



The Economic Impact of Early Care and Education in Nevada



BACKGROUND

The Insight Center for Community Economic Development is a national research, consulting, and legal organization dedicated to building economic health and opportunity in vulnerable communities. The Insight Center works in collaboration with foundations, nonprofits, educational institutions, and businesses to develop, strengthen, and promote programs and public policy that:

- Lead to good jobs—jobs that pay enough to support a family and offer benefits and the opportunity to advance;
- Strengthen early care and education (ECE) systems so that children can thrive and parents can work or go to school; and
- Enable people and communities to build financial and educational assets.

The Insight Center's Early Care and Education program plays a leadership role in creating systems that provide every child with access to high-quality, affordable ECE.

For more information on the Insight Center, visit our website at www.insightccd.org.



The Children's Cabinet exists to keep children safe and families together by offering services and resources that address unmet needs, through a unique and effective cooperative effort between the private sector and public agencies in Northern Nevada.

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For more information about this report or the strategic plan, please visit www.insightccd.org or www.childrencabinet.org

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Introduction

Seven generations ago, the way children were raised in Nevada looked very different than it does today. Historically, mothers took care of their young children during the workday. In those families that did have two working parents or a single working parent, children's care and education were generally entrusted to relatives, neighbors and friends.¹ Today, the majority of Nevada's children live in families in which all parents work. While parents remain children's first and most important teachers, the majority of Nevada's families rely on other adults to care for and educate their children during part of the day. The result is a rapidly growing industry with businesses in every Nevada community, providing a vital service that supports families' responsibility to raise their children.

These businesses include a range of establishments outside traditional kindergarten through twelfth grade (K-12) education, such as infant/toddler centers, public and private preschools, family child care homes, Head Start, afterschool programs, and care provided by family members, friends, or neighbors where formal payments are made. Together, these businesses make up the early care and education (ECE) industry.

This report describes how the ECE industry has become a significant component of Nevada's economic infrastructure and helps drive the economy, providing financial benefits in three main ways. Based on these findings, the report also offers recommendations for how Nevada can strengthen the industry to meet the current needs of Nevada's residents from all its counties, and how Nevadans can work together to build an ECE industry that will help to create strong, prosperous communities for Nevada's families several generations from now.

Defining Early Care and Education (ECE)

This report uses the term *early care and education* (or ECE) to describe a range of programs that are outside the tradition K-12 educational system that provide care and education to children ages birth through age 12. This broad definition of ECE encompasses not only the child care and early education programs that serve infants, toddlers and young children before they enter school, but also some licensed afterschool and out-of-school-time programs that are used by school children through age 12. ECE programs include all licensed ECE settings (e.g. centers and family child care homes and some license-exempt settings (e.g., Pre-K and out-of-school time programs operated by school districts, youth recreation programs early childhood special education, as well as family, friend and neighbor providers registered on the state's subsidy program).

Why ECE Matters to Nevada's Economy

1. **High-quality early care and education programs ensure a strong future workforce.** Recent research on early brain development provides conclusive evidence that high-quality early care and education for children from birth through age five is a critical foundation for future academic and workforce success. The quality of early education opportunities is linked to positive school outcomes for children in all income brackets. Some studies have shown particularly striking findings in children from low-income families.² Three separate longitudinal studies of targeted, intensive intervention programs for low-income children have indicated significant and positive long-term outcomes in areas such as grade repetition and special education needs, higher educational attainment and home ownership in adulthood. Many of the outcomes reduce future public spending in such areas as K-12 education, criminal justice and welfare assistance, which result in a 12 percent rate of public return on investment.³ Furthermore, research shows that in addition to their traditional role of promoting healthy development, high-quality early childhood programs can serve as an effective early warning system

¹ B. F. Hinitz and V. C. Lascarides (2000). *A History of Early Childhood Education*, NY: Routledge/Falmer Publishing.

² R.J. Coley (2002). *An Uneven Start*. Educational Testing Service, Princeton, N.J. As cited in *Kids Can't Wait to Learn: Achieving Voluntary Preschool for All in California*, Preschool California, 2004.

³ Art Rolnick and Rob Grunewald (2003). *Early Childhood Development: Economic Development with a High Public Return*. Fedgazette. Minneapolis, Minn., Federal Reserve Bank of Minneapolis, January 2003. Analysis was based on the High/Scope Perry Preschool Project in Michigan.

to address risky situations and incorporate child abuse prevention strategies.⁴

2. **Early care and education is a critical support for the current workforce.** Most families in Nevada rely on some form of ECE to work and/or attend school. Furthermore, the ECE industry plays a significant role in enabling employers to attract and retain employees and to increase productivity by reducing employee turnover and absenteeism. Early care and education is similar to transportation and housing: without accessible and affordable options, employees may experience barriers to working, and their employers and the economy as a whole suffer.⁵

Early care and education is an economic driver. It:

- Supports a strong future economy by preparing children to enter K-12 education ready to learn the skills necessary to succeed in school and become productive workers;
- Enables parents to work and/or update their skills, which increases productivity for the state's businesses; and
- Provides a significant number of jobs and generates considerable revenue in its own right.

3. **Early care and education is a major industry in Nevada in its own right.** Research presented in this report demonstrates, for the first time in the state of Nevada, ECE is a significant income-generating industry. The industry generates more annual gross receipts and employs more people than many other leading industries in Nevada.

Nevada's Early Care and Education Industry

The majority of economic analyses in this report focus on Nevada's formal early care and education (ECE) industry as defined below. The following programs are included in this report:

- Licensed child care centers
- Licensed family child care homes and group homes
- Registered license-exempt providers receiving state subsidy payments
- License-exempt tribal child care centers and voucher programs
- Nevada State Pre-K programs (including some Title I funded programs and one program that is augmented with Even Start funding)
- Even Start programs
- State-Funded Special Education Public Preschools and Services to 0 to 5 year olds
- License-exempt afterschool and out-of-school-time programs including those with 21st Century funding

Licensed Child Care Centers, Family Child Care Homes and Group Homes

A variety of ECE programs are licensed by the Nevada Department of Health and Human Services, Bureau of Services for Child Care, or, in Washoe County, the Washoe County Department of Social Services. Center-based settings include Head Start programs.

⁴ Center for the Study of Social Policy (2004). *Protecting Children by Strengthening Families, A Guidebook for Early Childhood Programs*. Washington, D.C., April 2004.

⁵ R. Chase and E. Shelton (2001). *Child Care Use in Minnesota: Report of the 1999 Statewide Household Child Care Survey*. Wilder Research Center; Minneapolis. Almost 25 percent of parents with children from birth to age five responded that problems with child care in the last 12 months prevented them from keeping or accepting the kind of job they wanted. No similar study has been conducted in Nevada.

Registered License-Exempt Home Providers

Some license-exempt home child care providers are registered to provide child care to low-income families on the state's child care subsidy program. These caregivers receive public funds, which makes their economic contribution measurable; therefore, they are included in this report.

License-Exempt State-Funded Public Preschool Programs

Many state-funded public preschool programs that are operated by public schools are not licensed by The Department of Health and Human Services because they are operated by school districts. Some of these programs also receive Federal Title I funds but the majority of these services are supported through state investments. All state-funded preschool programs, regardless if they are licensed or not, are included in this report.

License-Exempt Afterschool and Out-of-School-Time Programs

Afterschool and out-of-school-time (OST) programs are not licensed by the Department of Health and Human Services if they are operated by school districts, on school district grounds, or do not charge a fee for service. Some school district-based programs are funded with federal 21st Century Community Learning Center funds, but the majority of school-based programs are supported through parent fees.

License-Exempt Tribal Child Care Centers and Vouchers

Tribal Child Care Centers are not required to be licensed by The Department of Health and Human Services because they are operated on sovereign land. Tribes may also administer Child Care and Development Fund (CCDF) vouchers that can be utilized for care with individual, family or group providers, in addition to centers.

State-Funded Special Education Public Preschools and Services to birth to 5 year olds

Through primarily federal funding, Nevada Early Intervention Services provides (or contracts to provide) early childhood education and intervention services for children from birth to 3 years old. For children ages 3 to 5 with special needs, school districts use state and federal funds to provide individualized preschool programs. The support to children with disabilities in a general education preschool is based on education plans designed to provide a free and appropriate public education for preschool children in the least restrictive environment. Only state-funded special education public preschool programs and services are included in this report. Special education preschool programs funded with local funds are not included in this report.

Full-Day Kindergarten Not Included in this Report

Increasingly, Nevada schools are providing full-day kindergarten. Initially this was funded by federal Title I funds and now is funded by state funds. Full-day kindergarten is important for both social and academic outcomes. While full-day kindergarten lessens the demand for ECE, it is not included in this report due to the difficulty in estimating gross expenditures and employment data for just full-day kindergarten. Additionally, full-day kindergarten is a formal education program provided by the K-12 system, as opposed to an afterschool program.

Informal Providers Not Included in this Report

Care provided by family, friends, and neighbors (FFN), previously referred to as kith and kin care, is not formally measured in Nevada unless state and federal funds are used to help pay for the care. In addition, babysitters and nannies are not included as part of Nevada's formal system of early care and education.

Although informal care and education arrangements are widely used and also add much to the economy, it is difficult to ascertain their impact because of a lack of collected data.⁶ Therefore, this report focuses primarily

⁶ M. Brown-Lyons, A. Robertson and J. Layzer (2001). *Kith and Kin—Informal Child Care: Highlights From Recent Research*, National Center for Children in Poverty, New York.

on formal ECE. By excluding informal care, this report's findings are conservative estimates of the total impact that ECE has on the economy.

Outline of the Report

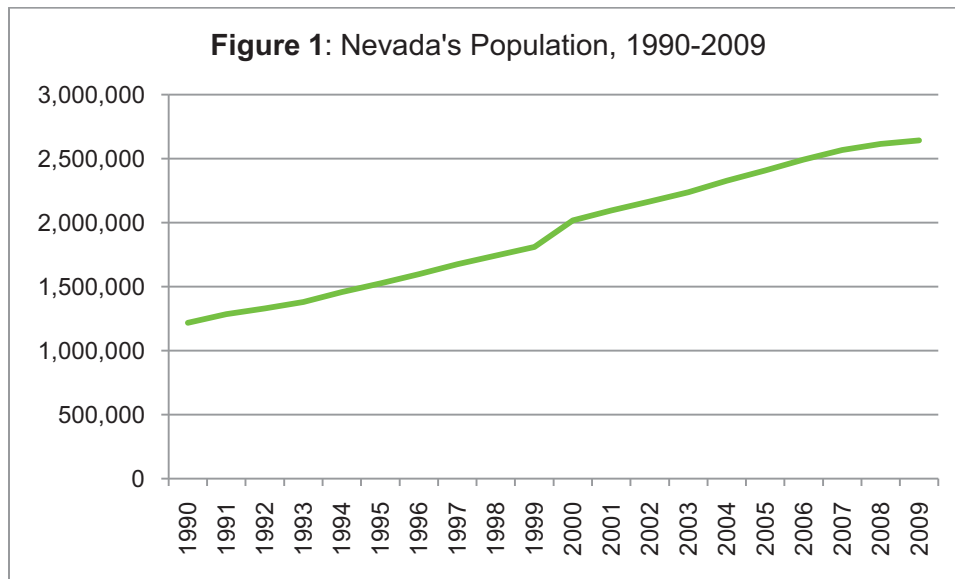
Following this introduction, Section Two profiles the state's demographics as it relates to the ECE industry. Section Three explores the economic effects that ECE has on the current economy by generating jobs and revenue. Section Four explores the short-term economic benefits ECE provides the state by enabling parents to work and update their skills. Section Five analyzes the long-term economic benefits that high-quality ECE programs create. Lastly, Section Six highlights recommendations and considers future implications for Nevada's economy.

Socio-Economic Profile of Nevada and Implications for Early Care and Education

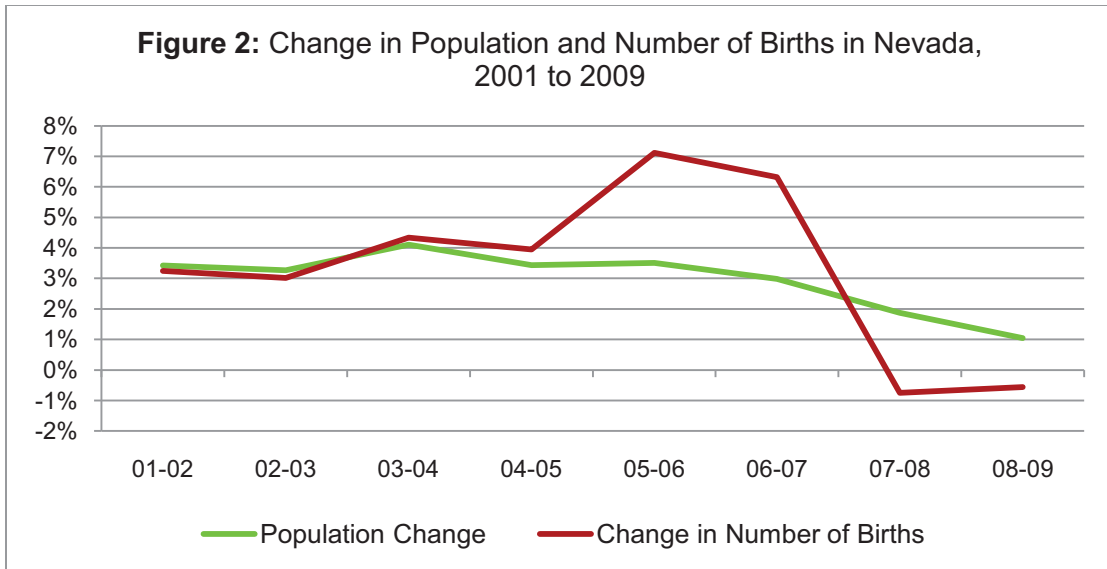
Nevada's social and economic trends have implications for early care and education policies and programs serving children from birth through age 12. This section gives a brief overview of the trends that have the most impact on ECE: population; race and ethnicity; family types, including working parents; income by family type; and an industry analysis of change in number of jobs and the portion of jobs with an alternate shift.

Population

Nevada's population increased at a high rate through 2007, increasing from 2,095,000 in 2001 to 2,568,000 in 2007. The annual population gain ranged from 4.1 percent from 2003 to 2004 to 3.0 percent from 2006 to 2007. However, the rate of population gain leveled off to 1.9 percent in 2008 and then to only 1.0 percent in 2009.

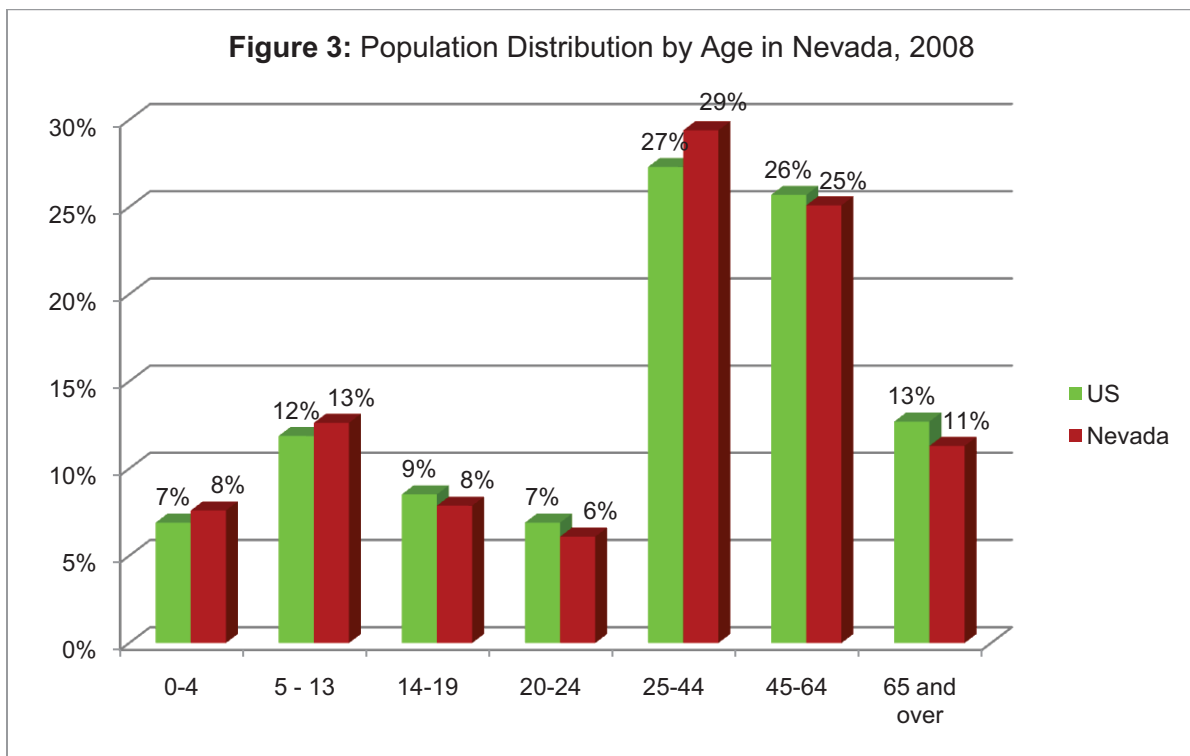


The small increase in 2009 was caused by drops in both international and domestic migration as well as a drop-off in the number of births (see Figure 2). The number of births peaked in 2007 at 40,730 but then fell slightly in both 2008 and 2009 to 40,200. Based only on the population of young children the demand for child care services will peak between 2010 and 2012, when the 2007 birth cohort is age three to five. Beyond 2012 the demand based on population will be steady but will likely not experience the growth seen throughout the last decade.



Source: Population Estimates, Current Population Survey, U.S. Census Bureau, 2001 to 2010.

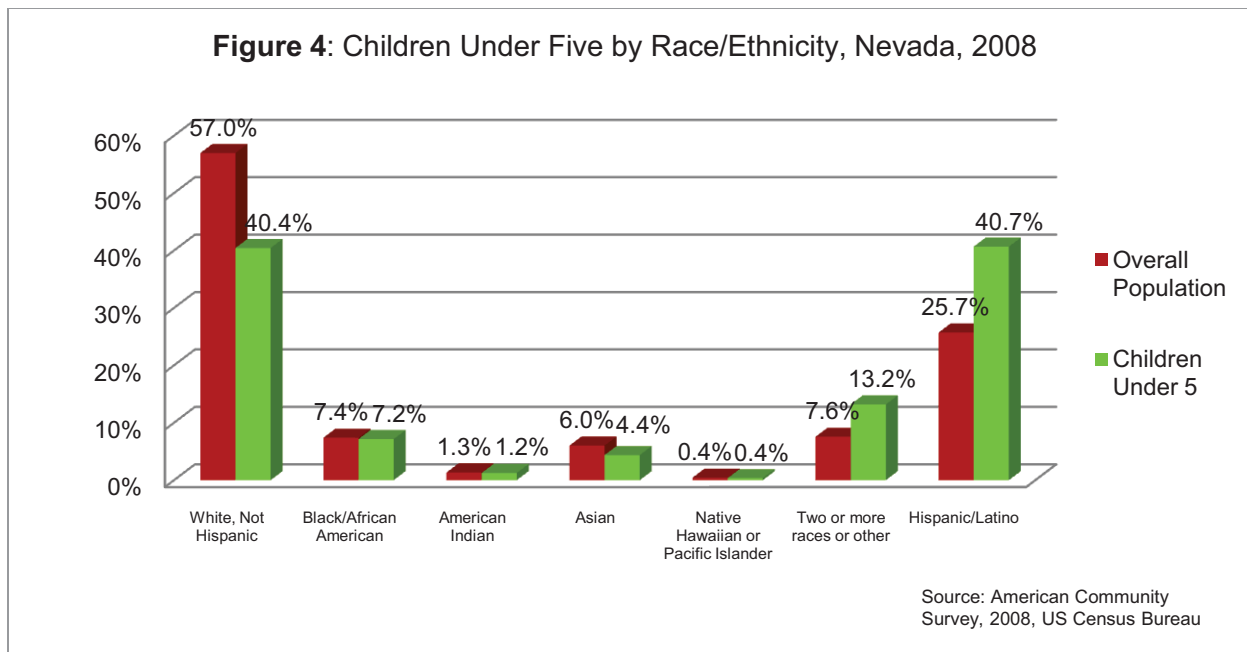
The population of Nevada is younger than that of the U.S. in general. Nearly 8 percent of Nevada's population is between the ages of birth and four, compared to almost 7 percent of that of the U.S. (see Figure 3). Similarly, Nevada has a higher proportion of its population between the ages of 5 and 13 than the U.S. This implies that ECE is even more important for Nevada than the country as a whole. The large proportion of population below age 14 is driven by a larger age 25 to 44 cohort. This young adult population will continue to drive a large demand for ECE, especially as the economy picks up.



Source: American Community Survey, US Census Bureau, 2008

Nevada has a diverse population with 57 percent white, non-Hispanic residents, 26 percent Hispanic/Latino residents, and the remainder of residents African American, Asian, Native American, or other races (see

Figure 4). The birth to 4-year-old population of Nevada is even more diverse, with only 40 percent being white and non-Hispanic, 41 percent being Hispanic/Latino, and the remainder of various races. This emphasizes the need to have culturally appropriate ECE services including services in other languages, especially Spanish.



Note: Some Hispanic respondents may have responded to their Race as Black, Asian, Native American, or Other. Therefore the sum of percentages will be greater than 100 percent.

Social scientists and service providers have begun to categorize certain counties as frontier counties, where there is very low population density and isolation from common services. This is most commonly used within health care where residents of frontier counties need to travel a long distance for regional services. By the most commonly used definitions, 13 of Nevada’s 17 counties are frontier counties, with the only exceptions being Carson City, Clark, Douglas, and Washoe. In 2000, about 190,000 people or 9 percent of Nevada’s population lived in frontier counties. The implications for the ECE industry are that special provisions may need to be made for training, specialized services, and other services to ECE providers who may be in an isolated region.

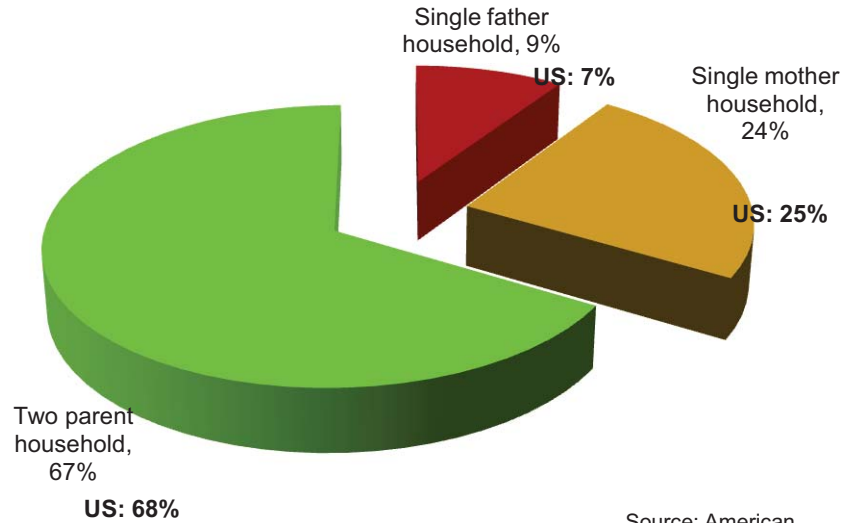
Household Types, Employment Status, and Income Levels

Nevada’s households are more likely to be headed by a single father than is true for the U.S. In Nevada, 9 percent of all households are headed by single men with children compared to 7 percent in the U.S. (see Figure 5). Nevada has a slightly lower percentage of single mother households than in the U.S., as well as two-parent households.

Single Parent Households

One out of three households with children in Nevada is headed by a single parent.

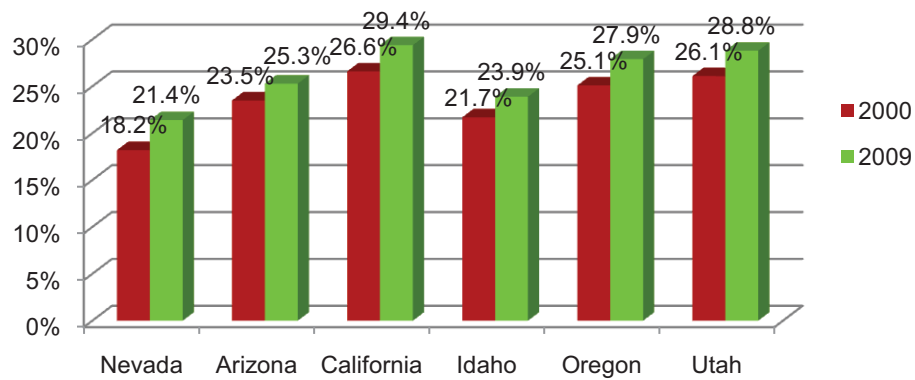
Figure 5: Children by One or Two Parent Households, Nevada, 2008



Source: American Community Survey, 2008, US Census Bureau

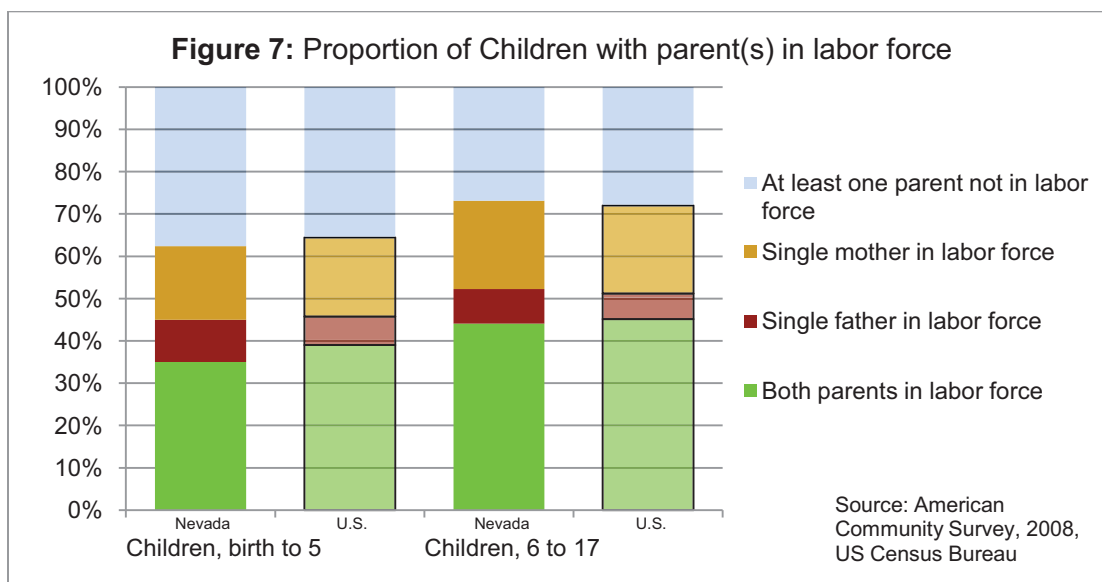
Nevada has one of the lowest education levels of any state. More importantly, it has a much lower level than any of its neighboring states, when measuring for the percentage of the adult population with a bachelor's degree. Nevada made slight improvements compared to neighboring states from 2000 to 2009 but still has a long way to go in terms of educational attainment. It will be hard for Nevada to diversify its economy without a skilled and educated workforce. High quality ECE is the base of a well designed and comprehensive education system. In addition, young and highly educated workers from outside the state may be attracted by a high quality ECE system.

Figure 6: Adults 25 and over with a Bachelor's degree or higher education, Nevada and neighboring states



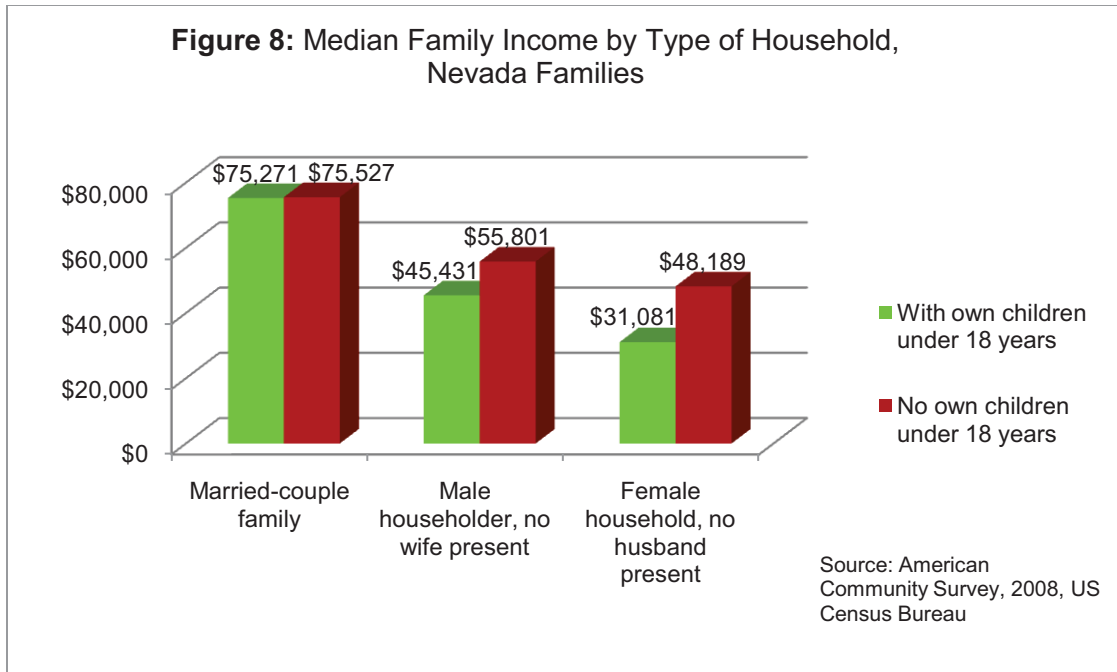
Among Nevada children from birth to five, a higher proportion has at least one parent not in the labor force than for the U.S. (37.6% compared to 35.5%) (see Figure 7). The opposite is true of children ages 6 to 17, where Nevada has a slightly lower proportion of households with at least one parent not in the labor force than in the U.S. (26.9% to 28.0%). This implies that out-of-school time (OST) services for school-age children may be somewhat more important in Nevada than in the U.S. as a whole.

Among households with all parents in the labor force (both parents in a two-parent household or one parent in a one-parent household), Nevada has a higher percentage of single fathers in the labor force compared to the U.S. as a whole (see Figure 7). This is true both for children age birth to 5 and children age 6 to 17. This implies that ECE providers may need to be more aware than their peers in other states about making their services accessible to men who may be less familiar with the procedures and practices of the ECE system than women.



Since 2008, the year of the census data used in this report, the economy has worsened. The labor force and employment data presented in Figure 8 refer to employment status in 2008 and does not reflect more recent unemployment rates. The Nevada unemployment rate rose from 6.0 percent in January 2008 to 9.1 percent in December 2008. By June 2010 it was 14.2 percent, according to the Bureau of Labor Statistics. More households with children now have one or two parents not in the labor force, thus lowering demand for ECE services. However, that demand could quickly rise if the employment figures start to turn around.

The income levels of Nevada’s single-parent families may be a barrier to accessing ECE services and highlights the importance of the state’s ECE subsidy program. Among single-female households, those with children under 18 years have a median family income of \$31,081 compared to \$48,189 for single females without minor children (see Figure 8). And among single-male households, those with children under 18 years have a median family income of \$45,431 compared to \$55,801 for single men without minor children. Among married-couple families, there is virtually no difference in the median income of those with or without children under the age of 18.



The median female household with own children under 18 years has an annual income that is \$2,884 less than the Nevada Economic Self-Sufficiency Standard, the amount it actually costs to live. The cost of living for a one-parent, one-preschooler family is \$33,965 (Table 1). This difference is concerning and highlights the need to maintain and expand Nevada’s childcare subsidy and state-funded Pre-K programs.

Table 1

Nevada Family Economic Self-Sufficiency Standard

Family Type	Annual Income
One parent, one preschooler	\$33,965
Two parents, one infant, one preschooler	\$51,725

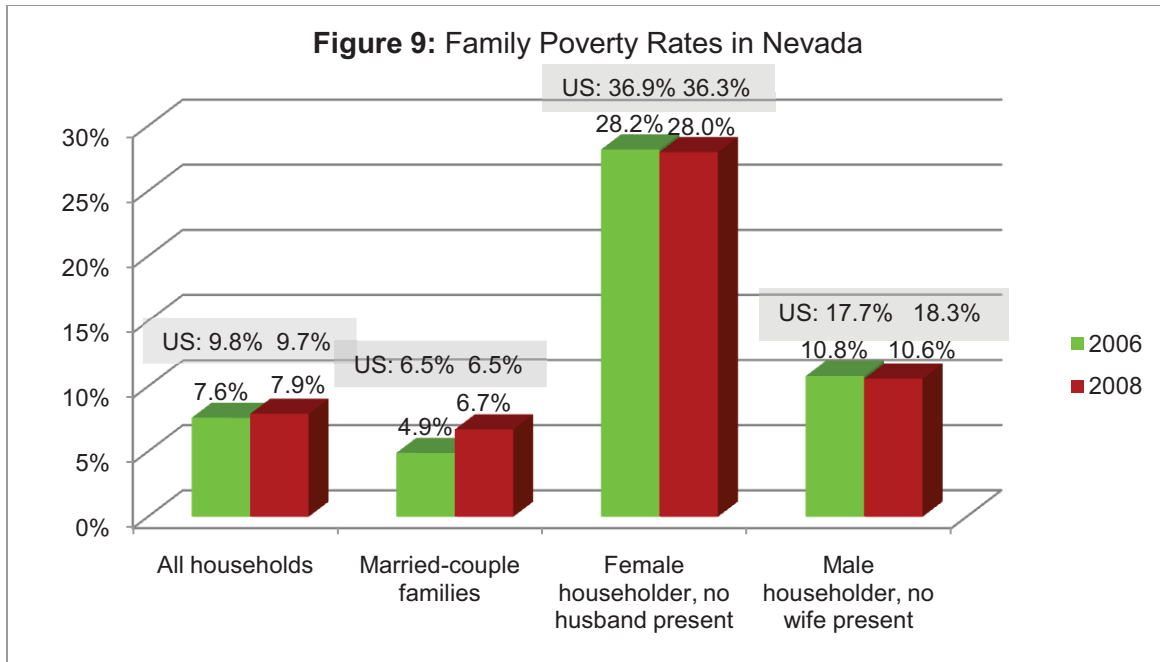
From 2002 Self Sufficiency Standard, updated to 2009 with the CPI. Composite of each county, based on population percentage, was used to create state total.⁷

Cost of Living for Single Mothers

The average single mother in Nevada earns less than the cost of living. By accessing the state’s Pre-K program or child-care subsidy program, the average single mother household is able to rise above the cost of living.

The household poverty rate in Nevada was lower than in the U.S. in 2006 and 2008; however, Nevada’s poverty rate is growing. The poverty rate is lower for all family types with children under 18 in Nevada with the exception of married couple families in Nevada which rose above the national rate in 2008.

⁷ Diana Pearce & Wider Opportunities for Women (2002). “The Self-Sufficiency Standard for Nevada.” March 2002. Prepared for: Progressive Leadership Alliance of Nevada. Retrieved Oct. 31, 2010, <http://www.selfsufficiencystandard.org/docs/Nevada%202002.pdf>.



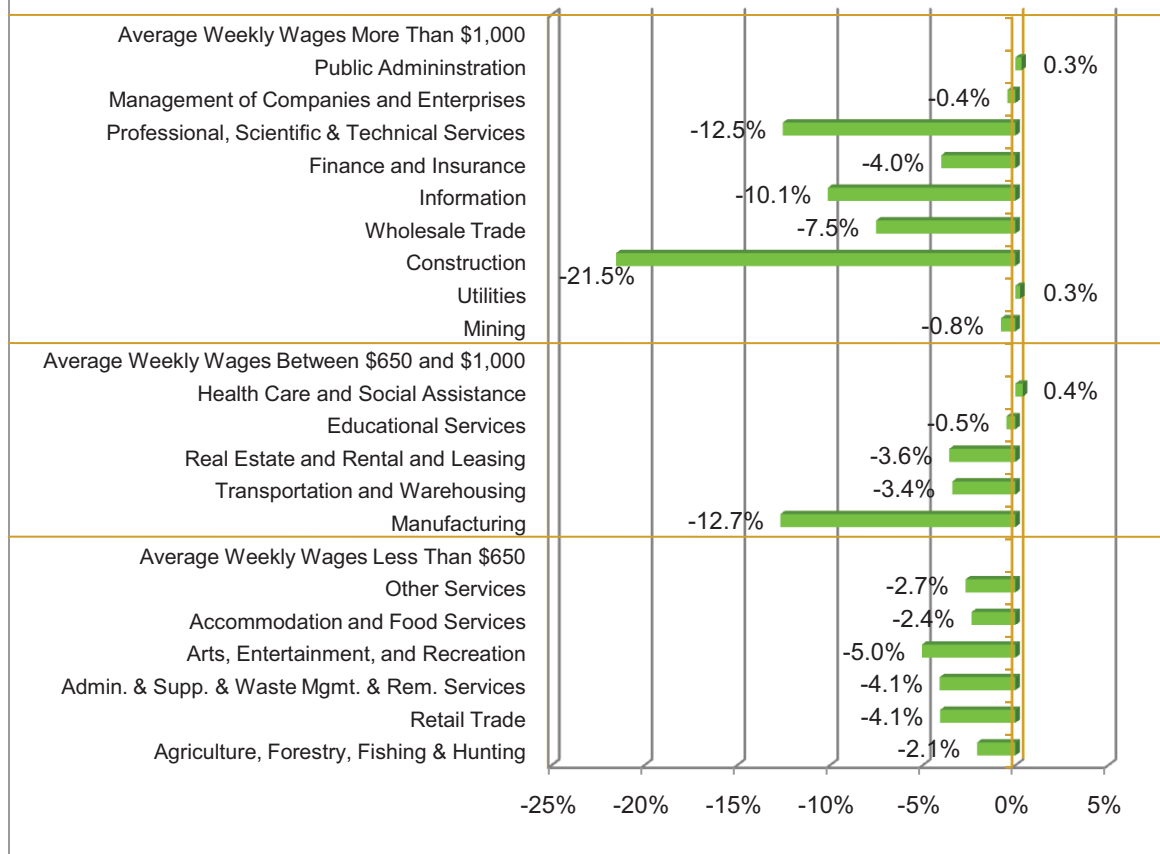
Trend in Industry Sectors

Our examination of the trend in number of jobs and job openings by industry and occupation in Nevada are hindered by the lack of recent detailed data. The more detailed labor market projections for 2016, developed by the Nevada Department of Employment, Training, and Rehabilitation (DETR), were made prior to the recent economic downturn. We do not believe the 2016 projections have sufficient accuracy to be useful for this analysis.

Therefore, we are limiting our analysis to the more recent, but less detailed 2009 to 2011 projections of DETR, which estimate that the state will lose 100,000 jobs from the second quarter of 2009 to the second quarter of 2011. One likely impact of this projection on ECE services is continued decreasing demand in the short term for these services.

Of the five industries with the greatest projected rate of job loss, four are higher-wage industries, averaging more than \$1,000 per week in wages: Professional, Scientific & Technical Services; Information; Wholesale Trade; and Construction (see Figure 10). This might represent a longer-term shift toward more lower-wage jobs, putting more pressure on families needing ECE services. It also demonstrates the growing importance of high-quality, subsidized ECE.

Figure 10: Projected Percentage Change in Number of Jobs, 2Q of 2009 to 2Q of 2011 by Average Weekly Wage of the Industry in Nevada



Summary

The demographics presented here provide some guidance for planning around the needs of Nevada's children as well as the needs of the ECE industry. Overall, the demand for ECE services will likely remain low from the economic downturn combined with the decline in population growth. Nevada's economy and population growth are to some extent linked so the demand should be strong when the economic rebound occurs.

More specific needs of Nevada's children, especially when compared to the U.S. as a whole, reveal that:

- The high population growth rate has leveled off, but likely will pick up again with a turn-around in the economy, leading to more population demands for ECE.
- Nevada has a young population, highlighting the need for ECE.
- Nevada's adult population has less education than that of its neighboring states, yet its economic competitiveness moving forward relies on an educated workforce. One way to build the education of the state and to attract a more educated workforce is to create a strong, high quality ECE system.
- School-age children in Nevada are especially likely to have all parents in the household work; highlighting the need for accessible out-of-school time programs regardless of family income.
- Nevada has a diverse population, especially in terms of the Latino/Hispanic population, and the diversity is increasing. This demonstrates the need for culturally appropriate ECE programs.

The Economic Profile of the ECE Industry in Nevada

ECE Supply & Need Analysis

A Profile of ECE Need in Nevada

The starting point for the analysis is to look at the total number of children in the state. Nevada has a population of approximately 2,650,000 which includes 500,000 children ages birth through 12 —19 percent of the total population. Children ages birth through five number 240,000 and account for 9 percent of the total population.⁸

This section uses the number of children who have all parents in the workforce (two-parent households where both parents work or single-parent households where the parent works) to estimate how many children need ECE services. It should be noted that this method of counting has several limitations. On the one hand, it may overstate the need for ECE because not all children who live in families where all parents work need the service. For example, some families may adjust their work schedules because they prefer parental care. On the other hand, the methodology also underestimates ECE need because many children living in families where at least one parent does not work participate in ECE programs. For example, many families in which a parent stays home choose to place their children in preschool for educational purposes, thus creating a need for the ECE programs. Still, despite the limitations of measuring need by counting only families where all parents work, this approach provides at least a rough approximation of the need for ECE in Nevada.

This definition of ECE *need* should not be confused with *demand*. Demand is the actual number of children whose parent(s) or guardian(s) are seeking services from some part of the ECE system. For example, some working parents lower their demand for ECE by trading off shifts with a spouse. This family is included in the need, but does not have demand for the formal ECE sector as their child care need is met by alternating their shifts. Furthermore, technology advances have enabled more people to work from home, expanding ECE options for families, and approximately 3 percent (over 37,497 individuals) of the labor force work from home in Nevada.⁹ In additions, other parents may place children in informal care arrangements, such as utilizing family, friend and neighbor care. For example, over 32,000 grandparents in Nevada live in the same households as their grandchildren.¹⁰ Many of these live-in grandparents provide care for their grandchildren. For parents who must use ECE services, investing in the state's ECE infrastructure gives these parents affordable, high-quality options.

In Nevada, more than two out of every three children from birth through age 12 – a total of 318,000 children (or 67%) – live in a family where all parents work. Similarly, 62 percent of children birth through age 5 – a total of 142,000 children – live in families where all parents work.¹¹

Children in Working Families

More than three out of five children under the age of six live in a family where both parents work or where a single parent works.

According to the Nevada State Demographer's Office, the agency responsible for Nevada population projections, the state's population is expected to be steady between 2009 and 2016, with a possible 2.1 percent drop in a low job growth scenario and a 1.4 percent increase in a high job growth scenario. The birth through age 18 population is expected to trend equally to the population overall. This suggests that future ECE demand will remain flat.

⁸ U.S. Census Bureau (2010). *2009 American Community Survey*. Retrieved November 23, 2010: <http://www.census.gov/acs/www/>

⁹ U.S. Census Bureau (2006).

¹⁰ U.S. Census Bureau (2006).

¹¹ U.S. Census Bureau (2010). "2009 American Community Survey." Retrieved November 23, 2010: <http://www.census.gov/acs/www/>

Other demographic trends, such as child poverty, have an impact on the state’s level of ECE need. In 2009, an estimated 18 percent of children ages birth through 17 in Nevada lived in poverty,¹² virtually equal to the national rate. Research on how the brain develops demonstrates that early exposure to situations that produce fear and chronic anxiety, such as poverty or low socio-economic status, can have long-term consequences for learning, behavior, and health, by disrupting infant brain development.¹³ Given the high proportion of low-income children in the region, the need for high-quality ECE programs becomes a necessity, so that disadvantaged children who face fear and chronic anxiety early in their lives can enter kindergarten ready to succeed in school and in life (which is why, as pointed out above, measuring the need for high-quality ECE only by counting families in which all parents work likely understates the true level of need for these services in the region).

ECE Need Compared to ECE Supply

Estimating the true supply of the Nevada ECE sector is complicated. One issue is that many providers choose to serve fewer children than permitted under their state licensed capacity. Unfortunately, the desired capacity (true supply) of providers is not a statistic regularly tracked by state agencies. Another issue is that many family, friends, and neighbors provide child care, taking up some of the capacity of the ECE system that is not counted in this report.

According to research collected by the Insight Center from state agencies, the ECE sector in Nevada has a capacity to serve a total of at least 50,845 children from birth through age five at any one time (see Table 2 for a breakout by program).

Table 2
Capacity of Programs for 0 to 5 Year-Olds and 6 to 12 Year-Olds

Birth through age five programs	Capacity
Licensed Family Child Care Homes and Group Homes	2,527
Licensed Centers	33,456
Registered licensed-exempt providers receiving subsidy	1,151
State-funded Pre-K	1,123
Head Start, Even Start, Title I	4,774
Tribal Child Care Centers/vouchers	222
Part B & C Special Education Programs	7,592
Total	50,845
School-Age Programs (Age 6-12)	Capacity
Licensed Family Child Care Homes and Group Homes	193
Licensed Centers	5,739
Registered licensed-exempt providers receiving subsidy	621
Out of School Programs	25,867
Tribal Child Care Centers/vouchers	39
Total	32,459

As discussed previously, there are an estimated 142,000 children from birth through age five who need ECE because they live in households with a working, single parent or in households where both parents work. This means that the current ECE sector in Nevada has the capacity to serve 36 percent of children from birth through age five who live in these households (Table 3).

¹² U.S. Census Bureau (2010). “2009 American Community Survey.” Retrieved November 19, 2010: <http://www.census.gov/acs/www/>

¹³ Evans, G. (2010). “Impact of Early Childhood Experience on Brain Development (Transcript of a Brookings Institution Event).” Panelist. Retrieved April 28, 2010. http://www.brookings.edu/events/2010/0413_brain_development.aspx.

Table 3

Need Compared to Capacity, Nevada ECE, Birth to Five and 6 to 12

Age	Need (Number of children in households where all parents work)	Capacity of the ECE System	Percentage of Need Served by Existing Capacity
Birth to Five	142,000	50,845	35.8%
Six to Twelve	174,000	32,459	18.7%

As mentioned earlier, ECE demand, contrasting with need, looks at the number of parent(s) seeking one or more ECE slots. ECE demand, especially for licensed centers and licensed family child care homes, has dropped dramatically with the declining economy. It is possible that some of this demand has been captured by more informal sectors within ECE. Table 4 demonstrates that demand at licensed ECE centers is especially low in Nevada, at 58 percent of capacity. Many of these same centers were at full capacity with waiting lists as recently as 2008 or 2009. Demand at licensed family and group homes is somewhat higher – 72 percent. Although it appears from the enrollment data that centers are suffering the most in the formal private ECE sector, Nevada lost a net of 58 family child care providers from June 2009 to June 2010, while gaining a net of 10 child care centers.¹⁴¹⁵ These data suggest that although the enrollment percentage is lower for centers, family child care businesses have been harder hit by the economy. Losing just two or three children in family child care can reduce enrollment by 50 percent causing many providers to close their doors. Child care centers have been better able to weather drops in enrollment.

Table 4

Demand and Capacity, Licensed ECE Centers, Families and Group Homes

Type of ECE	Enrollment	Capacity	Percent of Capacity
Licensed Child Care Centers	22,733	39,195	58.0%
Licensed Family Child Care or Group Homes	1,945	2,720	71.5%

Generating Revenue and Jobs

The Insight Center's analysis uses two measures, gross receipts and direct employment, to assess the economic impact of the ECE industry in Nevada.

The ECE industry is not adequately defined by the U.S. Census Bureau, the Department of Labor and other agencies responsible for collecting economic data. Therefore, its full economic impact is not properly determined and alternate methodologies for collecting data are necessary.¹⁶ To more accurately assess the economic characteristics of Nevada's ECE industry, the Insight Center uses comprehensive data about ECE from agencies charged with overseeing or collecting information about parts of the larger industry. These agencies include:

- The Children's Cabinet
- Nevada Department of Education (School Improvement Programs, Child and Adult Care Food Program)
- 21st Century Student Support Services

¹⁴ Nevada Department of Health & Human Services (2010). "Statewide licensing report January 1, 2009 to December 31, 2009," Carson City, NV: Division of Child and Family Services, Bureau of Services for Child Care.

¹⁵ Nevada Department of Health & Human Services (2010). "Statewide licensing report January 1, 2010 to June 30, 2010." Carson City, NV: Division of Child and Family Services, Bureau of Services for Child Care.

¹⁶ Warner, Mildred E. (2006). "Putting Child Care in the Regional Economy: Empirical and Conceptual Challenges and Economic Development Prospects," *Community Development: Journal of the Community Development Society* 37 (2): 7-22.

- NV Department of Health and Humans Services (Part C Programs)
- Food for Kids
- Inter-Tribal Council of Nevada
- Reno-Sparks Indian Colony
- Washoe Tribe of Nevada and California
- University of Nevada, Reno, Child and Family Research Center
- Head Start grantees (e.g. Head Start of Northeastern Nevada, Little People’s Head Start, etc.)
- Early Childhood Special Education Divisions for School Districts in Carson City, Clark County, Churchill County, Eureka County, Humboldt County, Lincoln County, Washoe County and White County
- United States Department of Health and Human Services, Administration for Children and Families, Tribal Child Care Technical Assistance Center Region IX

Using local information allows the authors to accurately estimate the size of the industry in terms of gross receipts within the state and total direct employment.

To recap from Section 1, which defines the ECE industry for the purposes of this report, the industry includes:

- Licensed Child Care Centers
- Licensed Family Child Care Homes/Licensed Group Homes
- Registered License-exempt Providers, those receiving state subsidies
- Head Start Programs (includes Early Head Start, Tribal Head Start, Migrant Head Start)
- Tribal Child Care Centers and other providers paid with vouchers
- Nevada State Pre-K programs (including one program that is augmented with Even Start funding)
- Federally-funded Title 1 and Even Start programs not included in the state Pre-K program
- State-Funded Special Education Public Preschools and Services to 0 to 5 year olds
- License-exempt afterschool and out-of-school-time programs including those with 21st Century funding
- Child and Adult Care Food Program (CACFP), child portion of program

The estimates of gross receipts and direct employment represent a “snapshot” of the ECE industry taken at a particular time. They also do not reflect the economic contribution of license-exempt providers who are not registered with the state’s child care subsidy program. As such, the industry as a whole has a larger economic impact within Nevada than the current data sources are able to demonstrate.

Estimating Gross Receipts

Gross Receipts Methodology

Gross receipts measure the size of an industry, with size defined as the value of goods and services produced by that industry in a given year. In the ECE industry, gross receipts are equal to the total dollars that are spent in the state in the form of payments for ECE. These payments include fees paid by parents as well as public investments to cover tuition or service costs.

Specifically, the public and private dollars that are included in the estimate of gross receipts are:

- Private pay by parents, including copayments – contributions made by parents receiving ECE subsidies; and

- Federal, state, and local funds.

Gross receipts estimates for licensed child care centers (excluding Head Start and State Pre-K programs), licensed family homes and licensed group homes are based on the following formula:

$$\text{full-time equivalent enrollment} \times \text{average cost/child/year} = \text{gross receipts}$$

To calculate gross receipts using this formula, the Insight Center utilized the state's 50th percentile market rates from the December 2009 Child Care Resource and Referral Market Rate survey that was conducted by The Children's Cabinet. This was a statewide survey in which providers' rates were reported as of December 1, 2009. Market rates at the county level were available and the rates were differentiated based on the age of the child. Enrollment data were based on a 2010 survey of providers conducted by The Children's Cabinet. Statewide enrollment to capacity ratios by age and type of provider were created from the survey and applied to those providers who did not respond to the survey. Total gross receipts for all licensed child care centers excluding Head Start and State Pre-K programs equal \$184 million. Total gross receipts for licensed family child care homes and group homes equal \$15 million.

To estimate gross receipts for Head Start programs, the statewide annual allocation for the programs as reported by the Head Start grantees in FY 2009 were used (\$24 million). Due to the American Recovery and Reinvestment Act (ARRA), the federal government Head Start investments were greater for FY 2010. However, at the time that this report was written, it was unclear whether or not the Federal government was going to continue investing in Head Start at that level in the future. Therefore, to ensure that the economic impact study would be as accurate as possible in 2011 and beyond, the Data Advisory Committee decided to use Head Start data from FY 2009, which are prior to the ARRA increase.

To estimate gross receipts for family, friend and neighbor providers registered on the state's subsidy program, the Insight Center included the total amount of subsidies and parent copayments that these providers received in 2010. Since 2010 expenditure data as reported by the Nevada Division of Welfare and Supportive Services (DWSS) were not available, Insight Center updated 2009 expenditures by using 2010 DWSS enrollment data and applying expenditure per child rates from 2009. The estimated gross receipts using this methodology are \$4.4 million. There are many more licensed providers who are paid with subsidies, but these are already counted in the licensed center, family or group provider category.

To estimate gross receipts for NV State Pre-K programs, the statewide annual allocation for these programs as reported by the NV Department of Education was used: \$3.3 million. One Washoe County program is funded by both the Pre-K program and the federal Even Start program. Enrollment and employment is included with the Pre-K program but the Even Start allocation is included with Even Start.

To estimate gross receipts for license-exempt, out-of-school-time (OST) programs, Insight Center utilized a mixed methodology. For the programs federally funded with 21st Century Community Learning Center dollars, gross receipts equaled 2009 expenditures as reported by 21st Century Student Support Services. For other license-exempt OST programs, Insight Center multiplied the average number of children who regularly attend these programs by the cost of care by grade for each program as collected in a survey by The Children's Cabinet. The total receipts for OST programs were \$44 million.

To estimate gross receipts for license-exempt tribal child care centers and providers paid by Child Care and Development Fund (CCDF) vouchers, the Insight Center used reported allocations, which were \$1.5 million. To break down the vouchers to the county level for the multi-county Inter Tribal Council of Nevada (ITCN), the Native American population for each county served by the ITCN was used as a basis to divide the total ITCN voucher amount.

Gross receipts for license-exempt Part B and C Special Education programs were based on annual expenditure estimates collected from special education administrators at the county level and the Nevada Department of Health & Human Services, IDEA Part C office. Total receipts were \$51 million.

Pershing and Washoe Counties have Even Start programs, with total grant funds of \$400,000. The Pershing County program is a stand-alone Even Start program.

Some of the federal Title 1 funds to school districts are used to fund pre-school programs. Actual expenditures were used to determine gross receipts of \$9.8 million in the pre-school programs.

The total expenditures for the Child Care Food Program (\$4.4 million) were reported by the Nevada Department of Education, Child and Adult Care Food Program and the Food for Kids program. This investment was also added to the gross receipts.

Using this methodology, the Insight Center calculates that the gross receipts for the ECE industry in Nevada equal \$345 million (see Table 5). For a breakout of gross receipts by county and by program type, see Appendix A.

Direct Employment Methodology

Direct employment is an estimate of the total number of jobs in the ECE industry.

For licensed child care centers (excluding Head Start and State Pre-K programs), as well as licensed family and group child care homes, licensed direct employment includes the number of full- and part-time staff as collected by The Children's Cabinet from a 2009 survey. For family, friend and neighbor providers registered on the subsidy program, Insight Center assumed one full-time equivalent (FTE) for every three children enrolled, as reported by the Nevada Division of Welfare and Supportive Services.

For all Head Start programs, employment equals full- and part-time staffing reported by grantees to The Children's Cabinet. For NV State Pre-K programs, license-exempt tribal child care, Part B and C special education, Title 1 school-based care, and Even Start direct employment equals staffing amounts as reported to state or federal agencies.

For 21st Century Community Learning Centers, the proportion of employment of staff working with K-6 graders was multiplied by 0.45 (3/4^{ths} of the year and 60% of the day). For other out-of-school time programs, the full-time equivalency was computed using the actual hours of care, plus half an hour for admin/prep, as well as whether the program was open for breaks and summer.

Utilizing this methodology, total direct employment in Nevada equals 9,082 (see Table 5 for a breakout by program type).

Table 5

Gross Receipts and Direct Employment Estimates, by Program, Nevada, 2009-10

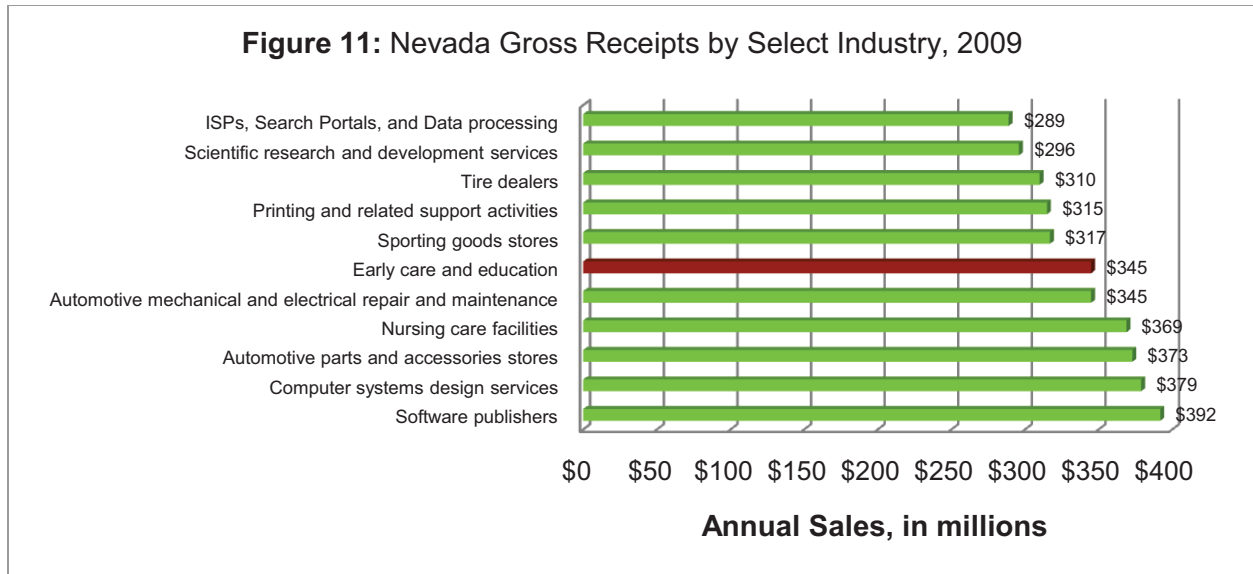
Type of Care	Number of Programs	Capacity	Estimated Enrollment	Avg. Cost Per Child (Full-Time)	Gross Receipts	Direct Employment
Licensed family child care homes and group homes	435	2,720 (licensed capacity)	1,945	Infant: \$661 Toddler: \$650 Preschool: \$629 School Age: \$664	\$15 million	471
Licensed Centers (excluding Head Start Programs and State Pre-K Programs)	367	39,195 (licensed capacity)	22,733 (all ages)	N/A	\$184 million	4,257
Infants			1,433	\$792/month	\$13.6 million	
Toddlers			4,087	\$724/month	\$35.5 million	
Preschoolers			14,352	\$645/month	\$111.1 million	
School-age			2,860	\$619/month	\$21.2 million	
Registered license-exempt providers receiving subsidies	Unknown	1,772*	All: 1,772 School-age: 621	N/A	\$7.6 million	591
State-funded Pre-K Programs		1,123	1,123		\$3.3 million	112
Even Start	2	not in Pre-K: 35	not in Pre-K: 35		\$400,000	4
Title I	36	1,573	1,573		\$9.8 million	156
Head Start Programs	58	3,166	All: 3,166 Head St.: 2478 Early H.S.: 276 Tribal HS: 362 Migrant HS: 50	N/A	All: \$24 mill HS: \$17.9 m. EHS: \$3.3 m. THS: \$2.7 m. MHS: \$0.5 m.	All: 697 HS: 500 EHS: 96 THS: 76 MHS: 25
License-exempt Tribal Child Care Centers/vouchers		261*	261		\$1.5 million	54
Out-of-School-Time Programs (21 st Century and license-exempt)	All: 419 21 st C: 61 Comm: 35 Sch: 323	25,867*	All: 25,867 21 st Cent 4028 Community-based: 5,507 Other school-based: 16,332		All: \$44 million 21 st C: \$4.7 m Com: \$7.3 m. Sch: \$31.9 m.	All: 1,835 21C: 609 Cm: 305 Sch: 922
Part B & C Special Education Programs		7,592	Utilizing services: 7,592	N/A	\$51 million	905
CACFP Food Program			Meals served: 3.4 million		\$4.4 million	
TOTAL		83,304	66,067		\$345.0 million	9,082

* Capacity is at least as much as enrollment and likely more.

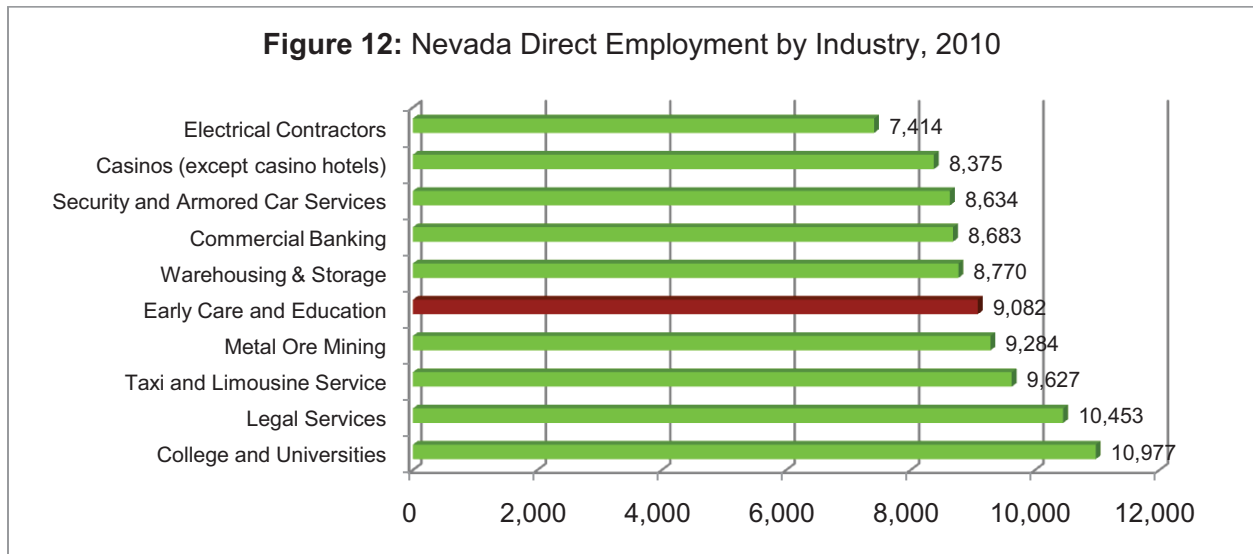
Comparisons of the Size of the ECE Industry to Other State Industries

To fully grasp the economic significance of the preceding gross receipts estimates of the state's ECE industry, it is useful to compare those receipts to gross receipts from other similarly sized industries in Nevada. Figure 11 shows just how Nevada's ECE industry measures up to other local industries. As the figure demonstrates,

as an industry, ECE is larger than Printing; Scientific Research and Development Services; and ISPs (Internet Service Providers), Search Portals, and Data Processing industries. The ECE industry is within the range of such significant local industries as Software Publishers, Computer Systems Design Services, and Nursing Care Facilities. These findings demonstrate the economic strength and importance of ECE in Nevada.



As Figure 12 demonstrates, the ECE industry is even larger when its size is measured by the direct employment it generates, rather than by its gross receipts. This is due to the labor intensive nature of the industry. Figure 12 indicates that the industry employs more people than Commercial Banking, Casinos (excluding casino hotels), and Electrical Contractors, and that it employs a number of people similar to Legal Services, Taxi and Limousine Services, as well as Metal Ore Mining industries.



Non-profit, For-profit and Self-Employed Providers

The administrative data collected by The Children’s Cabinet can be compared to the Economic Census data collected by the U.S. Census Bureau. One would expect the Census data to have a higher undercount, especially among self-employed providers. Nevada’s population of children from birth to age 13 increased by 31 percent from 2002 to 2007 (see Table 6). There was a similar increase in self-employed ECE providers, increasing from 2,323 in 2002 to 3,051 in 2007. However, the number of centers did not increase at the same rate, with for-profit centers increasing by seven centers (+3%) while nonprofit centers decreased by nine centers (-13%). It would appear that as Nevada’s population increased during the first decade of the 2000’s, ECE providers moved toward family or group home providers and away from centers, especially nonprofit centers.

ECE as Employer

In a state with over 14 percent unemployment, early care and education employs more than 9,000 full-time workers, more than commercial banking and nearly as much as metal ore mining.

Table 6

Nevada’s Child-Care Age Population and Number of Centers and Self-Employed Providers

	2002	2007	Percentage Change
Population, age 0 to 13	215,934	282,385	+30.8%
Nonprofit centers, ECE services	68	59	-13.2%
For profit centers, ECE services	246	253	+2.8%
Self-employed, ECE services	2,323	3,051	+31.3%

Source: Economic Census, 2002 and 2007, US Census Bureau

The Economic Census counted 312 child care centers, including nonprofit and for profit. In 2009, there were 367 licensed child care centers, signifying that about 85percent of the centers were counted in the Economic Census survey. In 2009, there were 435 licensed family child care homes and group homes compared to 3,051 counted in the 2007 Economic Census. This count confirms the large number of unlicensed family, friend and neighbor (FFN) providers in Nevada. There were 488 FFN providers registered on the state’s subsidy program when the gross receipts were calculated for this provider type. Comparing the number of registered FFN and licensed family child care providers to the 2007 Economic Census data, reveals that over 2,000 FFN providers were not included in this analysis, which indicates that the gross receipts for this portion of the industry are very conservative.

The change in the number of providers from 2002 to 2007 only tells a part of the story of the composition of Nevada’s ECE industry and how it adjusted to the recent rapid population growth. For-profit centers had the largest share of total annual revenue in 2002 and increased that revenue by 35 percent to \$146 million in 2007 (see Figure 13). This represented 70 percent of the market share in 2007, up from a 65 percent market share in 2002.

The average for-profit center in Nevada had annual revenue of \$580,000 in 2007 compared to an average size of \$340,000 revenue for the U.S. While the number of for-profit centers increased only slightly, those centers grew in size and capacity from 2002 to 2007. This should have left the for-profit centers in relatively good condition to weather the very poor economy in Nevada since 2007.

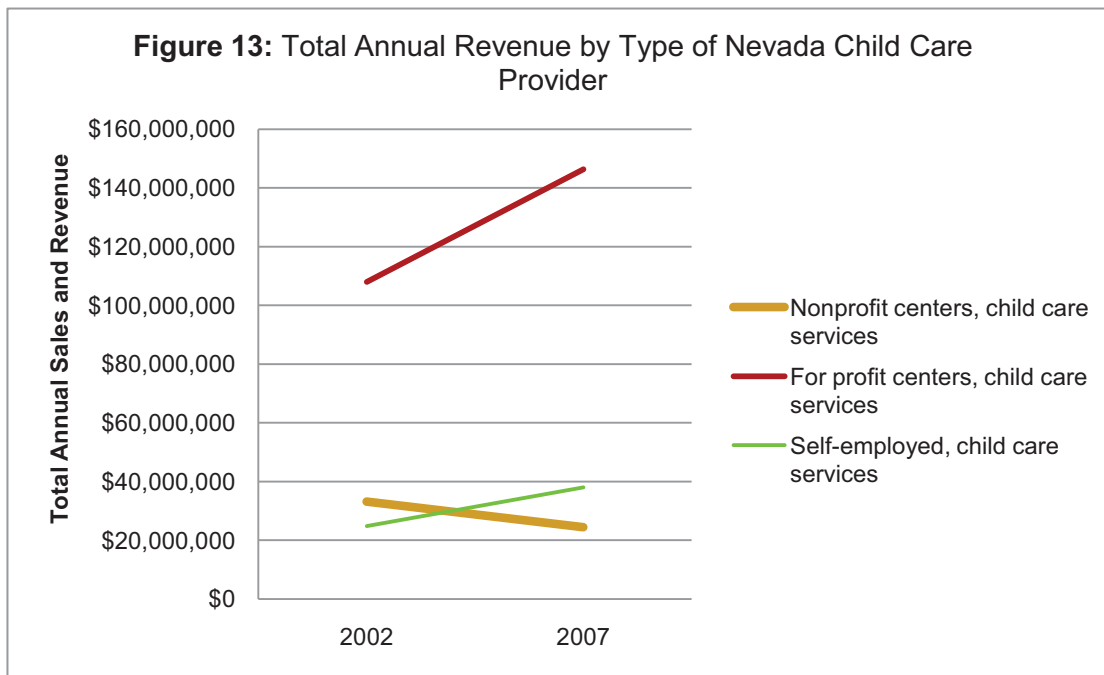
On the other hand, the total revenue of nonprofit providers fell by 26 percent from 2002 to 2007 – an even greater rate of decline than the number of nonprofit providers. Total revenue for these centers was \$24.5 million in 2007, representing 12 percent of the market share, a significant decline from the 20 percent market share these centers had in 2002. The declining economy likely hit these already weakened centers very hard. The average size of a nonprofit center was \$410,000 in revenue in 2007 compared to \$550,000 nationally. In 2002 the average size of Nevada nonprofit centers was \$490,000.

What does it mean for Nevada to lose its nonprofit child care centers?

Nonprofit child care centers are able to apply for grants and receive tax-deductible donations. This funding can be utilized to offer reduced rates to families through a sliding fee scale or scholarships based upon eligibility requirements such as income and family size. The loss of these programs significantly limits the ability of low- to moderate-income families to afford higher quality child care programs for their children.

As mentioned earlier, the total number of self-employed providers increased greatly from 2002 to 2007 – an average annual increase of 5.6 percent. However, an even larger increase occurred from 2007 to 2008 – a 10 percent increase up to 3,358. The very high increase in 2008 likely reflected not only an increased demand due to continuing population growth, but also increased numbers of unemployed persons who entered the industry as self-employed providers.

The market share for this sector of the industry has increased as well, from 15 percent market share in 2002 to 18 percent market share in 2007. The average revenue has increased somewhat as well, from \$10,600 in 2002 to \$12,400 in 2007.



Source: Economic Census, 2002 and 2007, US Census Bureau

Indirect and Induced Effects of the ECE Industry

Every industry, including ECE, is linked to the rest of the local economy through a number of avenues, reflecting the fact that establishments purchase supplies from other businesses and the industry’s employees spend their earnings in part on locally produced goods and services. The linkages of the ECE industry in Nevada take into account the input of goods and services from various industries required to produce a

dollar's worth of output in another, single industry. These "multiplier effects" estimate the links between an industry and other areas of the economy. For this analysis, three primary types of multipliers are used:¹⁷

- Direct effects: Effects introduced into the county's economy as a result of spending on ECE (e.g. money spent by parents directly to ECE providers).
- Indirect effects: Effects reflecting spending by the ECE industry (e.g. money spent on construction for facilities upgrades).
- Induced effects: Effects on household spending by the ECE workforce. These effects reflect changes in the county's economy caused by increases or decreases in spending patterns as a result of the direct and indirect activity (e.g. money spent in local stores by those employed within the ECE industry).

For Nevada, the multipliers for the ECE industry are reported in Table 7.

Table 7

Early Care and Education Industry Type II Multipliers, Nevada

	Indirect	Induced	Total Type II
Output	0.31	0.43	1.74
Value-Added	0.32	0.48	1.80
Employment	0.10	0.13	1.24

These multipliers may be used to assess gross indirect and induced effects of these economic indicators.¹⁸ Based on gross receipts of \$345.0 million, the ECE industry produced \$106.4 million in indirect output and \$149.9 million in gross induced output. In total, direct, indirect, and induced industry output for the Nevada ECE industry totals \$601.4 million.

Through economic modeling, the Insight Center can estimate that the industries that Nevada ECE most impacts in terms of output are: real estate establishments, \$34 million; rental activity for owner-occupied dwelling, \$22 million; food services and drinking places, \$16 million; wholesale trade businesses, \$12 million; and offices of physicians, dentists, and other health professionals, \$10 million.¹⁹

Similarly, while the industry directly supported 9,082 jobs, it created 947 in gross indirect jobs and 1,197 in gross induced jobs. In total, direct, indirect, and induced employment for the Nevada ECE industry totals 11,226 jobs in this analysis.

The five industries where Nevada ECE supports the most jobs are: real estate establishments, 273 jobs; food services and drinking places, 219 jobs; securities-commodity contracts-investments, 165 jobs; employment services, 88 jobs; and services to buildings and dwellings, 81 jobs.²⁰

Summary

Nevada's ECE industry contributes \$345 million to the state's economy, nearly even with Computer Systems Designs services and more than Scientific Research and Development services. Just over half of the ECE receipts are accounted for by licensed child-care centers.

¹⁷ From IMPLAN models (2010). Retrieved December 8, 2010. <http://www.implan.com>.

¹⁸ Gross economic impacts do not account for the effects of other spending that would be curtailed if funds were directed towards the child care industry. For example, if \$1000 spent on child care had not been spent on child care, and had instead been spent on food, this food spending would also have multiplier effects. Net economic impacts take these negative effects into account.

¹⁹ Economic modeling is based on IMPLAN, 2009 Nevada data. www.implan.com.

²⁰ IMPLAN (2009).

At a time when the state has one of the highest unemployment rates in the country, the ECE industry employs 9,082 persons (full-time equivalent), more than Commercial Banking or Non-hotel Casinos. The ECE industry is even larger than these numbers indicate, as there are at least 2,000 more home-based providers counted in the federal Economic Census than are included in this study's data.

Linking Early Care and Education, Business and the Current Economy

This section describes the role that early care and education (ECE) plays in supporting the current workforce and driving labor force productivity.

Working parents with young children earn \$8.3 billion annually in Nevada.

By creating opportunities for labor force participation and promoting career development, the ECE industry plays a vital role in supporting Nevada's overall economy. Through its support of the workforce, the ECE industry contributes to increased profitability among local businesses. The availability of ECE promotes a healthy bottom line by driving productivity, by decreasing turnover and absenteeism, and increasing the pool of potential new employees. In addition, a high quality ECE system helps attract talented workers to the state. This section presents a variety of cost-effective ECE strategies for employers.

ECE Supports the Current Workforce and Sustains Labor Force Participation

The ECE industry plays an important role in supporting Nevada's existing labor force. It promotes career development and educational advancement and sustains labor force participation of parents.

Over 1.36 million Nevada residents participate in the labor force.²¹ Between 2000 and 2010, Nevada's labor force grew by nearly 29 percent, adding nearly over 300,000 workers.²²

As noted in Section Two, an average of nearly 69 percent of children (including 62 percent of children ages birth through age 5 and 73 percent of children ages 6 through 12) live in households where all parents participate in the workforce.²³ These data account for single parents who work, as well as dual-parent families where both parents participate in the labor force. However, these data do not account for parents who are in school. A shortage of affordable and high-quality ECE arrangements may inhibit labor force participation and the ability of parents to attend postsecondary education or training.

The state's female labor force participation rate, an indicator of ECE need and accessibility, is above the national average. Approximately 62 percent of women in Nevada participate in the labor force, slightly higher than the national average of 60 percent. Furthermore, women are less likely to be unemployed than their male counterparts. Unemployment among women in September, 2010 was under 12 percent where compared to almost 16 percent for men.²⁴ However, the proportion of women ages 16 through 50 who had a child within the last 12 months who participate in the labor force (56 %) is much lower than the national average (62 %). Infant care is not only expensive for parents, but also for child care providers to offer. Therefore, many providers choose not to provide care for infants. This characteristic of the ECE industry combined with the employment data suggest that a shortage of affordable ECE, in addition to Nevada's poor economy, may be preventing women from returning to the workforce.²⁵

Economic Output of Working Families

Working families make up a noticeable share of the total labor force. Approximately 18 percent of the labor force (or nearly 250,000 workers) live in households with children under the age of thirteen and where all

²¹ U.S. Census Bureau (2010). *2008 American Community Survey*. Retrieved November 16, 2010: <http://www.census.gov/acs/www/>

²² U.S. Census Bureau (2010). *2008 American Community Survey*. Retrieved November 16, 2010: <http://www.census.gov/acs/www/>

²³ U.S. Census Bureau (2010). *2008 American Community Survey*. Retrieved October 13, 2010: <http://www.census.gov/acs/www/>

²⁴ Department of Employment Training and Research (2010). *Economy in Brief*, September 2010.

²⁵ U.S. Census Bureau (2010). *2008 American Community Survey*. Retrieved November 16, 2010: <http://www.census.gov/acs/www/>

parents work.²⁶ Additionally, over 8 percent of labor force households have children under the age of six. In total, families with children under the age of 13 earn almost \$8.3 billion annually in Nevada.²⁷

ECE and the Family Budget

ECE is a significant expense for families in most income brackets. In Nevada, the average annual cost for full-time, licensed, center-based ECE is \$9,510 for an infant and \$7,718 for a preschool-age child (for a complete breakdown of ECE costs, see Table 8).²⁸

Table 8

Average Annual Unsubsidized Cost for Early Care and Education, Nevada, 2009

Type of Licensed ECE Program	Infant	Toddler	Preschool	School Age Child
Child Care Center	\$9,510 - \$9,524	\$8,315 - \$9,082	\$7,718 - \$7,771	\$7,311 - \$7,546
Family Child Care Home	\$8,024 - \$8,028	\$7,563 - \$7,750	\$7,429 - \$7,500	\$7,185 - \$7,348
Group Home	\$7,857	\$7,765 - \$8,155	\$7,609 - \$7,661	\$8,686

Source: The Children's Cabinet, 2010. Ranges in price reflect different ages within each age group category.

Full-time, unsubsidized ECE costs significantly more than undergraduate in-state tuition and fees at The University of Nevada Reno (\$5,324 for the 2010-2011 academic year).²⁹ For a family earning the state's median household income of \$64,910 in 2008, ECE for one infant in a licensed child care center would account for nearly 18 percent of take home pay.³⁰

While infant care is the most expensive type of ECE, care for a pre-school age child is also expensive for most Nevada families (Figure 14). A single father with median income would spend 21 percent of his take home pay on care for a preschooler. A single mother with median income would spend 30 percent of her take home pay on preschool ECE.

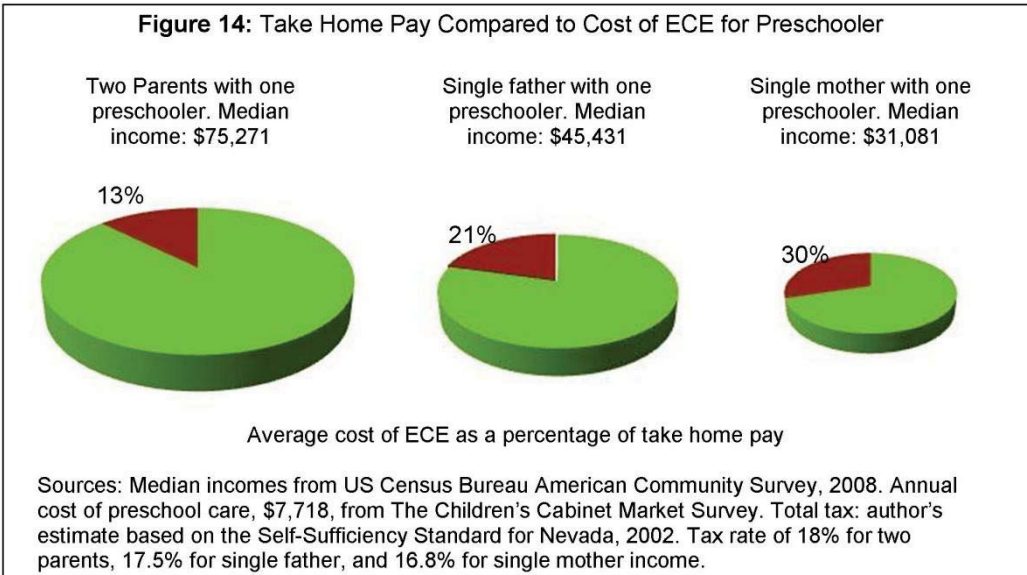
²⁶ This number was developed by Insight Center using data from the 2008 American Community Survey on children, income.

²⁷ This number was developed by Insight Center using data from the 2008 American Community Survey on children, income.

²⁸ Data provided by The Children's Cabinet.

²⁹ The University of Nevada, Reno (2010). "Cost of Attendance Estimates, Nevada Residents." Retrieved November 16, 2010: <http://www.unr.edu/financial-aid/costs/cost-estimates>.

³⁰ U.S. Census Bureau (2010). *2008 American Community Survey*. Analysis based on a median household income of \$64,910, with ECE expenses of \$9,510 and estimated taxes of 18% of gross income.



Child Care Subsidies Sustain Workforce Participation

While ECE is a considerable expense for all families, it is particularly difficult for low-income families. Though varying in scope and design, the vast majority of the studies of child care subsidies produced in the period since welfare reform legislation was enacted found a strong positive correlation between the receipt of child care subsidies and work outcomes for low-income families. The positive outcomes that have been documented include: increased likelihood of employment, increased duration of employment, higher earnings, and a faster transition from welfare to substantial employment.^{31,32,33,34,35,36,37}

In a study of long-term employment after welfare, researchers found that two factors determined a working mother's ability to sustain employment after leaving welfare: job quality and the availability of ECE.³⁸ Women with access to safe and affordable center-based ECE and with access to quality jobs (positions with higher wages and affordable health insurance) were more likely to be stably employed two years after leaving welfare.³⁹

³¹ Ananat, E. O., & Phinney, R. (2004). "Child Care as a Barrier to Employment." Ann Arbor, MI, University of Michigan Program on Poverty and Social Welfare Policy. Retrieved July 20, 2009.

<http://www.childcareresearch.org/location/ccrca7834>

³² Blau, D. M. (2008). "The Determinants and Consequences of Child Care Subsidies for Single Mothers in the USA." *Journal of Population Economics*, 20, 4. Retrieved July 20, 2009.

<http://www.springerlink.com/content/p607m616150105t1/>.

³³ Brooks, F. (2002). "Impacts of Child Care Subsidies on Family and Child Well-Being." *Early Childhood Research Quarterly*, 17, 4, 498-511.

³⁴ Cochi Ficano, C. K. (2006). "Child Care Subsidies and Employment Behavior Among Very Low-Income Populations in Three States." *Review of Policy Research*, 23, 3, 681-698.

³⁵ Greenberg, M., Ewen, D., & Matthews, H. (2006). "Using TANF for Early Childhood Programs." Washington, D.C., Center for Law and Social Policy. Retrieved June 3, 2009. http://www.clasp.org/publications/tanf_early_childhood.pdf

³⁶ Meyers, M., Heintze, T., & Wolf, D. (2002a). "Child Care Subsidies and the Employment of Welfare Recipients." *Demography*, 39.1, 165-179.

³⁷ Lee, B. George, R., Reidy, M., Kreader, J.L., Georges, A., Wagmiller, R., Stavely, J., Stevens, D. & Witte, A.D. (2004). "Child Care Subsidy Use and Employment Outcomes of TANF Mothers During the Early Years of Welfare Reform: A Three State Study." Chapin Hall Center for Children at the University of Chicago. Retrieved July 20, 2009. http://www.chapinhall.org/sites/default/files/old_reports/328.pdf.

³⁸ Boushey, H. (2004). "Staying Employed After Welfare: Work Supports and Job Quality Vital to Employment Tenure and Wage Growth." Retrieved August 30, 2006 from http://www.epinet.org/content.cfm/briefingpapers_bp128

³⁹ Boushey, H. (2004).

A more recent study investigated the annual effects on earnings from high-quality ECE. Parent participants in the longitudinal study of the Abecedarian Program experienced annual earnings gains of \$3,085 over a control group that did not participate in the program.⁴⁰

An evaluation of Early Head Start (EHS), a child development program that serves low-income infants and toddlers and their families, suggests that these programs have a significant impact on improving the self-sufficiency of parents. Of EHS participants, 60 percent participated in education or job training versus 51 percent of non-participants and 87 percent of EHS parents were employed at some time during the first 26 months compared to 83 percent of parents not participating in EHS (unless randomly assigned).⁴¹

Low-income parents without child care subsidies find that ECE costs overwhelm their limited budgets. Despite the clear need for providing ECE assistance to low-income families, only a small minority of these families actually receive child care subsidies. According to a recent national study, only one in seven federally income-eligible families receives ECE assistance through CCDBG/TANF funds.⁴² In addition, it is estimated that Head Start only serves about one half of eligible preschool-age children and only 3 percent of babies and toddlers are served nationwide through Early Head Start.⁴³

ECE Promotes Career Development and Educational Advancement

Nevada has a shortage of highly skilled and educated workers, as noted in the second section, which undermines the state's ability to attract new businesses with higher paying jobs and thus, impedes the state's long-term economic prosperity. A strong ECE industry gives working parents the flexibility they need to broaden their skills and encourage their participation in the labor force. A more educated and skilled workforce builds economic prosperity by attracting employers who pay higher wages and offer greater benefits.

A more educated workforce benefits:

- Parents through higher incomes
- Government through larger tax revenues, decreased parental reliance on government programs and lower unemployment
- Businesses through a more skilled workforce and increased productivity

Educational advancement for parents also enables parents to earn higher incomes and reduces the likelihood of needing various forms of government support. In a national study investigating higher education opportunities for individuals transitioning from welfare to work, researchers found that 88 percent of welfare recipients who obtained four-year college degrees discontinued participation in welfare after earning their degree.⁴⁴

Policies that enable parents (especially those with limited incomes) to pursue higher education benefit the economy. Research demonstrates that student parents who use on-campus ECE:

- Have higher grade point averages
- Are more likely to remain in school and graduate in fewer years

⁴⁰ Barnett, W. S., & Masse, L. N. (2007). "Early Childhood Program Design and Economic Returns: Comparative Benefit-Cost Analysis of the Abecedarian Program and Policy Implications," *Economics of Education Review*, 26(1), 113-125.

⁴¹ Love, et al. (2004). "Making a Difference in the Lives of Infants and Toddlers and Their Families: The Impacts of Early Head Start, Volume: Final Technical Report". Washington, DC: U.S. Department of Health and Human Services, xvii.

⁴² Ewen, D. & Mathews, H. (2007). "Families Forgotten: Administration's Priorities Put Child Care Low on the List."

Washington, D.C., Center for Law and Social Policy. Retrieved November 20, 2009.

<http://www.clasp.org/admin/site/publications/files/0341.pdf>

⁴³ Ewen, D. and Hoffman, E. (2009). "Head Start and Child Care Partnerships Policy Brief." Washington DC: Center for Law and Social Policy. Retrieved March 18, 2010. <http://www.mschildcare.org/policysubsidy.php>

⁴⁴ Karier, T. (2003). "Welfare Graduates: College and Financial Independence". Levy Economics Institute of Bard College, as cited in *Grassroots to Graduation: Low-income Women Accessing Higher Education*. Boston: Wellesley College for Research on Women and Women's Institute for Housing and Economic Development.

- Have higher graduation rates than student parents who do not have access to affordable and high-quality ECE programs⁴⁵

Similarly, student parents indicate that the availability of ECE is critical to their decision to enroll in college.⁴⁶ Limited capacity in ECE programs offered during non-traditional hours prevents parents from enrolling in classes or programs that are offered outside of the traditional workday. At least six Nevada colleges have a lab preschool available to staff and students – University of Nevada, Reno; Truckee Meadows Community College; Western Nevada Community College; Great Basin College; University of Nevada, Las Vegas; and the College of Southern Nevada.

ECE Drives Labor Force Productivity

Like other components of a strong economic infrastructure, the ECE industry supports businesses by increasing employee productivity. The availability of affordable, accessible, quality ECE has positive effects on businesses' bottom lines.

Nationally and locally, businesses realize that they can increase their profitability by working to ensure that high-quality ECE options exist for their employees. For individual businesses, ECE:

- Increases employee retention
- Reduces absenteeism
- Enhances recruitment of the most skilled workers
- Increases on-the-job productivity

Subsidized, on-campus early care and education programs enable working parents to update their skills.

ECE Increases Employee Retention

Particularly for companies that rely on highly skilled workers, retaining existing staff is a priority. Employees with young children may consider discontinuing work or moving to a more family-friendly company if they are not able to find suitable ECE solutions. Those who feel supported in their new family roles or feel that their workplaces offer a balance between work and home obligations are less likely to have unscheduled absences or leave their jobs.⁴⁷ When employees do leave because of ECE problems or transfer to a company with better ECE options, companies lose human capital and incur high turnover costs.

A national study of companies that offer onsite ECE to their employees found that turnover was nearly 50 percent lower for those who used the center when compared to other workers.⁴⁸ The survey also found that more than half of the center's users had been with their company for more than five years, and nearly half had been with their company for more than 10 years.⁴⁹ Another national survey found that 19 percent of employees at companies with ECE programs indicated that they have turned down other job opportunities rather than lose work-site ECE.⁵⁰

Those employers that help employees address their child care challenges tend to have reduced turnover and absenteeism.

⁴⁵ The National Coalition for Campus Children's Centers (1999). "Impact of Campus-based Child Care on Academic Success, Student Parents at SUNY Community Colleges, 1989" and "Child Development Center Participant Analyses, Bronx (New York City) Community College, 1994". As cited by The National Coalition for Campus Children's Centers in their policy brief: *Campus Child Care Bill: Child Care Means Parents in School Act, S1151 and H.R. 3936*.

⁴⁶ National Coalition for Campus Children's Center. (1999). Policy Brief entitled *Campus Child Care Bill: Child Care Access Means Parents in School Act, S1151 and H.R. 3936*.

⁴⁷ Blue Cross Blue Shield of Massachusetts. (2003). "Blue Cross Blue Shield of Massachusetts Names One of the 100 Best Companies for Working Mothers Nationwide." Retrieved from <http://bcbsma.com>.

⁴⁸ Bright Horizons Family Solutions. (2003). "The Real Savings from Employer-sponsored Child Care: Investment Impact Study Results." Boston, MA: Bright Horizons.

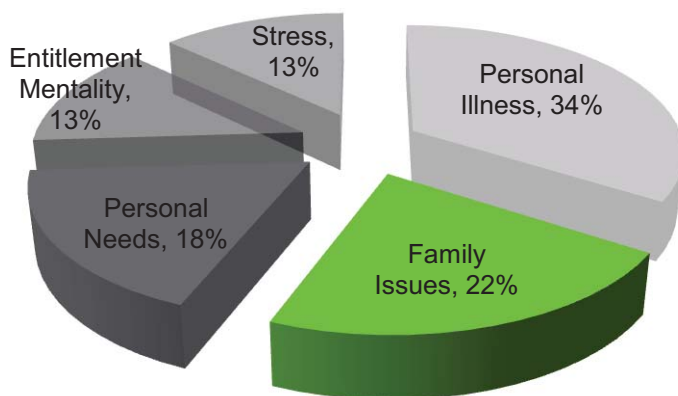
⁴⁹ Bright Horizons Family Solutions. (2003).

⁵⁰ Simmons College (1997). "Benefits of Work-Site Child Care" as cited by Bright Horizons Family Solutions.

While the number of employers offering ECE benefits as a means to attract and retain quality employees grows, most employers miss out on this opportunity. In a survey of businesses by the U.S. Chamber of Commerce, only 32 percent reported actively assisting “their employees in addressing challenges such as child or dependent care, transportation or housing.”⁵¹ Another survey of employees confirmed this disconnect between employers and employees. While caring for dependents was one of the top six benefits *employees* desire, *employers* in a similar survey did not find it essential.⁵²

A meta-analysis of 15 different turnover cost studies found that the average turnover costs for a full-time employee earning \$8 per hour are over \$9,000, 56 percent of the annual wages for that employee.⁵³ For salaried employees, costs are at least 150 percent of the base salary, and increase for higher-paid and more valued staff.⁵⁴

Figure 15: Reasons for Unscheduled Absences, 2007



Source: CCH 2007 Unscheduled Absence Survey.

ECE Reduces Absenteeism

Nationally, unscheduled absenteeism in 2005 cost businesses an average of \$660 per employee, costing large employers up to \$1 million per year.⁵⁵ More than one-fifth of all unscheduled absences are due to family issues, which include ECE breakdowns (see Figure 15).⁵⁶ Onsite ECE and emergency back-up ECE are among the most effective work-life programs that reduce unscheduled absenteeism.⁵⁷

Nationwide, approximately 16 percent of major employers offer sick or emergency back-up ECE to reduce employee absenteeism.⁵⁸ These programs have a significant return on investment. For example, J.P. Morgan Chase found that operating a back-up ECE center, as well as providing employees with resource and referral

⁵¹ U.S. Chamber of Commerce, Center for Workforce Preparation (2001). “Keeping Competitive: Hiring, Training, and Retaining Qualified Workers.”

⁵² Merk (1999). “Using Benefits to Attract and Retain Employees.” As cited on <http://www.probenefits.com>.

⁵³ Sasha Corporation. (2003). “Turnover Costs in 15 Different Studies.” Retrieved from <http://www.sashacorp.com>.

⁵⁴ Bliss, W. (1999). “The Business Cost and Impact of Employee Turnover”. Retrieved from <http://blissassociates.com>.

⁵⁵ CCH Incorporated. (2005). “2005 CCH Unscheduled Absence Survey.” Retrieved July 2006 from <http://www.cch.com/press/news/2005/200510121h.asp>

⁵⁶ CCH Incorporated. (2007). “2007 CCH Unscheduled Absence Survey.” Retrieved November 16, 2010: <http://www.cch.com/press/news/2007/20071010h.asp>

⁵⁷ CCH Incorporated. (2007).

⁵⁸ Hewitt Associates. (2001). “Hewitt Study Shows Work/Life Benefits Continue to Grow Despite Slowing Economy.” Retrieved from <http://www.was.hewitt.com>

consulting to help them find stable quality care, had an annual savings of \$800,000, a 112 percent return on the company's investments in ECE benefits.⁵⁹

ECE Enhances Recruitment

The accessibility of quality, affordable ECE, onsite or in the community, is a strong recruitment tool for businesses. A knowledge-based economy depends almost exclusively on skilled workers who have numerous choices for where they want to live, and employers are beginning to realize how they can address the quality of life. Family-friendly policies indicate a company's commitment to the personal well-being of new employees and make the company more attractive in a competitive workforce market. Particularly for highly specialized workers, company values are critical to attracting the best of the labor pool, with or without young children.

Nurses are among the most difficult groups of healthcare workers to recruit and retain.⁶⁰ These challenges are due to work-related pressures, including extended work hours, dire staffing shortages, and frequent overtime.⁶¹ These challenges make it difficult for healthcare workers to find ECE solutions that meet their needs. According to a study by Bright Horizons Family Solutions, twenty-four percent of nurses have seriously considered leaving their jobs due to ECE issues, and nurses with young children miss an average of 9 days per year due to a child's illness, breakdowns in ECE, or mismatches between ECE and work schedules.⁶² Among health care centers that offer onsite ECE, Bright Horizons Family Solutions found that voluntary turnover among ECE center users reduced by nearly 90 percent, offering more than \$1 million in savings in replacement costs alone.⁶³ In northern Nevada, International Gaming Technology contracts with The Child Garden, South Meadows to provide on-campus care for employees. Two hospitals – Saint Mary's and Renown Health – both operate ECE centers for their employees. In southern Nevada there is employer-supported ECE in many of the casinos and at Citibank. The Kinross-Barrick gold mine at Round Mountain in Nye County also provides child-care for children of its employees.

ECE Increases Productivity

Working parents who know their children are in high-quality care early childhood education settings are better able to focus on their jobs. Employees with inadequate ECE are more likely to be late for work, absent or distracted than parents who are confident about their children's ECE arrangements.⁶⁴ Working parents often worry about their school-age children during the time period between the end of the school day and when parents get home. This effect has been named Parental After-School Stress (PASS). Parents with high levels of PASS are more likely to experience negative productivity-related patterns than parents with low PASS, including job distractions, missed work, making errors and missing meetings and deadlines. Parents are more at risk for PASS when their children spend more time unsupervised after school and their jobs are less flexible.⁶⁵

Early Care and Education Options for Businesses of All Sizes

A national study by the Center for Work-Life Policy found that small business employers generally offer work-life solutions (including ECE solutions) on an informal or case by case basis.⁶⁶ The study also found that the lack of formal policies leads to confusion and turnover among employees as well as a lack of understanding

⁵⁹ Bright Horizons Family Solutions. (2003b). "Return on Investment." Presentation.

⁶⁰ Bright Horizons Family Solutions. (2003a). "The Business Impact of Employer-Sponsored Child Care in Hospitals." Retrieved September 2006 from <http://www.brighthorizons.com/site/pages/Hospital%20Study.FINAL.pdf>

⁶¹ Bright Horizons Family Solutions. (2003a).

⁶² Bright Horizons Family Solutions. (2003a).

⁶³ Bright Horizons Family Solutions. (2003a).

⁶⁴ Brown, J. (2002). "How Does High-quality Child Care Benefit Business and the Local Economy." Seattle: Economic Policy Institute.

⁶⁵ The Community, Families & Work Program. (2004). *Parental After-School Stress Project*.

⁶⁶ Center for Work Life Policy. (2006). "Work Life Balance in Small Business." Retrieved September 5, 2006 from <http://www.worklifepolicy.org/documents/initiatives-smallbusiness.pdf>

(among employers) about the cost savings and productivity gains that can be achieved through simple strategies to balance work and life.⁶⁷

In Nevada, 62 percent of companies employ fewer than 5 people.⁶⁸ While many companies are challenged by the rising costs of fringe benefits, small firms in particular struggle to provide health care benefits let alone ECE benefits. However, there are cost-efficient ways that smaller employers can support the ECE needs of their employees. Smaller businesses have access to a number of innovative strategies that rely on their ability to be flexible and help employees solve ECE issues individually.⁶⁹ For example, in a 2005 survey of employers, small employers (those with fewer than 100 employees), were significantly more likely to offer range of benefits related to improved work flexibility than employers with more than 100 employees. For example, 66 percent small employers allow employees to return to work gradually after child birth, as compared to just 49 percent of large employers.⁷⁰

Family Friendly Options for Employers⁷¹

- Company-purchased spaces in local ECE centers
- Back-up ECE
- Employer-contracted ECE for mildly ill children
- Dependent care financial assistance
- Flextime, flexi-place, compressed work weeks, and job sharing
- Sick/personal leave to meet dependent care needs
- Dependent care resource and referral agency partnerships
- Cafeteria-style benefit plan or a dependent care pre-tax account
- Educational events for employees around ECE and other work-life issues
- On- or near-site ECE

ECE benefits do not just benefit employees with children. Based on data compiled from more than 140,000 employees at various companies nationwide, 78 percent of workers feel their work environment would improve if their co-workers' ECE needs were addressed.⁷² ECE benefits are attractive for employees without young children because they do not need to cover for their peers during unscheduled absences due to breakdown in child care arrangements.

Section Summary

Innovative ECE solutions not only meet the needs of working families, but they also support productivity and profitability among businesses. Throughout the state of Nevada, employers of all sizes are implementing creative and cost-effective solutions for the ECE needs of their employees. Their efforts are rewarded with a quality workforce and a healthier bottom line. The next section explores how the ECE industry shapes the future workforce.

⁶⁷ Center for Work Life Policy. (2006).

⁶⁸ U.S. Department of Labor, Bureau of Labor Statistics. (2010). *Quarterly Census of Employment and Wages*. Retrieved November 16, 2010 from: <http://www.bls.gov>

⁶⁹ Susan Smith Hendrickson. (2006). "Helping employees with child care isn't hopelessly expensive." *San Francisco Business Times*.

⁷⁰ Bond, et al. (2005). *National Study of Employers*. Families and Work Institute.

⁷¹ United Way of the Bay Area and One Small Step. (2002). "Choosing Care: An Employers Guide to Child Care Options."

⁷² Burud, S. (2002). As cited by the United Way of the Bay Area and One Small Step in "Choosing Care: An Employers' Guide to Child Care Options."

Quality ECE Prepares Nevada’s Future Workforce

In addition to strengthening the current workforce, ECE is an essential component of the education system that cultivates the future workforce and offers a significant public financial return.

Quality ECE lays the foundation for strong academic performance, social skills, and discipline—key elements for continued success. Recent research points to significant gains to Nevada’s K-12 system by better preparing children to start school.

Preparing the Future Workforce for Success in School and Life

Harry T. Chugani, Chief of Pediatric Neurology and Development Pediatrics at Children’s Hospital of Michigan, found that at birth only 25 percent of neural connections responsible for seeing, hearing, speech production and receptive language are formed. By the age of three, 90 percent of these connections are developed.⁷³ These findings indicate that high-quality ECE is a critical step in developing skills for successful adult outcomes.⁷⁴

A number of large surveys and long-term studies have consistently found that high-quality ECE programs are beneficial to young children’s growth and cognitive development, and contribute to their success later in life. Quality programs increase children’s ability to enter traditional K-12 schooling ready to continue learning, and school readiness prepares children for success.

For example, a national survey found that in comparison to peers in lower-quality care settings, young children who attend higher-quality and more stable ECE programs had the following characteristics through elementary school:

- Improved math and language ability
- Enhanced cognitive and social skills
- Fewer behavioral issues⁷⁵

The National Academy of Sciences brought together a committee of experts to synthesize research on early childhood development. They agreed that “the effects of child care derive not from its use or nonuse but from the quality of the experiences it provides to young children.”⁷⁶

While no ECE program can guarantee lifelong success for its participants, quality ECE can increase children’s ability to enter traditional K-12 schooling ready to continue learning, which better prepares them for future opportunities.⁷⁷ While, more research is needed to fully understand the current quality of ECE programs and their effect on children, several studies suggest that that existing quality levels are, on average, not sufficient to produce lasting changes in children’s cognitive or socio-emotional development.^{78,79,80,81} Nevada is

⁷³ Madrid, O. (2006). “Brain Network Forms Early, Research Says.” *The Arizona Republic*.

⁷⁴ Heckman, J. (2006).

⁷⁵ Peisner-Feinberg, E. S. et al. (2001). “The Relation of Preschool Child-Care Quality to Children’s Cognitive and Social Development Trajectories through Second Grade”. *Child Development*, 72 (5): 1534-1553. Quality was assessed in this study using the following criteria: classroom quality measures using the Early Childhood Environment Rating Scale (ECERS), teacher sensitivity using the Caregiver Interaction Scale (CIS), child-centered teaching style using Early Childhood Observation Form (ECOF), teacher responsiveness using Adult Involvement Scale (AIS). In addition, teacher-child relationship and child assessment measures were used.

⁷⁶ Shonkoff, J. and Phillips, D.A., Eds. (2000). “From Neurons to Neighborhoods: The Science of Early Childhood Development.” Washington, D.C.: *National Academies Press*, 307.

⁷⁷ Brooks-Gunn, J. (2003). “Do You Believe in Magic? What We Can Expect from Early Childhood Intervention Programs.” *Social Policy Report*. 17 (1).

⁷⁸ National Institute of Child Health and Human Development Early Child Care Research Network. (2003) “NICHD Study of Early Child Care and Youth Development.” Paper presented at the University of Maryland, College Park, MD.

⁷⁹ National Institute of Child Health and Human Development Early Child Care Research Network. (2004) “Type of child care and children’s development at 54 months.” *Early Childhood Research Quarterly*, 19, 203-230.

currently piloting *Silver State Stars*, a quality rating assessment project to assist providers in improving the quality of their program as well promote the health and development of children. Outside of this pilot, the only other formal measure of quality is accreditation. Currently, only 46 ECE programs in Nevada are nationally accredited by one of six accrediting agencies. These programs include 42 licensed centers (11% of all centers), three family child care homes (1% of all family child care), and two out-of-school time (OST) programs (0.5% of all OST programs).

Studies that explore the persistence of effects from high-quality ECE programs include investigation into model programs like the Perry Preschool Program, Chicago Child-Parent Centers, and the Abecedarian Program, which have all demonstrated long-term net economic and social benefits from improved academic achievement and social skills associated with children's enrollment in these programs. These model programs all have features that are not required by Nevada's licensing standards, including but not limited to: 1) well-trained ECE staff with little turnover and competitive salaries, 2) comprehensive services, and 3) high intensity of services, including small group sizes with low child-to-staff ratios, and a relatively large amount of time per week spent in the program.^{82,83, 84}

High-Quality ECE's Significant Public Return

According to Ben Bernanke, Chairman of the Federal Reserve Board, "Although education and the acquisition of skills is a lifelong process, starting early in life is crucial. Recent research...has documented the high returns that early childhood programs can pay in terms of subsequent educational attainment and in lower rates of social problems, such as teenage pregnancy and welfare dependency. The most successful early childhood programs appear to be those that cultivate cognitive and non-cognitive skills and that engage families in stimulating learning at home."⁸⁵

Nobel-Laureate economist James Heckman is another prominent proponent of the economic rationale for targeting high-quality ECE programs to disadvantaged families. Heckman cites research demonstrating that early interventions can prevent disparities in cognitive and social-emotional skills that are far less costly than the use of programs to remediate such gaps later in life. Heckman notes that early education programs are one of the most promising interventions to improve the nation's human capital.⁸⁶

While no long-term studies have specifically focused on the children of Nevada, the three long-term studies noted earlier in this section provide evidence of the potential long-term benefits of high-quality ECE in Nevada. The cost-benefit analyses of these programs indicate that there are significant future public savings when money is invested in high-quality ECE, particularly for low-income children.

First, in the Abecedarian Study, a group of low-income children was randomly assigned to an early intervention program that lasted from birth through age four and a second group of participants was not offered the program. The investigators found that children who participated in the early intervention program

⁸⁰ Peisner-Feinberg, E.S. et al. (1999). "The Children of Cost, Quality and Outcomes Study Go to School." Retrieved April 21, 2010. www.fpg.unc.edu/ncedi/PDFs/CQO-es.pdf

⁸¹ Loeb, S., Fuller, B., Kagan, S.L., Carroll, B. (2004). "Child Care in Poor Communities: Early Learning Effects of Type, Quality, and Stability." *Child Development*, 75, 1, 47-65.

⁸² Barnett, W. S. (2003). "Better Teachers, Better Preschools: Student Achievement Linked to Teacher Qualifications." *Preschool Policy Matters*, Issue 2. New Brunswick, NJ: National Institute for Early Education Research (NIEER). Retrieved October 2, 2009. <http://nieer.org/resources/policybriefs/2.pdf>.

⁸³ Barnett, W.S. & Ackerman, D.J. (2006). "Costs, Benefits and Long-term Effects of Early Care and Education Programs: Recommendations and Cautions for Community Developers." *Journal of Community Development and Society*, 37, 2. Retrieved October 15. <http://government.cce.cornell.edu/doc/pdf/86-100%20barnett%20ackerman.pdf>.

⁸⁴ Heckman, J., Grunewald, R., and Reynolds, A. (2006). "The Dollars and Cents of Investing Early: Cost-Benefit Analysis in Early Care and Education." Retrieved November 18, 2009. <http://www.babyfutures.org/files/DollarsCents-Heckman.pdf>

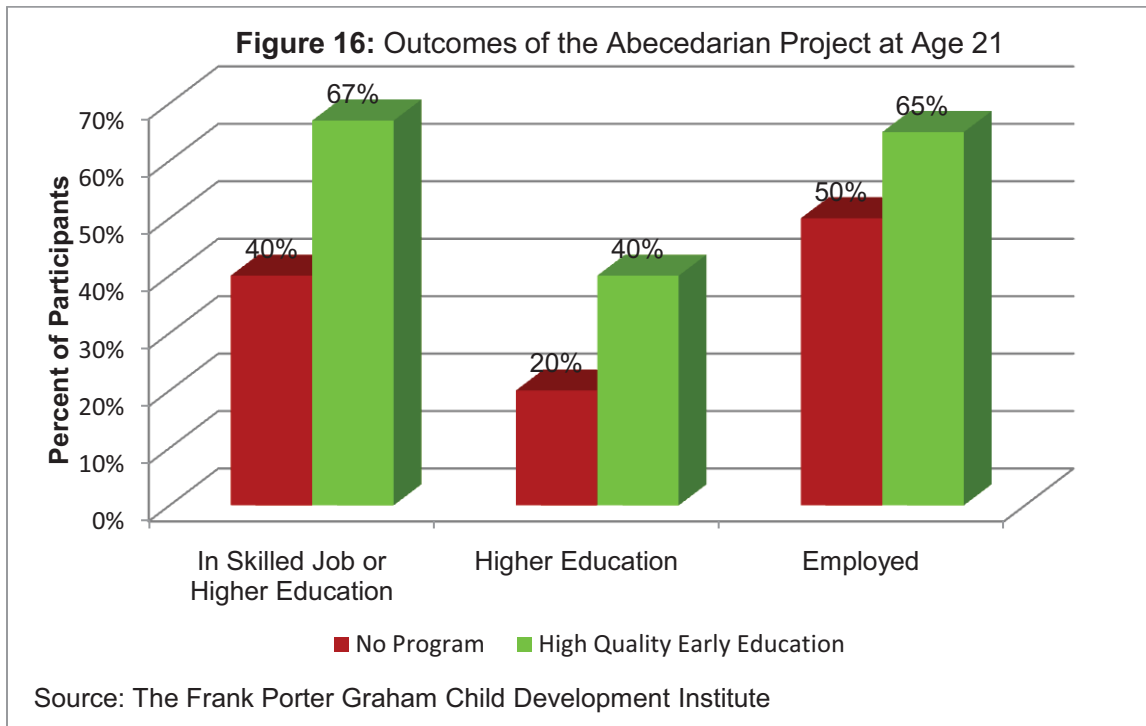
⁸⁵ Bernanke, B. (2007). "The Level and Distribution of Economic Well-Being." Speech before the Greater Omaha Chamber of Commerce on February 6, 2007. Retrieved September 24, 2009.

<http://www.federalreserve.gov/BoardDocs/Speeches/2007/20070206/default.htm>

⁸⁶ Heckman, J. and Masterov, D. (2004) "The Productivity Argument for Investing in Young Children." *Invest in Kids Working Group*. Working Paper #5. Retrieved October 2, 2009.

http://www.partnershipforsuccess.org/docs/ivk/report_ivk_heckman_2004.pdf

were, at age 21, significantly more likely to be in a high-skilled job or in higher education (see Figure 16).⁸⁷ If the Abecedarian Project was offered to the children in the bottom two deciles of family income, it is estimated that the economic-development benefits would contribute more to the economy than state business subsidies in the long term (counting both national as well as state benefits).⁸⁸



In a study of Chicago Child-Parent Centers (CPCs), low-income children in a high-quality, child-focused intervention program were less likely than their peers to drop out of high school, be in special education, repeat a grade, or be arrested as juveniles.⁸⁹ In particular, the Chicago CPC study found that children who did not participate in the program were 70 percent more likely to be arrested for a violent crime by the age of 18 than those children who did.⁹⁰

The High/Scope Perry Preschool Project compared adults at age 40 who received high-quality ECE as young children with peers who did not. The study found that the group of adults who had received early childhood education instruction earned more money, were more likely to have a savings account, and were less likely to be repeat criminal offenders than their peers who were not randomly assigned to the program as children.

Using the results from the High Scope/Perry Preschool Program, Rolnick and Grunewald (2003) found that the return on investment from high-quality ECE programs for low-income children yielded an annual return on public investment of 12 percent (adjusting for inflation), significantly higher than the long-term return on U.S.

⁸⁷ The Frank Porter Graham Child Development Institute at the University of North Carolina at Chapel Hill, *Early Learning, Later Success: The Abecedarian Study*. Available online at <http://www.fpg.unc.edu/~abc/>

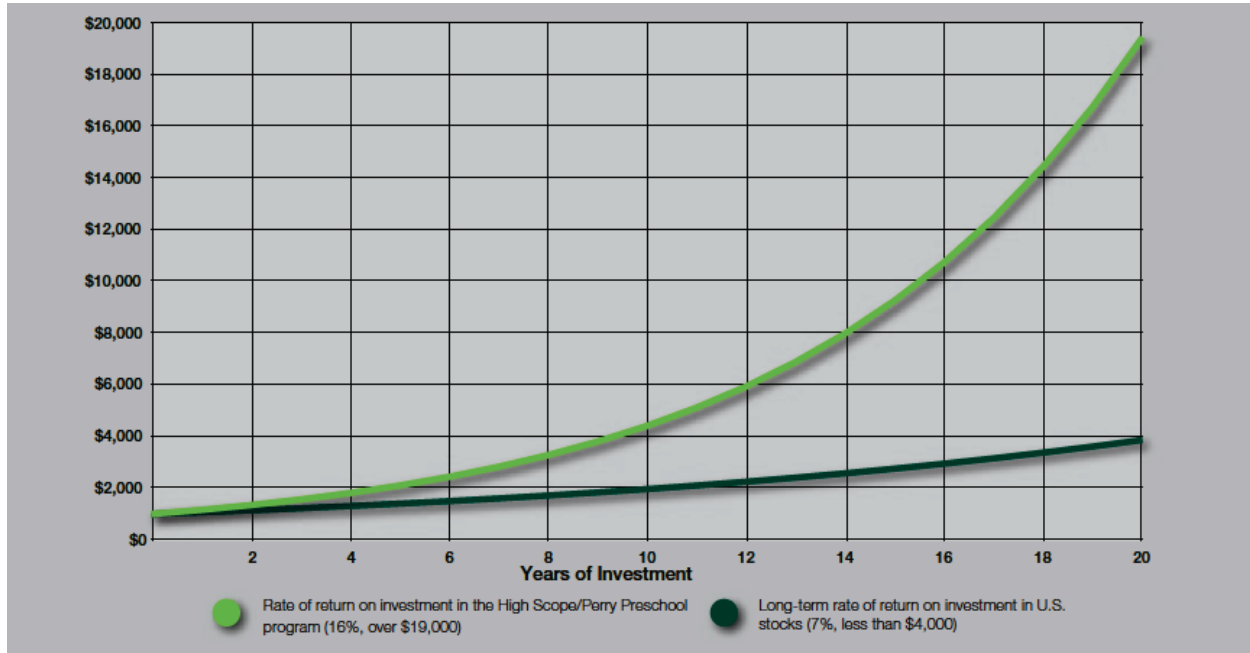
⁸⁸ Bartik, T. (2008) "The Economic Development Effects of Early Childhood Programs." Washington, D.C., *Partnership for America's Success. Issue Paper # 6*. Retrieved September 24, 2009. http://www.partnershipforsuccess.org/uploads/20080723_Bartikformatted.pdf

⁸⁹ Reynolds, A.J. et al. (2001). "Long-term effects of an early childhood intervention on educational achievement and juvenile arrest—A 15-year follow-up of low-income children in public schools." *Journal of American Medical Association*, 285 (18): 2239-2346.

⁹⁰ Fight Crime: Invest in Kids California. (2006). *Paying the Price for the High Cost of Preschool in California*. Retrieved May 1, 2007, <http://www.fightcrime.org/ca>

stocks, or the return of many traditional economic development investments (see Figure 17).⁹¹ Well over half of the economic benefits from these programs accrue to the public.⁹²

Figure 17: Return on \$1,000 from a High-Scope/Perry Preschool Program vs. US Stocks (Reprinted with Permission)



Source: Rolnick and Grunewald (2003)

A 2006 study compiled the cost-benefit analyses from the above model preschool and ECE programs and found that all three studies demonstrate net positive benefits due to increased academic achievement and other outcomes (see Table 9 for more details).⁹³

Table 9

Outcomes and Cost-Benefit Analyses of the Perry Preschool, Carolina Abecedarian and Chicago Child-Parent Centers Programs

	Perry Preschool	Carolina Abecedarian	Chicago Child-Parent Center
Benefit-Cost Results			
Cost	\$15,166	\$36,929 (5 years)	\$7,417
Benefit	\$244,812	\$139,571	\$52,936
Benefit/Cost Ratio	\$16.14	\$3.78	\$7.14

Sources: Information from this table is derived from a table in Barnett and Ackerman (2006). However, benefit-cost information for Perry Preschool was updated based on cost-benefit information Retrieved November 20, 2009 from: http://www.highscope.org/file/Research/PerryProject/Errata_3Final.pdf

⁹¹ Rolnick and Grunewald (2003). http://www.minneapolisfed.org/publications_papers/studies/earlychild/abc-part2.pdf. The rate of return on investment for both the public and the participant is 16 percent annually.

⁹² Heckman, J., Grunewald, R., and Reynolds, A. (2006) "The Dollars and Cents of Investing Early: Cost-Benefit Analysis in Early Care and Education." Retrieved November 18, 2009. <http://www.babyfutures.org/files/DollarsCents-Heckman.pdf>

⁹³ Barnett, W.S. & Ackerman, D.J. (2006). "Costs, Benefits and Long-term Effects of Early Care and Education Programs: Recommendations and Cautions for Community Developers." *Journal of Community Development and Society*, 37, 2. Retrieved October 15, 2010. <http://government.cce.cornell.edu/doc/pdf/86-100%20barnett%20ackerman.pdf>.

Comparing returns from the three high-quality ECE programs covered in the above table in addition to another high-quality program, the Prenatal Early/Infancy Project, the Economic Policy Institute estimates that expanding similar programs with public financing to 20 percent of the poorest 3- and 4-year-olds would offset one-fifth of the deficits for the U.S. Social Security program in the 2030–50 time period.⁹⁴

Out-of-school time programs for school-age children also save public sector dollars. A review of multiple research studies to evaluate the effects of out-of-school time programs showed significant gains to school engagement, school attendance, academic performance and positive youth development.⁹⁵ A cost-benefit analysis found that financial benefits from improved school performance, increased compensation, reduced juvenile and adult criminal activity, and reduced welfare costs outweighed the costs of increased attendance at school and the cost of programs.⁹⁶

Quality of life is affected by out-of-school time programs as well. At least 50 percent of youth crime occurs in the hours after school.⁹⁷ A study of eighth graders found that children caring for themselves for 11 hours or more per week were twice as likely to smoke cigarettes, drink alcohol or use drugs.⁹⁸ These risk behaviors during adolescence can predict a future of increased criminal behavior and health problems in adulthood. In a George Mason University study, 91 percent of police chiefs surveyed nationwide agreed that “If America does not make greater investments in afterschool and educational child care programs to help children and youth now, we will pay more later in crime, welfare and other costs.”⁹⁹

ECE Increases School Readiness for Children at All Income Levels

These findings demonstrate the economic value of investing in high-quality ECE, especially for low-income children. However, children in middle- and high-income families also experience academic problems, including significant grade retention and high school dropout rates. A third of middle-income children and a fourth of upper-middle-income children lack “key pre-literacy skills” when they enter kindergarten.¹⁰⁰ Nationally, 12 percent of middle-income children are held back at some point during school, and 11 percent drop out before graduating high school.¹⁰¹ These findings provide evidence that high-quality early education programs may be cost-effective for children across most income brackets. As economist W.S. Barnett noted, “If you were to get one-tenth the public savings from high-quality preschool for middle-income children (as you do for low-income children), high-quality preschool programs would still be cost effective.”¹⁰²

Other studies have also noted a connection between a lack of school readiness and school dropout rates. A study by Melissa Roderick of the University of Chicago found that repeating a grade between kindergarten and sixth grade substantially increased the odds of dropping out of school during middle school and high school.¹⁰³ In one cohort of public school youths, nearly 80 percent of students who repeated a grade dropped out of school, compared to only 27 percent of students who had never repeated a grade.¹⁰⁴

⁹⁴ Lynch, R.G. (2004). “Exceptional Returns: Economic, Fiscal, and Social Benefits of Investments in Early Childhood Development.” Washington, D.C. Economic Policy Institute. Retrieved November 16, 2010.

http://www.epi.org/publications/entry/books_exceptional_returns/

⁹⁵ Rolnick, A. and Grunewald, R. (2003).

⁹⁶ Brown, W.O. et al. (2002). *The Costs and Benefits of After-school Programs: The Estimated Effects of the After School Education and Safety Program Act of 2002*. Claremont, CA: The Rose Institute.

⁹⁷ U.S. Department of Justice (1997) as cited by the Massachusetts Executive Office of Public Safety. Cops & Kids Fact Sheet, 2000.

⁹⁸ D. A. Farbman. (2003). *The Forgotten Eighty Percent: The Case for Making the Most out of Children’s Time out of School*, Boston.

⁹⁹ Fight Crime, Invest in Kids. (1999). “Poll of Police Chiefs conducted by George Mason University Professors Stephen D. Mastrofski and Scott Keeter.”

¹⁰⁰ Coley, R.J., 2002). *An Uneven Start*. Princeton, New Jersey: Educational Testing Service. As cited in *Kids Can’t Wait to Learn: Achieving Voluntary Preschool for All in California, Preschool California* 2004.

¹⁰¹ Coley, R. J., *ibid.* (

¹⁰² Barnett, W.S. (2004). Preschool-for-all Hearing, Sacramento, CA.

¹⁰³ Roderick, M. (1994). “Grade Retention and School Dropout: Investigating the Association”. *American Educational Research Journal*, 31(4): 729-759.

¹⁰⁴ Roderick, M. (1994).

In a recent rigorous evaluation of the Arkansas Better Chance Program (ABC), a state-funded preschool program, researchers found that ABC has significantly increased school readiness indicators, including early language, literacy and mathematical development.¹⁰⁵ These findings are consistent with findings from rigorous evaluations of state-funded preschool programs in other states, including New Jersey's Abbott Preschool Program and Oklahoma's Early Childhood Four-Year-Old Program.¹⁰⁶⁻¹⁰⁷

Nevada's state-funded Pre-K program found similar results in 2008-09 when looking at 4th grade test scores of students who had been in the Pre-K program five years prior. Those 4th graders in the Pre-K cohort scored significantly higher on both math and reading than a matched cohort group of 4th graders who had not been in the Pre-K program. Similarly, a cohort of 2nd graders in 2008-09, who had been in the Pre-K program three years prior continued to make improvement through 2nd grade.¹⁰⁸

Section Summary

A high-quality ECE system in Nevada would have a high public benefit compared to the amount of investment needed. The public benefit is seen more immediately in higher school readiness rates and, over time, in lower prison rates, lower welfare rates, and a better prepared workforce, resulting in higher compensation. One study found that the return on investment from high-quality ECE programs for low-income children yielded an annual return on investment of 16 percent (adjusting for inflation), significantly higher than the long-term return on U.S. stocks, or the return of many traditional economic development investments.¹⁰⁹ Well over half of the economic benefits from these programs accrue to the public.¹¹⁰

¹⁰⁵ Hustedt, J.T. et al. (2007). *The Effects of the Arkansas Better Chance Program on Young Children's School Readiness*. Retrieved on February 15, 2007 from: <http://nieer.org/resources/research/ArkansasYear1.pdf>.

¹⁰⁶ Lamy, C. et al. (2005). *Giant Steps for the Littlest Children: Progress in the Sixth Year of the Abbott Preschool Program. Year Three Initial Update, 2004-2005*. Early Learning Improvement Consortium. Retrieved June 2, 2006, <http://www.nj.gov/njded/ece/abbott/giantsteps/>.

¹⁰⁷ Barnett, W.S. et al. (2005). "The Effects of State Prekindergarten Programs on Young Children's School Readiness in Five States." Retrieved on February 20, 2007 from: <http://nieer.org/resources/research/multistate/fullreport.pdf>

¹⁰⁸ Leitner, D. (2009). "FY 2008-09 Final Evaluation Report: Nevada Early Childhood Education (ECE) Program. Nevada Department of Education.

¹⁰⁹ Rolnick, A. & Grunewald, R. (2003).

¹¹⁰ Heckman, J., Grunewald, R., and Reynolds, A. (2006).

Conclusion and Recommendations

The early care and education (ECE) industry is a significant part of Nevada's economy, employing more workers than non-hotel casinos and generating more revenue than the ISPs, Search Portals, and Data Processing sector. ECE employs over 9,000 full-time equivalent workers and generates \$345 million in receipts each year in Nevada. A strong ECE industry in Nevada provides a building block for the state's economy to grow and diversify by providing a service to working parents and by being part of an education system that attracts talented workers from other states.

More than anything, Nevada's ECE industry educates and cares for Nevada's young residents, tomorrows K-12 and post-secondary students and young adults. High quality ECE can improve school readiness and have longer-term positive impacts on both the children and society at large. In fact, investments in high quality ECE for low-income residents would have a higher return on investment over 20 years than most other public investments – as high as a 16 percent annual return if comparable to one studied program.

Based on the research of this report and upon the suggestions of the project's Policy Advisory Committee and Data Advisory Committee, a series of recommendations have been developed to guide Nevada in the goal to create a strong, vibrant ECE industry. The recommendations are directed toward the business sector, state and local governments, and the ECE provider community itself.

Business Sector Recommendations

- Support local, state, and federal legislation that maintains or expands access to quality early care and education (ECE) programs.
- Engage business leaders to champion target messaging to the larger business community about the importance of ECE.
- Target large businesses to provide ECE benefits to their employees and assist smaller businesses to develop a co-op to do the same.
- Develop and contribute to a grant or loan fund for child care providers who need start-up or quality enhancement funding.
- Foster partnerships with ECE programs, such as replicating the Partners in Education program.
- Work with small business development centers (SBDCs) to provide technical assistance related to business development and finance to ECE providers.

Government Sector Recommendations

- Make funding decisions based on best practices and require programs to be outcome-based.
- Increase awareness of the P-3 (Preschool to 3rd Grade) Initiative which aims to create a seamless system of education and support for Nevada's children from early childhood through the third grade.
- Investigate the benefits of blended funding sources to create integrated systems of support across the local, state, and federal level.
- Review existing policies and procedures between agencies to reduce barriers and increase access to services for parents and early care and education providers.
- Include language in city general plans prioritizing the development of child care facilities.
- Support and provide funding for Nevada's Quality Rating Improvement System (QRIS).

Early Care and Education (ECE) Industry Recommendations

- Work collaboratively to increase understanding and improve messaging within the ECE industry about the link between high-quality ECE and school readiness, life success, and a stronger economy.
- Develop a communications plan and outreach strategy to educate and engage business leaders and other stakeholders about the return on investment of high-quality ECE.
- Engage traditional and non-traditional stakeholders to champion the importance of ECE and support ECE workforce development to improve quality through educational attainment, skills training and compensation.
- Increase access to high quality services for low- and moderate-income children and their families.

Appendix A: Gross Receipts and Direct Employment Estimates by County

ECE Program Enrollment, Employment, and Receipts by County

	Licensed Child-care Centers			Licensed Family Child Care & Group Home providers			License-Exempt FFN providers paid by subsidy		
	Enrollment	Employment	Receipts	Enrollment	Employment	Receipts	Enrollment	Employment	Receipts
Nevada	22,733	4,257	183,801,646	1,945	471	14,935,180	1,772	591	7,561,269
<i>County</i>									
Carson City	715	119	4,611,701	41	10	284,602	85	28	319,774
Churchill	205	31	1,231,270	45	6	307,188	56	19	179,267
Clark	14,460	2,771	121,811,000	822	204	6,543,725	1,127	376	5,191,100
Douglas	511	76	3,402,409	21	6	163,490	40	13	190,449
Elko	278	61	1,930,732	38	11	271,575	13	4	25,629
Esmeralda							-	0	-
Eureka							-	0	-
Humboldt	136	15	1,034,280	9	1	58,500	3	1	10,419
Lander	53	5	331,608	0	0		-	0	-
Lincoln							-	0	-
Lyon	425	69	2,653,294	23	5	151,704	37	12	159,074
Mineral							11	4	46,571
Nye	320	64	1,499,195	30	7	263,391	-	0	-
Pershing	18	3	90,896	0	0		-	0	-
Storey	-	-		7	1	46,219	3	1	17,425
Washoe	5,562	1,039	44,912,760	906	220	6,816,759	397	132	1,421,560
White Pine	50	4	292,500	4	1	28,027	-	0	-

	State Pre-K Program			Even Start			Title 1		
	Enroll-ment	Employ-ment	Receipts	Enroll-ment	Employ-ment	Receipts	Enroll-ment	Employ-ment	Receipts
Nevada	1,123	112	3,338,875	35	3.6	400,000	1,573	156	9,829,452
<i>County</i>									
Carson City	85	8.4	256,713						
Churchill	41	4.1	125,697						
Clark	355	35.2	1,469,441				1,381	137	9,342,116
Douglas	0	0	-						
Elko	72	7.2	241,064						
Esmeralda	0	0	-						
Eureka	0	0	-						
Humboldt	39	3.9	134,209						
Lander	0	0	-						
Lincoln	0	0	-						
Lyon	0	0	-						
Mineral	0	0	-						
Nye	53	5.3	138,616						
Pershing	42	4.2	135,599	35	3.6	200,000			
Storey	0	0	-						
Washoe	414	41.1	714,694			200,000	192	19	487,336
White Pine	22	2.2	122,842						

	Part B and Part C Early Childhood Special Needs			Out-of-School-Time Programs (includes 21st CCLCs)			CACFP Food Program	
	Enrollment	Employment	Receipts	Enrollment (ADA)	Employment	Receipts	Total Meals	Expenditures/Receipts
Nevada	7,592	905	50,821,195	25,867	1,835	43,910,844	3,464,815	4,425,489
<i>County</i>								
Carson City	133	15	917,144	1,292	85	2,484,446	23,105	42,275
Churchill	119	44	240,957	91	25	188,116	77,886	80,819
Clark	4,890	531	35,876,374	17,626	1,122	30,360,944	2,371,935	2,605,707
Douglas	127	16	600,610	559	22	747,330	46,581	44,126
Elko	148	19	1,070,918	546	37	945,965	61,215	116,390
Esmeralda	2	0	-	17	3	81,000		
Eureka	5	1	33,523	36	4	100,000		
Humboldt	58	7	312,515	50	1	63,438	5,605	13,710
Lander	29	4	103,758	43	20	90,000		
Lincoln	17	4	109,355	39	1	49,481		
Lyon	249	33	1,207,213	740	43	1,413,427	57,028	113,927
Mineral	21	2	50,117	91	16	185,936	2,453	5,953
Nye	214	30	856,071	319	9	174,020	8,760	11,737
Pershing	21	3	96,181	-	-	-	2,640	5,718
Storey	5	1	108,563	40	3	70,000	3,847	5,066
Washoe	1,466	191	8,841,008	4,317	441	6,776,741	779,812	1,334,030
White Pine	88	5	396,885	62	3	180,000	23,948	46,030

	Head Start, including Early Head Start, Tribal Head Start, and Migrant Head Start			Tribal Child-Care Centers and Vouchers			TOTAL		
	Enrollment	Employment	Receipts	Enrollment	Employment	Receipts	Enrollment	Employment	Receipts
Nevada	3,166	697	24,469,102	261	54	1,543,836	66,067	9,082	345,036,887
<i>County</i>									
Carson City	54	11	410,400	4	0.8	27,554	2,409	277	9,354,610
Churchill	62	18	504,200	10	2.2	61,723	629	149	2,919,237
Clark	1,856	399	13,616,114	34	6.7	323,156	42,551	5,582	227,139,677
Douglas	36	8	273,600	3	0.6	21,265	1,296	142	5,443,280
Elko	240	61	2,039,329	55	11.5	321,357	1,391	212	6,962,960
Esmeralda	-	-	-	0	0.0		19	3	81,000
Eureka	-	-	-	0	0.0		41	5	133,523
Humboldt	42	18	449,200	2	0.3	11,636	339	46	2,087,907
Lander	-	-	-	4	1.1	39,055	129	30	564,422
Lincoln	-	-	-	0	0.0		56	4	158,837
Lyon	69	46	524,400	6	1.2	41,855	1,549	209	6,264,895
Mineral	20	3	152,000	8	3.0	68,026	151	26	508,602
Nye	-	-	-	11	3.0	104,427	947	119	3,047,457
Pershing	14	4	106,400	8	2.0	69,618	138	19	704,412
Storey	-	-	-	0	0.0	-	55	6	247,273
Washoe	702	111	5,853,859	116	21.4	420,655	14,070	2,216	77,779,403
White Pine	71	21	539,600	2	0.4	33,508	299	36	1,639,392

