viewed as incentivizing institutional care.

For comparison to similar jobs in state owned and operated 24-hour facility-based settings such as the Beatrice State Development Center, the starting wage is \$21.34 per hour with increased differentials for overnight shifts.

Figure 1.2: DSP Starting Wage by Sector



Staff Turnover: The salaries for direct care staff are low, making it difficult to find qualified staff to fill these positions. Lack of adequate compensation for direct care staff leads to high levels of burnout, inadequate support, or low job satisfaction. Hiring a new direct care staff is costly for organizations, with replacement estimates between \$2,413 and \$5,200 according to the National Association of Direct Support Professionals. Additionally, there is a high staff turnover rate because of the low salary, creating new economic problems for the state, such as

Hiring a new direct care staff is costly for organizations, with replacement estimates between \$2,413 and \$5,200 according to the National Association of Direct Support Professionals.

the cost of training new staff. The cost of training new staff is expensive, and it creates a cycle where tax dollars are continuously spent on training new staff members instead of providing services to individuals with disabilities. This cycle could be prevented if the salaries for direct care staff were competitive and sufficient to keep people in their current jobs.

According to the Nebraska DHHS, Nebraska's average 2021 Direct Support Professional (DSP) turnover rate was the 11th highest out of the 28 states included in the survey. The turnover ratio for DSPs in Nebraska was 50.2% and the NCI average was 43.3%.⁶ The District of Columbia had the lowest DSP turnover rate followed by Massachusetts and North Carolina. Wyoming had the highest DSP turnover rate at 59.0%.

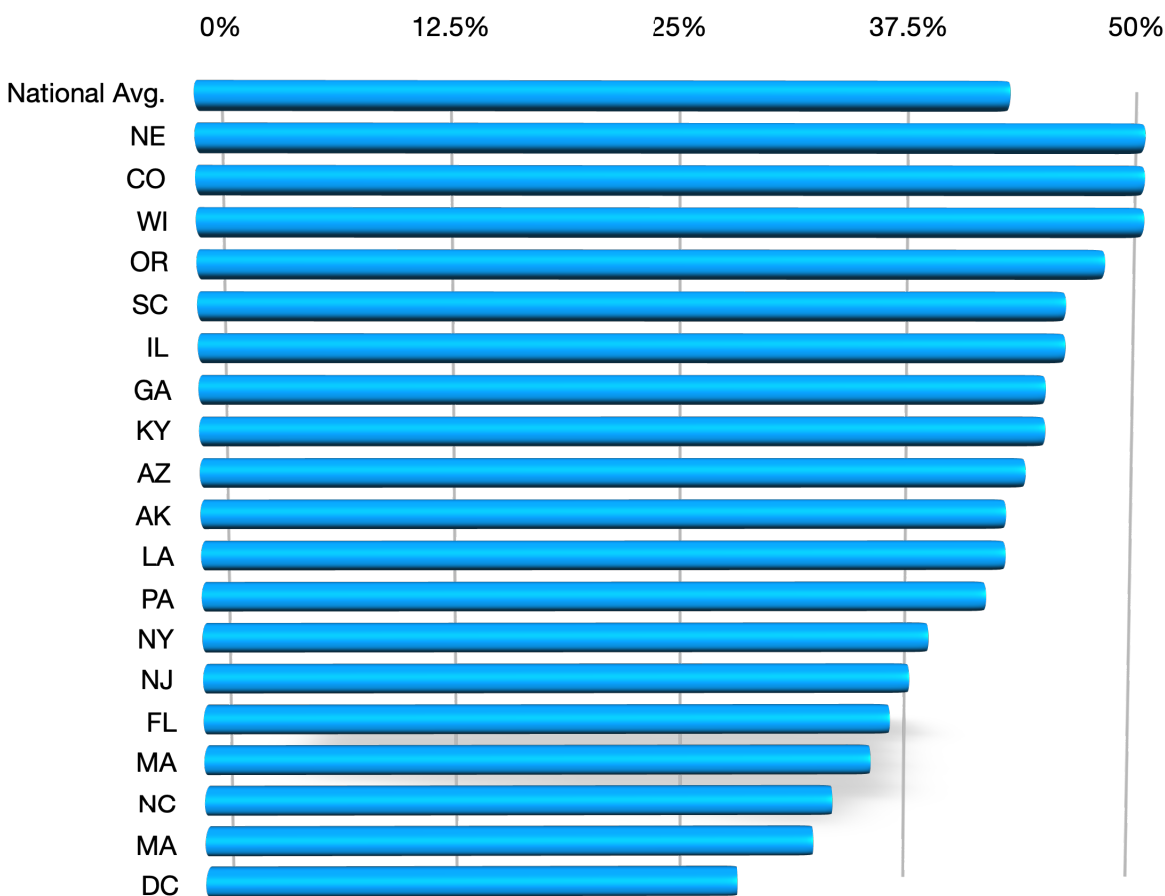
According to a report from the National Core Indicators State of the Workplace Survey results, the states reported turnover ratios for direct support workers anywhere between 28.5% to 87.5% in 2021; the average being 43.3%. Figure 1.3 visually represents the direct care staff turnover rates reported by 19 states and compared to the national average. Considering this number across all agencies requiring direct care staff in our country, the cost is \$2.3 billion (National Association of Direct Support Professionals, 2021). This incessant churn of staff imposes substantial financial strain, necessitating frequent recruitment and retraining. The staffing disruption reduces continuity and quality of care and ultimately undermines the well-being of individuals with developmental disabilities.

The cost of training new staff is expensive, and it creates a cycle where tax dollars are continuously spent on training new staff members instead of providing services to individuals with disabilities.

⁶ National Association of Direct Support Professionals <https://dhhs.ne.gov/DD%20Documents/DD%20Provider%20Grant%205.26.2023.pdf> (accessed Dec. 17, 2023)

In addition to the economic expenses associated with recruitment and training, the hidden costs include decreased productivity, compromised service quality, and the loss of institutional knowledge. Therefore, addressing staff retention and investing in ongoing skill development is a moral imperative and a pragmatic economic choice, as it mitigates these hidden expenses and enhances the overall effectiveness and sustainability of developmental disability services.

Figure 1.3: DSP Turnover Rates Compared to National Average



Participation Rates: Because of the lack of adequate funding for community-based direct care staff, family members of individuals with disabilities are compelled to support their loved ones at home, thus taking the caregiver out of the workforce and reducing the overall tax base. The reduced tax base leads to a decline in the state's economic growth, which affects the state's ability to provide adequate support to individuals with disabilities. This situation could create a vicious cycle, where the lack of funding for direct care staff reduces the state's tax base, further limiting the funding available for direct care staff.

As a result, many individuals with disabilities are left without the support they need to live and work independently, while their families are left with the added burden of providing care and financial support. For every dollar invested into services for people with disabilities, the economy is bolstered (staff wages, families working, less reliance on benefits), and Nebraska saves money (decreased use of emergency rooms, police, jails, and regional centers). This situation highlights the need for the state to address the issue of funding for direct care staff to provide adequate support to individuals with disabilities and their families while also ensuring the state's economic growth. The net taxpayer cost is estimated in the next section.

This situation could create a vicious cycle, where the lack of funding for direct care staff reduces the state's tax base, further limiting the funding available for direct care staff.

Waitlists: Many Nebraskans with disabilities must wait for services due to a lack of funding. In 2023, 2,418 people are waiting to receive Nebraska disabilities services. Often resulting in up to a six-year wait, these individuals face the daunting prospect of identifying other supports while waiting for care.

The delay in services between the initial funding approval and people with disabilities actually receiving services is called the “hidden waitlist.” The average wait-time to receive services once offered is 122 days.⁷ The hidden waitlist has resulted in a declining number of individuals with disabilities being served in the community by direct care staff, not because there are fewer people with disabilities to serve, but because of the crisis from unfilled low-paying direct care staff wages. In other words, if there are no staff to serve individuals, no individuals can be served.

The “hidden waitlist” in direct care services provision reveals a troubling and interconnected challenge within support services. This issue arises when agencies struggle to hire and retain staff for direct support positions, creating a problematic loop. The consequences of this loop are two-fold: individuals needing direct care services are left uncertain and unable to access the vital support they require, while agencies simultaneously face financial losses due to uncollected funds, such as federal matching funds.

Moreover, the inability to secure a stable workforce for direct support positions compromises the quality of care for vulnerable individuals and hampers the financial sustainability of service providers. This troubling cycle underscores the urgent need for comprehensive strategies to bolster the recruitment and retention of direct support staff, ultimately ensuring that those in need can access the services they deserve.

⁷ Source: Nebraska Health and Human Services, 2023

Table 1.2 ranks the 37 states with available waitlist data. As presented, Texas not only had the largest number on 2022 waitlists at 342,575, the state had the highest number adjusted for population. Nebraska was 17th in the nation at 1.23 per 1,000 in population.

	State	IDD waitlist		Waitlist per 1,000 population 2023	2018-23 Change	Change per 1,000 population 2018-23
		2018	2023			
1	Texas	385,208	342,575	11.28	-42,633	-1.40
2	South Carolina	11,292	41,078	7.69	29,786	5.57
3	New Mexico	20,355	15,933	7.54	-4,422	-2.09
4	Iowa	6,574	19,668	6.14	13,094	4.08
5	Maryland	31,367	30,803	5.00	-564	-0.09
6	Mississippi	13,510	10,716	3.65	-2,794	-0.95
7	Florida	71,662	77,123	3.42	5,461	0.24
8	Montana	2,122	3,171	2.79	1,049	0.92
9	Kansas	5,230	7,766	2.64	2,536	0.86
10	Kentucky	9,194	11,457	2.53	2,263	0.50
11	Louisiana	64,918	9,140	2.00	-55,778	-12.19
12	Virginia	13,215	14,947	1.72	1,732	0.20
13	Maine	1,515	2,342	1.68	827	0.59
14	North Carolina	14,397	18,103	1.68	3,706	0.34
15	Illinois	19,354	19,304	1.54	-50	0.00
16	Utah	3,335	4,758	1.40	1,423	0.42
17	Nebraska	1,627	2,418	1.23	791	0.40
18	Pennsylvania	16,532	14,105	1.09	-2,427	-0.19
19	Wisconsin	3,151	5,836	0.99	2,685	0.45
20	Wyoming	279	502	0.86	223	0.38
21	Indiana	1,514	5,186	0.76	3,672	0.54
22	Oklahoma	7,672	3,020	0.75	-4,652	-1.15
23	Arkansas	3,103	2,118	0.69	-985	-0.32
24	Colorado	2,800	4,016	0.69	1,216	0.21
25	Nevada	1,159	2,138	0.67	979	0.31
26	Alaska	906	487	0.66	-419	-0.57
27	Georgia	6,759	7,095	0.65	336	0.03
28	Michigan	3,021	6,287	0.63	3,266	0.33
29	Connecticut	3,884	1,796	0.49	-2,088	-0.57
30	West Virginia	1,236	526	0.30	-710	-0.40
31	Alabama	7,793	1,000	0.20	-6,793	-1.33
32	North Dakota	17	119	0.15	102	0.13
33	Ohio	68,644	1,633	0.14	-67,011	-5.70
34	California	8,510	4,334	0.11	-4,176	-0.11
35	Missouri	100	680	0.11	580	0.09
36	Oregon	182	199	0.05	17	0.00
37	Tennessee	7,263	300	0.04	-6,963	-0.98

Source: Goss & Associate calculations based on KFF data. <https://www.kff.org/>

Redirecting of Funds: The under-sourcing of direct care staff salaries has resulted in many unintended fiscal outcomes. One such outcome is having to allocate funds to other systems, such as jails, emergency rooms, nursing homes, and regional centers. This happens when people with disabilities are redirected to other systems due to inadequate service options brought on by a lack of staff in their most suitable living and work environments. Likewise, millions of dollars in Medicaid funds to the state are going unused due to the underutilization of DD services and programming.

Likewise, millions of dollars in Medicaid funds to the state are going unused due to the underutilization of DD services and programming.

The next two sections of this study quantifies the cost to the state of underfunding service for DSP.



DIRECT SUPPORT PROFESSIONAL



Section 2: The Shortage of DSP in Nebraska, 2023

Worker Shortage Estimate: Table 2.1 presents the estimated employment and shortage for direct support professionals (DSP) in Nebraska. According to the most recent *Workforce Survey Report* from the National Core Indicators (2021), Nebraska providers report a vacancy rate of 18.6%. Applying the reported vacancy rate to the estimated number of DSPs in the state (3,823) results in an estimated worker shortfall of 711 DSPs (518 full-time, 193 part-time).

Category	Amount
Estimated DSPs (number of workers)	3,823
Estimated worker shortage (vacancy rate, %)	18.6%
Worker shortfall (number of workers)	711
Full-time workers (number)	518
Part-time workers (number)	193
Source: Goss and Associates estimates from National Core Indicators. "State of the Workforce Survey Report (2021)" and U.S. Bureau of Labor Statistics.	

Wage Estimate: Based on work function and relative educational and training requirements, similar occupations may serve as a benchmark for DSP labor market characteristics. Table 2.2 presents a comparison of Home Health and Personal Care Aides (DSPs at all providers in the state) to adjacent occupations.⁸ Focusing on the wage differentials, three findings are noteworthy:⁹

- Starting wages for DSPs are on par with Childcare Workers (0.4% wage differential). There are over 8,000 childcare workers in Nebraska.

⁸ Adjacent occupations refers to occupations where skills and technical ability are closely related to the occupation listed.

⁹ The U.S. Bureau of Labor Statistics survey captures wage and employment data for all providers in the labor market, regardless of agency. Thus, wage levels may vary compared to other surveys; however, the comparison of relative wages between DSPs and the adjacent occupations provide insight into the labor supply calculus.

Table 2.2: Occupation Comparison, Nebraska – Ratio of Home Health and Personal Care Aides to Adjacent Occupations (Nominal 2022 dollars)						
Occupation	Employment estimate	Location quotient	Starting wage	Wage differential	Median wage	Wage differential
Home Health and Personal Care Aides (DSPs)*	9,730	0.42	\$21,900	--	\$29,210	--
Social and Human Service Assistants	1,940	0.74	\$27,350	-20.3%	\$31,960	-8.6%
Psychiatric Technicians	850	1.28	\$30,520	-28.6%	\$36,520	-20.0%
Nursing Assistants	15,120	1.76	\$29,440	-26.0%	\$35,470	-17.6%
Medical Assistants	2,470	0.5	\$30,750	-29.1%	\$37,740	-22.6%
Childcare Workers	8,050	2.67	\$21,720	0.4%	\$27,740	5.3%
<i>* Total all providers.</i>						
Source: Goss and Associates estimates from U.S. Bureau of Labor Statistics, May 2022 State Occupational Employment and Wage Estimates. Adjacent occupation list from National Core Indicators State of the Workforce Survey Report (2021).						

As presented on Table 2.3, wage differentials for starting wages in Nebraska indicate a comparative disadvantage for providers in the industry. Nebraska DSPs receive a starting wage that is 26.0% less than adjacent occupations. In comparison, the 11-state Midwest cohort provides a narrower wage differential of 16.9%. In addition, the Midwest cohort offers a starting wage differential of 6.0% to DSPs, compared to the childcare sector.



Table 2.3: Starting Wage, Nebraska Compared to Other Midwest States, Ratio Nebraska Wage to Midwest Cohort (May 2022 State Occupational Employment and Wage Estimates)

Geography	Home health & personal care aides	Adjacent occupations	Wage differential	Childcare workers	Wage differential
Nebraska	\$21,800	\$29,440	-26.0%	\$21,720	0.4%
Illinois	\$28,500	\$30,605	-6.9%	\$24,960	14.2%
Indiana	\$23,640	\$28,440	-16.9%	\$19,560	20.9%
Iowa	\$24,600	\$28,825	-14.7%	\$18,210	35.1%
Kansas	\$20,840	\$28,395	-26.6%	\$18,890	10.3%
Michigan	\$21,900	\$29,940	-26.9%	\$22,600	-3.1%
Minnesota	\$27,790	\$31,370	-11.4%	\$23,670	17.4%
Missouri	\$23,300	\$26,645	-12.6%	\$23,190	0.5%
North Dakota	\$29,860	\$29,095	2.6%	\$22,660	31.8%
Ohio	\$22,860	\$27,810	-17.8%	\$21,390	6.9%
South Dakota	\$27,630	\$27,765	-0.5%	\$22,310	23.8%
Wisconsin	\$22,150	\$27,840	-20.4%	\$20,280	9.2%
11-state Median	\$23,640	\$28,440	-16.9%	\$22,310	6.0%

Source: Goss and Associates from U.S. Bureau of Labor Statistics, May 2022 State Occupational Employment and Wage Estimates.

Nebraska holds a slight comparative advantage compared to the Midwest cohort (-17.6% versus -18.7%); however, there is no meaningful gap closure, suggesting potentially elevated turnover rates for even more experienced workers. Table 2.4 provides a comparison of median wages by state.



Geography	Home health and personal	Adjacent occupations	Wage differential	Childcare workers	Wage differential
Nebraska	\$29,210	\$35,470	-17.6%	\$27,740	5.3%
Illinois	\$31,750	\$40,300	-21.2%	\$28,780	10.3%
Indiana	\$28,210	\$35,895	-21.4%	\$25,730	9.6%
Iowa	\$31,040	\$35,850	-13.4%	\$22,860	35.8%
Kansas	\$25,000	\$33,520	-25.4%	\$23,440	6.7%
Michigan	\$28,570	\$36,355	-21.4%	\$26,960	6.0%
Minnesota	\$31,600	\$39,670	-20.3%	\$29,120	8.5%
Missouri	\$26,320	\$33,875	-22.3%	\$28,090	-6.3%
North Dakota	\$35,500	\$37,960	-6.5%	\$26,750	32.7%
Ohio	\$27,440	\$35,815	-23.4%	\$27,340	0.4%
South Dakota	\$30,750	\$31,500	-2.4%	\$24,900	23.5%
Wisconsin	\$29,180	\$37,660	-22.5%	\$26,320	10.9%
11-state Median	\$29,180	\$35,895	-18.7%	\$26,750	9.1%

Source: Goss and Associates from U.S. Bureau of Labor Statistics, May 2022 State Occupational Employment and Wage Estimates.

Table 2.5 summarizes the starting and median wages for DSPs in Nebraska necessary to begin closing the workforce gap mentioned above. The table presents wage estimates using three methodologies and a fourth estimate that blends the estimates from two of the methods.

First, pegging the median DSP wages to 150% of the minimum wage results in an annual wage of \$37,440 (\$18.00 per hour) for 2024. Using U.S. Bureau of Labor Statistics wage differential between the median wage level and the 10th percentile (74.6%) results in a starting wage of \$27,942 (\$13.43 per hour).

Second, closing the wage gap between DSPs and the adjacent occupations results in starting and median annual wages of \$30,689 and \$38,379 (\$14.75 per hour and \$18.45 per hour, respectively).

Third, using the Midwest cohort wage differentials as the basis for starting and median wage estimations results in annual wages of \$28,467 for the former and \$38,738 for the latter.

Finally, using a blended average of the second and third methodologies results in a starting wage of \$29,578 (\$14.22 per hour) and a median wage of \$38,558 (\$18.54 per hour).

Benchmarking against the 150% of the minimum wage method, the study finds the need for higher wages for DSPs, 5.9% for starting wages and 3.0% for median wages.

Estimate basis	Starting	Wage differential	Median	Wage differential
150% of \$18 minimum wage*	\$27,942	--	\$37,440	--
Nebraska adjacent occupation	\$30,689	9.8%	\$38,379	2.5%
Midwest cohort adjacent occupation	\$28,467	1.9%	\$38,738	3.5%
Average wage Nebraska and Midwest	\$29,578	5.9%	\$38,558	3.0%
*Median wage equals 150% of minimum wage; starting wage is 74.6% of median wage as reported by U.S. Bureau of Labor Statistics.				
Source: Goss and Associates from U.S. Bureau of Labor Statistics, May 2022 State Occupational Employment and Wage Estimates.				

Summary

This section has detailed the extent to which DSP are underpaid with the resultant higher turnover, longer waitlists and lower employment. The next section estimates how funding to support DSP wage parity would impact the state economy.



Section 3: Economic Impact of Added DSP Funding

Table 3.1 shows the direct impacts used in the economic impact analysis. The workforce estimates are based on the blended approach discussed above. The increase in DSP median wages (increase to \$38,558) is the equivalent of adding 612 workers (full-time equivalent) to the state of Nebraska. In addition, agency staffing requirements require the hiring of 711 new workers (72.9% full-time and 27.1% part-time).¹⁰

Total estimated new workers are 2,953, assuming a statewide unemployment rate of 3.1% (10-year Nebraska average).



Finally, the stay-at-home caregivers will be able to enter the workforce – according to the National Core Indicators, 96.1% of at-home caregivers have either left the workforce or are underemployed due to either hours worked or the quality of the work. Caregiver-to-work results in a 1,724 (full-time equivalent) increase to Nebraska’s labor supply. Total estimated new workers are 2,953, assuming a statewide unemployment rate of 3.1% (10-year Nebraska average).

Category	Number of workers
Increased hours due to increased wages (FTE)	612
New agency employees (total positions)	711
Parents/caregivers return-to-work (FTE)	1,724
Less unemployed at 3.1%	94
Total	2,953

Source: Goss and Associates estimates using National Core Indicators data.

Table 3.2 presents the total impacts from the funding for DSPs. The impacts reflect direct expenditures plus additional business-to-business spending and incrementally increased household spending. The total impact to the state of Nebraska is \$401.3 million in 2024. Wage and salary earnings increase by \$171.5 million and self-employment income increases by \$21.7 million. The total number of jobs supported is 4,245. State and local tax revenue coffers will see a lift of \$13.8 million.

¹⁰ Full-time and part-time worker percentages for Nebraska from the National Core Indicator Workforce Study Report (2021).

Category	Amount
Output	\$401,296,625
Wage and salary earnings	\$171,482,303
Self-employment income	\$21,655,265
Jobs	4,245
State and local tax revenue	\$13,825,367
Source: Direct impacts from Table 3.1 plus spillover impacts from the IMPLAN multiplier system.	

Table 3.3 shows the impact to the top-20 industry sectors in the state of Nebraska. The study used Business Support Services to account for the caregiver-to-work impact and the home health care services line contains the additional DSPs. The food service and drinking establishment sector will see an increase in sales revenue of \$8.9 million; doctors, dentists and other health care practitioners will see an increase of \$8.7 million and commercial banks will see revenue increase by \$8.2 million.



Sector	Output	Wage and salary earnings	Self-employment income	Jobs
Business support services*	\$128,318,355	\$70,758,774	\$5,511,434	1,748
Home health care services	\$103,649,052	\$47,560,491	\$9,360,812	1,233
Food services and drinking places	\$8,861,883	\$2,619,547	\$159,662	144
Offices of physicians, dentists, & related	\$8,653,137	\$4,021,958	\$804,037	49
Commercial banks	\$8,226,438	\$1,134,357	\$0	20
Private hospitals	\$7,694,352	\$3,260,732	\$34,962	46
Insurance carriers	\$7,467,432	\$1,380,058	\$30,698	17
Real estate establishments	\$7,086,857	\$594,390	\$194,607	56
Non-depository credit intermediation & related	\$6,440,315	\$2,696,797	\$328,695	38
Wholesale trade businesses	\$5,077,314	\$2,548,428	\$424,955	35
Telecommunications	\$4,157,248	\$760,740	\$4,639	9
Management of companies and enterprises	\$3,842,666	\$1,836,360	-\$1,891	15
Employment services	\$3,507,738	\$2,363,689	\$219,764	78
Other state and local government enterprises	\$3,056,894	\$679,865	\$0	8
Nursing and residential care facilities	\$2,916,345	\$1,406,171	\$14,729	37
State and local government electric utilities	\$2,789,621	\$787,388	\$0	7
Management, scientific, & technical consulting	\$2,731,882	\$1,301,608	\$305,867	15
Services to buildings and dwellings	\$2,623,241	\$798,527	\$70,336	36
Accounting, tax preparation, & payroll services	\$2,566,699	\$855,671	\$243,114	17
Legal services	\$2,434,581	\$845,821	\$217,338	14
All other sectors	\$79,194,576	\$23,270,933	\$3,731,507	624
Total all sectors	\$401,296,625	\$171,482,303	\$21,655,265	4,245
*Proxy industry for caregivers returning to work.				
Source: Goss and Associates using the IMPLAN multiplier system.				

State tax revenue will post an increase of \$7.7 million in 2024. Table 3.4 exhibits the increase in state and local tax revenue.

Category	Total	State	Local
Sales tax	\$3,775,380	\$3,171,319	\$604,061
Property tax	\$4,094,193	\$0	\$4,094,193
Individual income tax	\$3,769,238	\$3,769,238	\$0
Corporate taxes	\$294,903	\$294,903	\$0
Other taxes, fees and charges	\$1,891,653	\$472,913	\$1,418,740
Total revenue	\$13,825,367	\$7,708,373	\$6,116,994

Source: Goss and Associates using the IMPLAN multiplier system.

Return on Investment

The return-per-dollar of state investment (state matching funds) is \$1.14. The direct and spillover activities associated with the increased service expenditures results in an increase in state revenue of \$7.7 million. Added to the inflow of new Federal funding (\$54.4 million projected for FY2023-24), the increased service expenditures result in an additional \$62.1 million to state revenue. The state matching funds are projected to be \$54.4 million.

Category	Amount
Incremental state revenue (direct and spillover)	\$7,708,373
Matching federal transfer (inflow to state)	\$54,429,116
Total revenue to state	\$62,137,489
State expenditure (investment)	\$54,429,116
Return-per-dollar of state investment	\$1.14
Added local tax collections	\$13,946,892
Return-per-dollar of state & local investment	\$1.40

Source: Goss and Associates using the IMPLAN multiplier system.

Summary

In this section, it was concluded that increasing Nebraska funding for DSP positions by \$54.4 million would generate \$401.3 million in sales, \$171.5 million in wages and salaries and \$21.7 million in self-employment income. Furthermore, the boost to state funding would support 4,245 jobs annually and add \$13.8 million in state and local tax collections. As a result of these impacts, plus federal matching funds, Nebraska taxpayers would experience a rate-of-return of \$1.40 for every \$1.00 of support for DSP hiring.

Appendices

Appendix A: Measuring the Impact of HCBS IDD Service Providers in Nebraska

An Overview

Service providers and their vendors contribute to the economy through their own employment and payroll, and through purchases from other vendors. Payments to these vendors are an important source of growth for the state economy. Thus, service providers produce benefits for the Nebraska taxpayer, both directly and indirectly. Large portions of this spending are made in the local economy. That portion spent locally adds to community income. Economic impacts that take place outside the local economy, for example, spending in Iowa, are called leakages and reduce overall impacts. They are excluded when estimating economic impacts of for the local area and the state.

As a result of the widespread geographic distribution of individuals with IDD, the service providers in Nebraska affects the state's economy in many ways. Importantly, the presence of service providers increases the attractiveness of the community and, in the long run, encourages the startup and/or relocation of retail businesses and manufacturing firms to the state and the local area. Access to service providers increases the quality-of-life for those needing services and organizations providing the services, helping the state to retain and attract individuals, thereby helping to create "brain gain" or reduce brain drain.

In addition to these growth dynamics, there also is economic activity related to the direct expenditures by service providers and vendors, such as payroll, local jobs and income. Furthermore, service providers and their clients and vendors indirectly affect the overall level of

Importantly, the presence of service providers increases the attractiveness of the community and, in the long run, encourages the startup and/or relocation of retail businesses and manufacturing firms to the state and the local area.

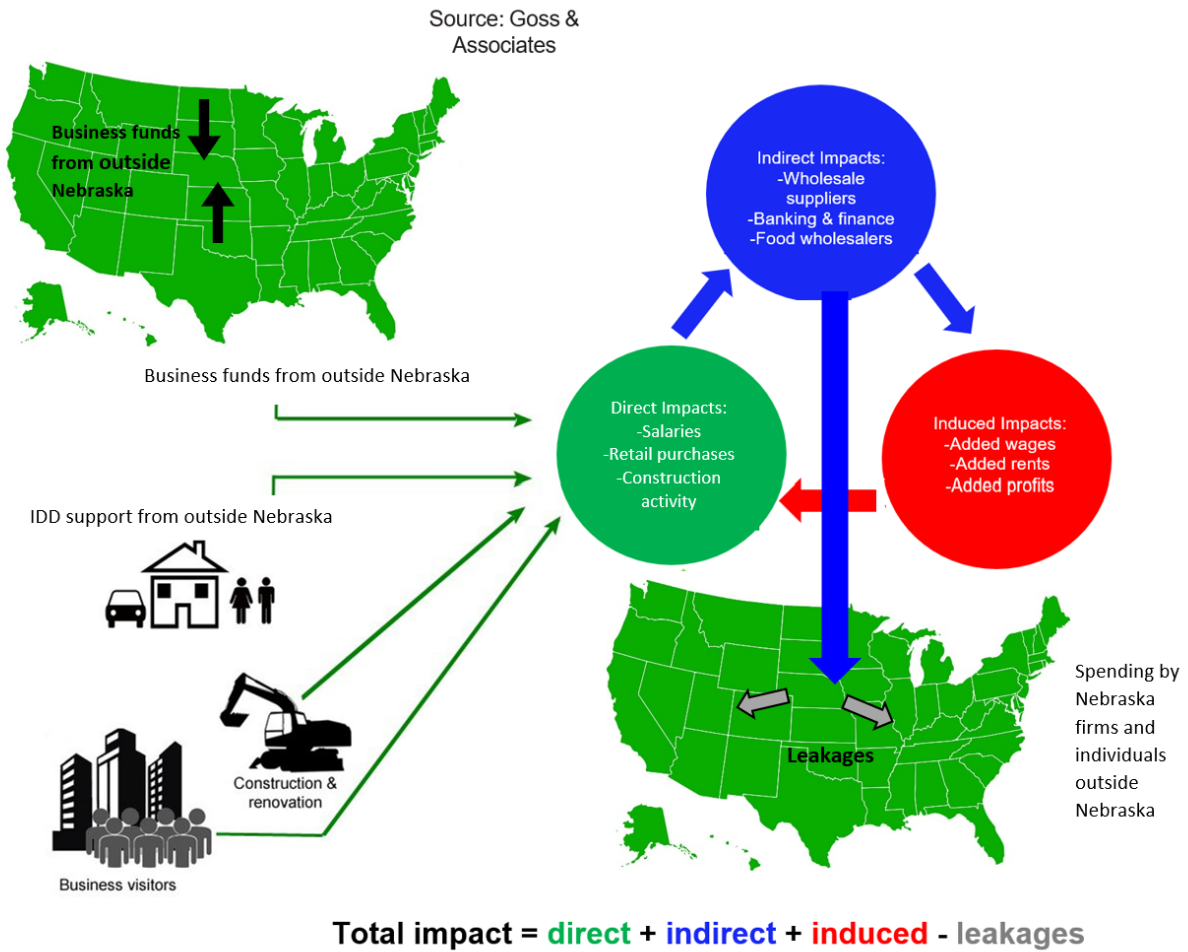
state economic activity. For example, the office supplies industry provides jobs and income for workers in the state as a result of service providers spending on computers and office supplies.

Additionally, service providers increase retail sales in the local area and the state as employees and visitors who reside outside Nebraska spend a portion of their wages in the state. In other words, service providers and their clients contribute to the region's export of retail goods. These sales have a positive impact on the local area by adding jobs and income in the retail and related industries.

Table A.1 lists the three components of the total economic impact: the Direct Economic Impact, the Indirect Economic Impact, and the Induced Economic Impact. Spillover impacts equal the sum of indirect and induced impacts.

Table A1: The Three Components of the Total Economic Impacts	
Direct Economic Impacts	Spending by service providers and their clients flowing into the area has direct economic effects on the local economy via expenditures for goods and services and for employee salaries. The most obvious direct expenditures are payment of wages to workers employed by the service providers. Direct economic impacts are color coded green in Figure A1.
Indirect Economic Impacts	Second-round spending takes place as retailers and wholesalers that furnish service providers and clients with supplies purchased from other companies in the area, resulting in indirect economic impacts on the area and state economies by the sports industry. Furthermore, service providers firms encourage the expansion of other businesses in the state. Service providers generate indirect effects by increasing: (a) the number of firms drawn to the community, (b) the volume of deposits in local financial institutions and, (c) economic development. Examples of indirect economic impacts are color coded blue on Figure A1.
Induced Economic Impacts	Induced impacts in the region occur as the initial spending feeds back to industries in the region when workers in the area purchase additional output from local firms in a third round of spending. That is, service providers increase overall area income and population, which produces another round of increased spending adding to sales, earnings and jobs. Examples of induced economic impacts are color coded red in Figure A1.
Source: Goss & Associates	

Figure A1: Economic Impacts



Appendix B: Choosing a Technique to Measure Impacts

Historically, the high cost to develop I-O models prevented their widespread use in regional impact analysis. However, with the advent of “ready-made” multipliers produced by third parties, such as the U.S. Forestry Service, I-O multipliers became a much more viable option for performing impact analysis. These “ready-made” models are made region specific at a fraction of the costs of their predecessors.

All purely non-survey techniques or “ready-made” multipliers take a national I-O table as a first approximation of regional inter- industry relationships. The national table is then made region-specific by removing those input requirements that are not produced in the region. This study uses the most widely recognized “ready-made” multiplier system, IMPLAN Multipliers.

IMPLAN Multipliers

The Forestry Service of the U.S. Department of Agriculture developed the IMPLAN Multipliers in the 1980s. For very populous areas, IMPLAN divides the economy into 300-400 industrial sectors. Industries that do not exist in the region are automatically eliminated during user construction of the model (e.g. coal mining in Nebraska). IMPLAN uses an industry-based methodology to derive its input-output coefficients and multipliers. Primary sources for data are U.S. Census data and U.S. Bureau of Economic Analysis data.

IMPLAN and RIMS (Regional Input-Output Modeling System) are two of the most widely used multiplier models. IMPLAN has been compared to other multiplier systems and found to produce reliable estimates. Likewise, in a study estimating the impacts of opening an automobile assembly plant, researchers concluded that IMPLAN’s outcomes are, on balance, somewhat more accurate than RIMS.

IMPLAN Multipliers possess the following advantages over other I-O multiplier systems:

1. Price changes are accounted for in the creation of the multipliers.
2. Employment increases or decreases are assumed to produce immediate in or out-migration.

Appendix C: Researchers' Biographies

Ernie Goss is the Jack MacAllister Chair in Regional Economics at Creighton University, and is the initial director for Creighton's Institute for Economic Inquiry. He is also principal of the Goss Institute in Denver, CO. Goss received his Ph.D. in economics from The University of Tennessee in 1983 and is a former faculty research fellow at NASA's Marshall Space Flight Center. He was a visiting scholar with the Congressional Budget Office for 2003-2004 and has testified before the U.S. Congress, the Kansas Legislature, and the Nebraska Legislature. In the fall of 2005, the Nebraska Attorney General appointed Goss to head a task force examining gasoline pricing in the state.

Goss has published more than 100 research studies focusing primarily on economic forecasting and on the statistical analysis of business and economic data. His book *Changing Attitudes Toward Economic Reform During the Yeltsin Era* was published by Praeger Press in 2003, and his book *Governing Fortune: Casino Gambling in America* was published by the University of Michigan Press in March 2007.

He is the editor of *Economic Trends*, an economics newsletter published monthly with more than 11,000 subscribers, produces a monthly business conditions index for the nine-state Mid-American region, and conducts a survey of bank CEOs in 10 U.S. states. Survey and index results are cited each month in approximately 100 newspapers; citations have included the *New York Times*, *Wall Street Journal*, *Investors Business Daily*, *The Christian Science Monitor*, *Chicago Sun Times*, and other national and regional newspapers and magazines. Each month 75-100 radio stations carry his *Regional Economic Report*.

Susan Reay is the Director of the Grace Abbott School of Social Work in Omaha, Nebraska. Dr. Reay received her bachelor's and master's in Social Work from the University of Nebraska at Omaha. She received her Doctorate in Education from the College of Saint Mary. For 25 years Dr. Reay practiced as a clinical social worker as a non-profit clinical director and administrator of multiple behavioral health education programs. Dr. Reay served on the Nebraska Board of Mental Health Practice and held leadership positions for nine of her 13 years on the board. Dr. Reay was the Training and Technical Assistance Project Coordinator for the Nebraska System of Care SAMHSA grant and coordinator for a \$1.3 million HRSA grant for social work education. Dr. Reay specializes in ethics, licensure, and children's mental health, including evidence-based mental health practices for treating youth psychopathology. She writes exam questions for the Association of Social Work Boards exam, used across North America. Dr. Reay is a frequent speaker concerning ethics, regulation, wellness, and eating disorders. She provides clinical and programmatic consultation for providers supporting individuals with developmental disabilities and outpatient mental health therapy services

focusing on eating disorders and women's issues. Dr. Reay lives in Omaha, Nebraska with her 18-year-old son.

Scott Strain is a senior research economist at Goss & Associates. He has worked as an economist and statistician for more than 20 years, providing forecasts and analysis across a wide range of industries. Scott served as an industry economist, working in new product development regarding both quantitative and qualitative research. Scott was Senior Director of Research for an economic development agency, providing economic impact and tax incentive analysis to both private businesses and government entities. He served on the business advisory committee that worked with Nebraska state senators and the director of the state's Economic Development Department to develop the Nebraska Advantage Act – a comprehensive package of business incentives that has helped to add more than \$6 billion in new capital investment and over 13,000 new jobs in the state of Nebraska since the Act's inception in 2006.

Monique Devillier is a Research Associate at Goss & Associates. She has a Bachelors of Liberal Studies from the University of Iowa. She was a small business owner in Omaha, Nebraska. She has worked for Higgins Law as a project coordinator and legal assistant as well as an office manager for PSC Construction. Monique was one of the original co-founders of a non-profit in Blair, Nebraska and served on the board for more than nine years. She was Sergeant-at-Arms for the 21-22 year at Suburban Rotary, where she has been a member for more than six years and currently serves on the board.

Elizabeth Wollmann is an Independently Licensed Social Worker and Mediator based in Omaha, Nebraska. After receiving a Bachelor's Degree in Family and Consumer Science from the University of Nebraska – Lincoln, Liz went on to receive a Master's Degree in Social Work at the University of Nebraska – Omaha. She gained experience while working for over twenty years in Child Welfare, Behavioral Health, and the Developmental Disabilities Service Systems in Nebraska. Liz has also previously taught the next generation of Social Workers as an adjunct professor at the University of Nebraska - Omaha in the Grace Abbott School of Social Work, teaching Health and Mental Health, which focused on the effects that physical and mental health have on one another, assessment and diagnosis skills, and the development of mental health evaluations.

Jackson Overfelt works as a Research Assistant at Goss & Associates. Jackson is a student at Creighton University's Heider College of Business, where he is pursuing a bachelor's degree in Finance and Economics. Jackson has assisted in research studies at Goss & Associates, and was recently a part of Creighton's research project that studied the Economic Impact of Affordable Housing, Workforce Development, and Childcare Support.

Lily Teunissen works with Goss & Associates as a Research Assistant. Lily is a student at Creighton University in Omaha, Nebraska. In May 2025 she will graduate with her Bachelor of Science in Business Administration with majors in Economics and International business. Lily has received many honors in her time at Creighton including being selected as a Deans' Fellow Honors Program student, the Anna Tyler Waite Leadership Program member, Deans' List student, Deans Honor Roll for Social Responsibility student, and the National Society of Leadership and Success member. She also partakes in academic colloquiums, the Women in Business Club, intramural sports, and as volunteer for Habitat for Humanity.

Shay Devillier works as a Research Assistant at Goss & Associates. She has an Associates degree in Surgical Technology from Carver College in West Virginia, and was inducted into the Technical Honor Society as well. Shay also has a certificate in Data Analytics. She has assisted Goss & Associates in research studies & editing, and was recently a part of Iowa's Association of Electric Cooperatives where they studied economic progress throughout the state.

Alyssa Gove is a current student at Creighton University studying Finance and Economics with a concentration in Sustainability. She plans to pursue a career in corporate sustainability. She is interested in how businesses build corporate strategies that prioritize both environmental risk mitigation and company growth. Apart from her studies, she serves as an executive member of Creighton's Management Consulting Club, Spanish Club, and she is involved in various sustainability initiatives on campus.

Appendix D: Goss 2022-23 Completed Studies

1. Fall 2023. "Iowa Insurance Industry: A leader in Providing Coverage to the Region and Nation." Produced for the Federation of Iowa Insurers, Des Moines, Iowa.
2. Fall 2023. "The Economic Impact of an Ethanol Carbon Capture System on Nebraska, 2024-36," Produced for Nebraska Renewable Fuels. Omaha, NE.
3. Fall 2023. "Elite Casino Resorts, Iowa's Gold Standard for Keeping Dollars in the State." Produced for Elite Casino Inc. Riverside, IA.
4. Summer 2023. "Iowa Association of Electric Cooperatives: Powering Iowa with Rural and Urban Economic Progress." Produced for Iowa Association of Electric Cooperatives, Des Moines, IA.
5. Spring 2023. "The Economic Impact of Nebraska's Independent Colleges on the State and Local Economies." Produced for the Independent Colleges of Nebraska, Omaha, NE.
6. Spring 2023. "Economic Impact Statement of Decommissioning & Replacing Kimball's Strategic Deterrent." Produced for the City of Kimball, Kimball, NE.
7. Fall 2022. "The Economic Impact of a Carbon Capture Pipeline on Illinois, 2024-36." Produced for Wolf Carbon Solutions, Denver, CO.
8. Fall 2022. "The Economic Impact of a Carbon Capture Pipeline on Iowa, 2024-36." Produced for Wolf Carbon Solutions, Denver, CO.
9. Summer 2022. "Iowa an Energy Juggernaut: The Impact of Wind and Solar on the State's Economy." Produced for the Conservative Energy Forum of Iowa, Des Moines, Iowa.
10. Summer 2022. "The Economic Impact of Cattlemen's Heritage Beef Processing Plant on the State of Iowa." Produced for Ten Corporation Inc., Marcus IA.
11. Spring 2022. "The Economic Impact of West Liberty Foods' Proposed Facility, June 2023 to December 2038." Produced for West Liberty Foods, West Liberty, IA.
12. Spring 2022. "The Economic Impact of a Landfill RNG System on Winnebago County, Illinois." Produced for EcoEngineers, Des Moines, IA.
13. Spring 2022. "The Economic Impact of Fort Payne's Taxpayer Support of Food City, 2024 – 37, Produced for Scruggs, Dodd & Brisendine Attorneys, PA, Fort Payne, AL.
14. Winter 2022. "Iowa's Insurance Industry a U.S. Leader: Generating Economic Returns for the State." Produced for Iowa Insurance Association, Des Moines, IA.