Child Care Subsidies, Low-Wage Work and Economic Development

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Abstract

Public spending for work supports like child care subsidies has been greatly increased in recent years to "make work pay' and to encourage the labor force participation of low-income parents. This study tracked changes in earnings and employment sectors over three years for parents receiving child care subsidies in Minnesota. Employment of these parents was more concentrated in a few sectors of the economy than for the workforce as a whole. The overall pattern of concentration of employment did not change over the three years, but parents who moved into or stayed in the health care sector received higher average wages and experienced greater wage growth. Given the importance of the health care sector for community development and projected future shortages of healthcare workers, opportunities for linking work supports like child care subsidies with training and employment in these fields could improve outcomes for both families and communities.

Introduction

Public spending for work supports like child care subsidies has been greatly increased in recent years to "make work pay,' reinforced welfare legislative changes passed in 1996. "Work supports" are government programs intended to provide additional resources to working families with low incomes, and they include federal and state earned income tax credits, food stamps and child care subsidies. Over a ten year period, spending on work supports for low income families grew from $13 billion (in 2000 dollars) to over $70 billion (Haveman, 2003). A key public policy goal of these programs is to support low-income families who are working and who might otherwise

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apply for or return to cash assistance (welfare) programs such as Temporary Assistance for Needy Families (TANF).

This study focuses on low-income families who participate in the child care subsidy program. Recent research has demonstrated the effectiveness of child care subsidies in increasing the work effort of low-income parents (see for example, Blau and Tekin, 2001 and Tekin, 2004). The cost of child care is often high relative to workers' wages (Chase and Shelton, 2000), and public subsidies to help make child care affordable to families may increase the labor force participation of parents. Further, the expectation of many policy makers is that encouraging low income parents' employment will increase their work experience and will lead to promotions or better jobs, and, eventually, financial self-sufficiency. However, there is growing recognition in the welfare to work literature that the nature of the jobs many former welfare recipients obtain is unlikely to lift them substantially out of poverty in either the near or long term (Acs & Loprest, 2004, Loprest 1999, Burtless, 1995).

Affordable, quality child care plays an important role in enabling parents to work in the paid labor force. However, the role of child care in the economy extends beyond parents' workforce decisions. Recent studies have emphasized child care's "multi-faceted role" in the economy, including its linkages to local economic development. Increasingly, child care is recognized as an important economic sector in addition to its crucial role in the education and development of future workers (Warner, 2006, Warner & Liu 2005). For example, Ribeiro and Warner (2004) identify over three dozen studies completed or in progress that measure the importance of the child care sector to the local economy in specific states and local communities.

Economic development policies have traditionally focused on job creation in sectors with customers outside the local area (export-led growth). In contrast, Pratt and Kay (2006) describe the recent shift in economic development thinking to focus on the role of service sectors (including child care) as generators of local economic growth. At the same time, welfare policy has typically focused on getting parents off the welfare rolls and into jobs. Government subsidies to help low-income families pay for child care can be viewed as operating at the intersection of welfare policy and economic development policy. However, policy makers have paid little attention to the role of child care subsidies in workforce availability and economic development. The purpose of this study was to examine the role of child care subsidies as an economic development tool that increases the size of the available workforce both overall and in particular sectors.

The specific objectives of the study were to analyze the types of jobs held by parents receiving child care subsidies and to track their industry changes and earnings growth over time in the context of local economic needs. The study linked administrative data on parents receiving child care subsidies in Minnesota with wage records collected from the unemployment insurance or ES-202 program, for three years from 2001 to 2003. The primary research questions of the study were:

1) In which sectors do parents receiving child care subsidies work? Did the sectoral distribution of jobs change over the three years?
2) Which sectors had the highest earnings per job? The highest earnings growth over three years?
3) How did earnings growth compare for parents in different industries or sectors? Did earnings

increase more if parents stayed in the same sector or moved to a new one?
4) Did parents' annual earnings increase over the three-year follow-up period? By how much?
5) How do the sectors of employment of these parents compare to local workforce needs?

The answers to these questions may help to suggest ways to improve families' long-term financial well-being. In addition, the findings may help policy makers better understand the linkages between government funding of child care subsidies and meeting the present and future workforce needs of the local economy.

Background and Literature Review

With the passage in 1996 of the Personal Responsibility and Work Opportunity Reconciliation Act, (PRWORA), the focus on moving families from welfare to work and helping other low-income working families avoid cash assistance has increased the importance of child care subsidies. In 2006, the federal government provided $5 billion to states to assist low-income families pay for child care so they can work or attend training or education programs. Federal funding to states is provided directly through the Child Care Development Fund (CCDF) block grant and, in addition, indirectly by state transfers of funds from the Temporary Assistance to Needy Families (TANF) program into CCDF. States have wide discretion in determining eligibility rules, parent co-payments, provider payment rates and other child care subsidy program rules. Parents typically must be employed or in an approved training program in order to be eligible for child care subsidies. Most eligible parents receive a voucher to pay for care by the provider they choose (though in some states, direct contracts with providers are also used). The decision

by eligible parents to use a child care subsidy depends on many factors including welfare program rules and child care regulations as well as child care subsidy policy.

In Minnesota, the Department of Human Services (DHS) oversees the Child Care Assistance Program (CCAP), which is administered at the county level. There are two subprograms within CCAP, reflecting differences in program eligibility (categorical versus income eligibility). Minnesota Family Investment Program (MFIP) Child Care serves families receiving cash or food assistance through the state's welfare program (MFIP is the state's TANF program). In addition, eligible families who leave MFIP may receive transition year (TY) child care assistance for up to one year after leaving MFIP for employment. For families not on welfare, the Basic Sliding Fee (BSF) Child Care serves eligible low-income working families. Families in the MFIP and TY program are guaranteed access to the program; BSF families' access to child care assistance is contingent on program funding levels. For most years of the program's operation, there have been waiting lists in some counties for BSF child care. A total of about 30,000 children per month on average received child care subsidies in Minnesota during state fiscal year (SFY) 2006. The average monthly total cost per family in 2006 ranged from $717 for BSF to $992 for an MFIP family (Minnesota Department of Human Services, 2007).

Studies of the relationship between child care and employment frequently focus on the influence of the price of child care on employment decisions of mothers. However, estimates of the responsiveness of child care use to the price of child care (the price elasticity) vary widely. Blau and Tekin (2001) carefully reviewed the studies to date and concluded that that price elasticity is probably fairly small, though it may vary by income level and

marital status. A small number of studies have addressed the question of the effect of child care subsidies on employment decisions more directly. Among mothers leaving welfare, one study found that child care subsidies were associated with quicker movements into employment in two states, with no significant effect in another state (Ficano, Gennetian and Morris, 2006). The study by Lee, et al. (2004) found a strong link between employment retention and receipt of child care subsidies among welfare leavers. Tekin (2004) concluded that single mothers were more likely to work if they receive child care subsidies. These studies suggest that child care subsidies increase the work effort of low-income parents.

Several researchers have examined the employment sectors in which parents receiving child care subsidies work. In a review by Okuyama and Weber (2001), updated by Jefferys in 2004, consistent employment patterns by child care subsidy recipients were observed across the states studied. In general, child care assistance recipients were more likely than the entire workforce to be employed by the retail and service industries, especially grocery and convenience stores, health care, restaurants and bars, and temporary help services. Despite the overall consistency of findings, some differences were found across states depending on the data source, sample inclusions and local economy. Unlike previous studies, this article uses a newer coding system of industry sectors allowing more detailed information on subsectors of the economy. In addition, this study tracks the employment of parents over three years in contrast to earlier point-in-time studies.

From the point of view of welfare policy goals, child care subsidies are intended to increase the employment of parents who receive (or might have otherwise received) TANF. However, child care subsidies

may be viewed as more than a work support for parents. From an economic development standpoint, child care subsidies can be seen as increasing the available labor force for employers. In sectors with labor shortages, child care subsidies may help to reduce the labor constraint. As an economic development tool, child care subsidies and their associated increase in labor force availability may encourage business expansion and increased economic growth. By focusing on the industries which employ parents receiving child care subsidies, this study provides evidence of the link between welfare policy goals and economic development objectives.

Data and Methods

The data used in this study were collected from the administrative records of the four counties in the study (Anoka, Becker, Brown, and Hennepin) and the Minnesota Department of Employment and Economic Development (DEED). Each county provided data on all families receiving child care assistance during the three months between January and March 2001. Basic case information from these files was provided, including the number of children and adults in the household, the amount of the CCAP payments to providers, and the type of child care assistance received by the family (i.e., welfare or MFIP, MFIP transition year and non-welfare basic sliding fee scale). These files were sent to DEED where the data were matched with quarterly wage records for the parents from the ES-202 or unemployment insurance program. The wage records include the total amount paid by each employer to each employee in a calendar quarter, the total hours worked by the employee in the quarter and industry classification code.

Nearly all (97 percent) employees in Minnesota are included in the unemployment insurance wage records. Even some employers who are not required to report, such as casinos, voluntarily do so. Only self-employed individuals, some agricultural workers, elected officials, railroad workers, military personnel, domestic workers, student workers, and those who work for religious organizations are excluded from the database. As a result, most parents who were employed had matching data in the DEED wage records, but those who fell into one of the above categories or who worked outside of Minnesota, did not. Also, some parents receiving child care assistance are not employed but are in education or short-term training programs.

The four counties (Anoka, Becker, Brown, and Hennepin) from which the child care data were drawn are generally representative of the state of Minnesota. The state's most populated county (Hennepin) and the center of its commerce and financial industries was included in the study, along with a rapidly growing exurban county (Anoka). The two more rural counties included one in the northwest portion of the state (Becker), dominated by the tourist industry, and the other (Brown) in the southwest area of the state, with a relatively vital manufacturing base. Basic economic and demographic characteristics of the four counties are shown in the appendix.

Table 1 shows the number of cases (i.e., families) in each county in the study. All parents receiving child care assistance during the first quarter of 2001 were included in the study if they had a job identified in the DEED database. If the parent received wages from two employers, the parent is recorded twice in the DEED wage records and is counted as having two jobs. When two or more jobs are held in a quarter by an individual it is not possible to tell if

the jobs were held sequentially or simultaneously. The analysis is based on the number of jobs reported, rather than the number of cases or parents.[2]

Table 1: Characteristics of Study Population, First Quarter 2001

County	Anoka County	Becker County	Brown County	Hennepin County
Number of parents	1,124	361	179	8,163
Number of jobs	998	303	177	7,053
Number of jobs with industry code	941	291	166	6,768
Number of cases (families) with reported job data*	750	213	132	5,174
Family Type (percent):				
Two-parent families	10.5	32.4	26.2	18.5
Single-parent families	89.5	67.6	73.5	81.5
Number of children: Percent of families with				
One child	44.7	35.7	43.8	38.2
Two children	33.7	33.3	36.2	31.4
Three or more children	21.6	31.0	20.0	30.4
Program type: Percent of cases				
Basic Sliding Fee (BSF)	57.9	51.6	72.0	46.5
MFIP Child Care (MFIP)	23.9	33.8	17.5	36.7
Transition Year Child Care (TY)	17.5	14.1	10.5	16.5

*Note: Percentages may not sum to 100 because of a small number of cases were "other" program categories, including the At-Home Infant Care Program or county programs, or missing data. Only those cases with employment data are included. Source: Child Care Assistance Employment Study data.

The U.S. Census Bureau and other government agencies currently use the North American Industry Classification System (NAICS) to identify employers by industry or sector. There are 20 major economic sectors in the NAICS. Prior studies of the type reported here used the Standard Industrial Code system (SIC), which was replaced by the NAICS in the late 1990's.

The use of administrative data for this study allows us to track all families who received a child care subsidy during the first quarter of 2001. The data provide nearly complete employment records (with the exceptions noted above) without having recall error or nonresponse issues common in surveys. The NAICS industry classification codes are very detailed, allowing for better understanding of the jobs in the local economy. Nonetheless, the administrative data also suffer from certain drawbacks. We cannot know, for example, if the family has other sources of income or works outside of Minnesota. The data available from wage records indicate the industry sector and sub sectors of the employer, but do not provide information on the individual's occupation. Finally, we would like to have information on prior work experience and education in order to control for individual human capital characteristics, but these data were not available.

Methods

Descriptive statistical analysis was used to examine the employment patterns, earnings and earnings changes over time of the parents receiving child care assistance in each of the four counties. Frequency tables show the proportion of jobs in each sector. The methodology generally followed the approach used in similar studies, described in Okuyama and Weber (2001). Average and median earnings were calculated, as well as changes in earnings over time. Some of the analyses were done on a per job basis (where a parent may have held more than one job in a quarter), calculating for example the average earnings per job in an industry sector. Other analyses were done using parents as the unit of analysis and measuring earnings changes for individuals over time. Standard statistical tests of significance were not performed because

the universe of all parents who had jobs was used in the analysis.

The study tracked the employment and earnings of the group of parents who received child care assistance in one of the four study counties in the first quarter of 2001. The sample was not updated to include parents who began receiving child care assistance after the first quarter of 2001, nor were parents dropped from the analysis if they stop receiving assistance.[3]

Comparisons were done using the first calendar quarter (January through March) of the year 2001 and the last calendar quarter (October through December) of 2003. This comparison provided a three-year window in which to examine industry changes and earnings growth. While seasonal economic patterns may have impacted employment and earnings between the first and last quarters of each year, these effects were fairly small. There were somewhat more retail sector jobs in the last quarter of each year than in other quarters (and slightly higher earnings also), reflecting the seasonal sales period. The proportion of employment in retail was 10 percent in the first quarter of 2003, and nearly 13 percent in the last quarter of 2003. Nonetheless, the overall employment patterns were quite consistent across calendar quarters.

Results

Employment Patterns

Table 2 compares the sectoral distribution of jobs for the CCAP parents to the distribution for the entire workforce. Based on jobs as the unit of analysis, in the first quarter of 2001, nearly three in five CCAP jobs were in just four sectors of the economy: the health care and social assistance sector, retail trade, accommodation and food services, and administrative and support services (Table 2). Nearly 60% of CCAP jobs were in these four industries compared to 33% of the jobs held by the entire workforce. The health care industry was the most common CCAP employer, accounting for almost one-quarter of the jobs held by these parents early in 2001. The sectors and subsectors in which these parents were most likely to be employed included health care and social assistance (especially doctors' offices and clinics, nursing and in-home care, and hospitals), retail trade (especially grocery and convenience stores), accommodation and food services (especially hotels, bars and restaurants), and administrative support (especially temporary help agencies).

Table 2: Share of Jobs by NAICS Sector for CCAP Parents Compared with Total Workforce in the Four Counties

	Share of jobs held by CCAP working parents		Share of total workforce jobs
Percentage of jobs by NAICS sector	**1st Qtr 2001**	**4th Qtr 2003**	**1st Qtr 2001**
Health care & social assistance	22.6%	26.7%	10.1%
Administrative & support services	16.0%	11.8%	6.2%
Retail trade	11.7%	12.8%	10.3%
Accommodation & food services	8.4%	8.0%	6.6%

Manufacturing	6.3%	5.5%	13.3%
Finance & insurance	5.7%	5.7%	7.1%
Educational services	4.1%	4.4%	6.4%
Repair, personal care & laundry services	3.8%	3.9%	3.3%
Professional, scientific, & technical services	3.4%	2.9%	7.6%
Management of companies & enterprises	3.3%	2.8%	3.8%
Wholesale trade	3.0%	2.8%	5.7%
Transportation & warehousing	2.7%	3.0%	5.5%
Information	2.4%	2.2%	3.3%
Real Estate/Rental &leasing	1.9%	1.8%	2.0%
Public administration	1.9%	2.5%	2.8%
Construction	1.4%	1.6%	4.0%
Arts, entertainment & recreation	0.8%	1.4%	1.2%
Agriculture	0.2%	0.2%	0.1%
Utilities	0.2%	0.1%	0.5%
Total number of jobs with industry code reported	6,766	5,920	n.a.

Note: The industries are listed in rank order based on the percentage of jobs held by CCAP working parents in the first quarter of 2001. Definitions of NAICS sectors are available at http://www.census.gov/epcd/www/naics.html.

Sources: Child Care Assistance Employment Study data and Minnesota Department of Employment and Economic Development.

Jobs for the entire workforce were more evenly spread across industry sectors than for the parents receiving child care subsidies. About ten percent of total workforce jobs in 2001 were in the health care sector compared to about one quarter for the CCAP parents (in all four study counties). The share of total workforce jobs in administrative and support services, retail trade, and accommodation and food services was lower for the total workforce than for the CCAP parents. A smaller fraction of

CCAP jobs were in sectors such as manufacturing, professional services, and finance and insurance. While the sectors with higher shares of jobs for the CCAP working parents were typically considered lower-wage industries, not all low-wage jobs were in these sectors.

In each quarter of the three year period (2001-2003), the distribution of jobs by sector for this group of CCAP working parents remained nearly unchanged. After three years, slightly more of the jobs held by these parents were in health care (27%) compared to 23% earlier. Over the same time period, the percentage in administrative and support services (many of which were jobs with temporary help agencies) fell to 12 percent (from 16 percent). Approximately 12 percent of the original group of parents had no job information reported in the final quarter of 2003. These parents may have had a job that was not recorded in the state wage database, may have moved out of Minnesota, or may have been unemployed. Despite the fact that many of these parents changed jobs (and, in some cases changed industries), the overall pattern of employment by sector remained fairly constant.

Earnings per Job by Industry

Table 3 compares earnings and earnings growth across sectors for the sample of CCAP working parents. Substantial differences were observed in average wages per job by industry. In general, jobs in "high-wage" industries (those with higher average wages for the total workforce) had higher average earnings than those in "low wage" industries even though all the jobs were held by parents receiving child care subsidies in the first quarter of 2001. Substantial variation in earnings by industry was also observed over time. Table 3 shows the earnings per job by industry in jobs held by CCAP participants over the study

period in all four counties. Three of the industries in which a large proportion of CCAP participants worked had some of the lowest wage growth over this period: retail trade (14%), accommodation and food services (18%), and administrative and support services (19%). These jobs also had some of the lowest average starting earnings relative to other industries.

Table 3: Earnings and Earnings Growth Per Job by Industry Sector for CCAP Sample Parents

Ranked by Earnings Growth	Number of jobs held by sample parents		Quarterly earnings per job		Percentage change in earnings per job
Industry	1st Qtr 2001	4th Qtr 2003	1st Qtr 2001	4th Qtr 2003	1st Qtr 2001 to 4th Qtr 2003
Construction	96	92	$4,330	$6,653	54%
Transportation & warehousing	180	177	$3,576	$4,833	35%
Professional, scientific, & technical services	231	174	$4,098	$5,493	34%
Health care & social assistance	1531	1582	$3,610	$4,807	33%
Public administration	128	147	$5,203	$6,870	32%
Manufacturing	424	323	$4,812	$6,234	30%
Utilities	11	8	$4,942	$6,404	30%
Art, entertainment & recreation	57	82	$2,452	$3,166	29%
Wholesale trade	204	166	$4,910	$6,309	29%
Educational services	275	258	$4,081	$5,189	27%
Finance & insurance	389	336	$5,103	$6,379	25%
Real Estate/Rental & leasing	131	106	$3,604	$4,417	23%
Information	165	129	$5,105	$6,224	22%
Administrative & support services	1084	701	$2,043	$2,440	19%
Management of companies & enterprises	226	164	$3,636	$4,332	19%
Accommodation & food services	565	476	$1,977	$2,332	18%
Agriculture	15	11	$3,344	$3,884	16%

Retail trade	795	756	$2,515	$2,868	14%
Repair, personal care & laundry services	259	232	$3,427	$3,899	14%

Note: Earnings and percentage change in earnings are not adjusted for inflation in this table. Source: Child Care Assistance Employment Study data

Those industries characterized by the highest starting wages and fastest average wage growth accounted for a small portion of CCAP jobs, e.g., construction, transportation and warehousing, and the professional, scientific and technical services industry. The health care and social assistance sector was the only industry that accounted for a significant portion of CCAP jobs and had relatively strong earnings growth. Average earnings in the health care industry started near the middle of all industry sectors in the first quarter of 2001. Among industries with a substantial proportion of CCAP jobs, this sector had the highest average earnings in 2001 of all jobs held by the sample parents, and the fastest wage growth over the three years.

Parents' Earnings Over Time

Although average earnings per job rose over the three years, earnings of individual parents may have increased or decreased. For this analysis, we tracked the earnings of parents regardless of the industry of employment. Earnings were summed for both parents in the household if there was more than one parent in order to provide a measure of total household earnings.

For households with employed parents who had received child care assistance in 2001, average annual earnings (unadjusted for inflation) rose about $2,000 over the three years, from $17,102 to $19,225 (Table 4). While this increase represented an 11 percent gain in household earnings, annual household earnings were still low relative

to median household income in Minnesota and were still near the poverty level (the 2003 federal poverty level for a family of three was $15,260 and $18,400 for a family of four).

Table 4: Sample Parents' Annual Earnings and Earnings Growth

	Mean annual earnings			Percentage change in annual earnings		
	2001	2002	2003	2001-2002	2002-2003	2001-2003
Anoka County	$19,166	$20,183	$21,529	5.3%	6.7%	11.0%
Becker County	$14,568	$16,264	$16,742	11.6%	2.9%	13.0%
Brown County	$18,345	$19,569	$20,376	6.7%	4.1%	10.0%
Hennepin County	$16,833	$17,938	$18,901	6.6%	5.4%	10.9%
All four counties	$17,102	$18,237	$19,225	6.6%	5.4%	11.0%

Note: Earnings are summed for all parents in the household. Mean earnings in nominal dollars. Adjusted for inflation using the Minneapolis-St. Paul metro CPI, the change in average household earnings between 2001 and 2003 was 8.6% . Source: Child Care Assistance Employment Study data

It is important to note that this study tracked the employment of a group of parents who received child care subsidies at a point in time (January through March 2001), but these parents may no longer have been receiving child care subsidies in 2003. Those parents with sizeable earnings increases may no longer be eligible for child care subsidies but remain in the study population.

Earnings / Provider Payment Ratio

Comparison of the amount paid by the government for child care to the amount of earnings of the parents provides a measure of 'payback," i.e., the ratio of parent

earnings to child care subsidy expenditures. This payback ratio varies considerably across industries primarily due to differences in parental earnings (rather than differences in child care expenses). In Hennepin County (the most populated county in Minnesota), for every public dollar invested in child care for a parent working in construction or utilities, over $3 was earned by that parent. In contrast, for every dollar spent on child care subsidies for a parent working in accommodation and food services, only $1.15 was earned. Retail trade and administrative services also had low parent earnings-to-subsidy payback ratios ($1.37 and $1.24, respectively). The industries which employed most parents receiving child care subsidies were those with the lowest payback ratios.

Parents' Earnings Growth and Industry Changes

Over the study period, parents' earnings rose faster in some industries than others and often rose faster for those who stayed in the same industry rather than moving into a new one. Table 5 shows the average earnings for parents who remain in jobs in a particular industry compared to the earnings of those who switch industries. Across the five industries shown in Table 5, parents who stayed in the same industry tended to have higher (median) earnings in the first quarter of 2001 compared to parents who moved out of the sector (either to a different sector or had no job at the end of 2003). Parents who stayed in the same industry also had higher average earnings in the last quarter compared to those who switched, with the exception of those who started in administrative and support services. Earnings rose on average $1,696 for those who switched from administrative and support services to another sector, while those who stayed in that sector saw earnings increase only $648 on average. Those who stayed

in accommodation and food services had a median earnings increase of only $349 compared to $910 for those who moved to jobs in different sectors. In contrast, median quarterly earnings rose over $1,000 between 2001 and 2003 for those who stayed in heath care, retail trade, and manufacturing, with much smaller increases for those who left those industries.

Table 5: Parents' Median Earnings and Earnings Growth by Industry Change Category

	Ending industry (4th quarter 2003)		
Starting industry (1st quarter 2001)	**Same industry**	**Different industry**	**No job**
Health Care & Social Assistance			
Number of CCAP parents	699	250	339
Earnings in 1st Qtr 2001	$5,054	$3,620	$2,762
Dollar change in earnings over 3 years*	$1,009	$413	---
Percentage growth in earnings over 3 yrs*	20.2%	13.7%	---
Retail Trade			
Number of CCAP parents	192	236	197
Earnings in 1st Qtr 2001	$3,659	$2,386	$1,955
Dollar change in earnings over 3 years*	$1,019	$674	---
Percentage growth in earnings over 3 yrs*	28.4%	33.6%	---
Administrative & Support Services			
Number of CCAP parents	127	323	259
Earnings in 1st Qtr 2001	$3,731	$2,495	$2,015
Dollar change in earnings over 3 years*	$648	$1,696	---
Percentage growth in earnings over 3 yrs*	17.8%	62.5%	---
Accommodation & Food Services			
Number of CCAP parents	126	151	122
Earnings in 1st Qtr 2001	$3,249	$2,196	$1,364

Dollar change in earnings over 3 years*	$349	$910	---
Percentage growth in earnings over 3 yrs*	10.4%	34.2%	---
Manufacturing			
Number of CCAP parents	175	121	85
Earnings in 1st Qtr 2001	$5,699	$4,973	$4,666
Dollar change in earnings over 3 years*	$1,221	$37	---
Percentage growth in earnings over 3 yrs*	21.7%	0.5%	---
All other sectors			
Number of CCAP parents	755	746	498
Earnings in 1st Qtr 2001	$5,814	$4,446	$4,174
Dollar change in earnings over 3 years*	$1,368	$594	---
Percentage growth in earnings over 3 yrs*	25.3%	14.7%	---

Note: *Dollar and percentage differences in earnings are calculated from first quarter 2001 to fourth quarter 2004. All earnings figures are medians or change in medians. Source: Child Care Assistance Employment Study data

The finding that median earnings tend to be higher for CCAP parents who remain in the same industry cannot be interpreted as a causal relationship; that is, staying in the same industry does not guarantee higher earnings for any given individual. Rather, individuals in jobs with better prospects for earnings growth are more likely to stay in that job (and industry). Those in lower paying jobs, or in jobs without wage increases, are more likely to change jobs and therefore more likely to change industries. Nonetheless, workers in health care and manufacturing had both higher initial earnings and greater earnings growth over the time period. Even with these earnings increases, however, median earnings for this group of parents remained low relative to those of the entire workforce.

The Health Care and Social Assistance Sector

The health care and social assistance sector provided a large fraction of the jobs held by these CCAP working parents, and provided some of the highest wages and fastest rates of earnings growth for the study population. Also, parents with jobs in this sector in the first quarter of 2001 were more likely to be working in the same sector at the end of 2003, compared with other industries. More than half (54 percent) of the parents working in the health care and social assistance sector in the first quarter of 2001 had a job in the same industry in the last quarter of 2003. Focusing on the 699 parents who remained in the health care and social assistance sector, Table 6 divides them by major sub sectors. The CCAP working parents were almost evenly divided amongst the four major sub sectors in this industry: ambulatory health care services, hospitals, residential care facilities and social assistance. Median quarterly earnings were higher for those in ambulatory health care services and hospitals relative to the other two sub sectors. Amongst parents who remained in this sector, those working in ambulatory health care services experienced the largest gain in quarterly earnings with a median increase of $1,393, or over 26 percent. The median increase in quarterly earnings was around $1,000 for those in nursing care facilities and social assistance, but only $615 for those in hospitals. Recall, however, that these parents had higher median quarterly earnings than CCAP working parents in other industries, and on average also received larger increases over time.

Table 6: Average Earnings and Earnings Growth by Subsector within the Health Care and Social Assistance Sector

NAICS code	Description of subsector	Percentage working in subsector 1st Qtr 2001	Median quarterly earnings 1st Qtr 2001	Median percentage change in quarterly earnings 1st Qtr 2001 to 4th Qtr 2003
621	Ambulatory health care services (including doctors' offices, dentists' offices, home health care services, outpatient clinics)	24.5%	$5,435	26.6%
622	Hospitals (including general medical and surgical, specialty and psychiatric hospitals)	24.0%	$5,397	10.6%
623	Nursing and residential care facilities (including convalescent homes, nursing homes and residential care facilites)	27.2%	$4,631	19.7%
624	Social assistance (including child and family services, vocational rehab services, and child day care services)	24.3%	$4,533	22.0%

Note: 699 parents in the four counties worked in the health care and social assistance sector in both the first and last quarters of the study period. They are grouped in this table based on the subsector in which they worked during the first quarter of 2001, and may have changed subsectors (all remained within the NAICS health care and social assistance sector). Source: Child Care Assistance Employment Study data

Those CCAP parents who moved into jobs in the health care sector also did better than those who moved into the other industries that employed a large fraction of CCAP working parents. Table 7 shows the median earnings and earnings growth for those parents who were working in five key sectors at the end of 2003, but started in a different

industry in the first quarter of 2001. Parents who moved from a different sector into health care and social assistance saw a median increase of over $1,500 in quarterly earnings. Parents who obtained manufacturing jobs had even a larger increase ($2,500) over the period. In contrast, parents who moved into administrative and support service jobs at the end of 2003 experienced a decline in quarterly earnings of over $600. Those who moved in retail trade or food and accommodations had almost no change in quarterly earnings between the first quarter of 2001 and the last quarter of 2003.

Table 7: Differences in Parents' Earnings Growth by Ending Sector for Those Who Changed Industry Sectors

Ending Industry (4th Qtr 2003)	Median quarterly earnings 1st Qtr 2001	Median dollar change in quarterly earnings 1st Qtr 2001 to 4th Qtr 2003	Median percentage change in quarterly earnings 1st Qtr 2001 to 4th Qtr 2003
Health care & social assistance	$2,762	$1,558	47.2%
Administrative & support services	$3,729	-$686	-27.4%
Retail trade	$3,192	$40	2.2%
Accommodation & food services	$2,885	-$87	-4.5%
Manufacturing	$3,848	$2,546	52.2%

Source: Child Care Assistance Employment Study data

Discussion

The findings showed that low income working parents who received assistance paying for child care were able to increase their earnings over time, as long as they remain employed. On average, households where a parent had a job at the end of the three year study period were

better off financially than when the study period started, with earnings out-pacing inflation. However, even with earnings growth, family incomes were still low—on average, below $20,000. This amount is just slightly above the poverty level for a family of three. These families are likely to continue to need child care subsidies to cover their child care expenses while still having money left to cover other living and work expenses.

Economists typically attribute differences in earnings to individual characteristics such as education and work experience that influence the productivity of workers. Recent research suggests, however, that systematic earnings differentials across individuals can be attributed in part to the industry or even the specific employer. Andersson, Lane and Holzer (2005) find that even for workers who appear similar in terms of work experience, education and training, earnings follow remarkably different trajectories and that these differences are related to characteristics of the employer. In general, working for a larger employer, a firm with lower worker turnover, or in particular industries, was associated with higher wages. They also found wide variability across firms, suggesting that better opportunities may be found in higher-paying firms in most sectors. This research suggests that low-income parents may be able to improve their financial well-being if they move to an industry or firm that in general pays higher wages.

Other research has shown that changes in the U.S. labor market have increased the difficulty of moving up the wage scale. Bernhardt, Morris, Handcock and Scott (2001) examined the wage trends of men entering the job market at two different points in time -- the late 1960's and the early 1980's -- and found substantial differences in the ability of the two groups to improve their earnings over time.

Between the two time periods, the prevalence of low-wage careers had more than doubled—from 12% to 28%, and the proportion of workers able to move into higher wage jobs ($15.95 in 1999 dollars) had decreased from 56% to 37%. Waldfogel and Mayer (1999) found a similar trend for women in the lowest skill group. Using Current Population Survey data they determined that women were less able to be self-sufficient in 1997 than were women with similar skills in 1980, due to low earnings.

The work of Mitnik, Zeidenberg and Dresser (2002) provides some insight into why it is increasingly difficult for low wage workers to move up in some industries. In the retail trade sector and in eating and drinking establishments (a subsector of the accommodation and food services industry), there is a very large ratio of low-wage workers to high-wage workers. The "bottom heavy" structure of these industries means that a large number of people in entry-level positions are vying for just a few management or supervisory positions up the ladder.

Other barriers to job advancement include low turnover in jobs higher up the ladder and lack of hiring from within to fill those positions. Hotels and child care facilities, which are two industries that accounted for a substantial number of the CCAP jobs, showed little turnover in the high wage jobs in Mitnik et al.'s (2002) analysis, making it difficult for employees in lower level positions to move up. In addition, in some industries there are often significant educational requirements such as a college degree for higher-level better-paying jobs. In the banking and education sectors, for example, the educational gap between those in the lower-wage jobs and the upper wage jobs makes it unlikely that many parents receiving child care subsidies will be able to move up without substantial additional education and training.

Recommendations for policy

The one industry that employed a substantial proportion of CCAP participants, retained them over the study period, had a relatively high wage at the start of the study and exhibited solid earnings growth over time was the health care sector. CCAP participants working in health care in 2001 started with higher average wages, and those workers who were still working in health care three years later saw larger increases than in other industries that employed large portion of the CCAP workers. Perhaps of most importance in terms of future program direction, workers who moved into health care from other industries exhibited relatively large increases in average quarterly earnings.

Employer demand for people working in health care occupations is projected to remain high well into the twenty-first century. According to Minnesota workforce analysts, "healthcare occupations present some of the best job opportunities in the state" (Casale, 2004). Other research indicates that the health care industry provides relatively good career ladders for its employees (Mitnik, et al., 2002). With some additional training, entry level workers often can move into higher level jobs in the health care sector.

Given the need in Minnesota for more qualified people to work in the health care industry and the apparent advantages to CCAP participants of working in that industry, pursuing strategies that closely link publicly supported training and education, child care subsidies and health care employers may be mutually beneficial to the industry, the state and program participants. A partnership between state economic development efforts, workforce

programs and the health care industry aimed at identifying current and future workforce needs may successfully address shared objectives. California, for example, has embarked on a "skills-upgrading program" for low wage workers. Working with community colleges and the long-term health care industry, people have been trained for entry level jobs and positioned to move up the health care career ladder. Under the program, grants were awarded to regional partnerships that included local workforce boards, health care providers, labor and professional organization and educational institutions (California Economic Development Department, 2002).

A review of efforts to advance the careers of welfare recipients and low-wage workers (Relave, 2000) noted that "Partnerships are critical for career advancement initiatives in order to address the complex challenge of helping families escape poverty (p. 5)." Potential partners with public agencies include employers, unions, community and economic development agencies, training providers and social service agencies. Among the things that effective programs do, is "work closely with employers to identify jobs in demand, focus on the quality of jobs and target firms with good jobs and opportunities for growth and advances (p. 4)."

Spending on child care subsidies represents a substantial investment by the public. Yet parents in some jobs earn barely more, on average, than the government spends on these child care subsidies. In the industries which commonly employ parents receiving child care subsidies (accommodation and food services, retail, and administrative support services), for every dollar spent on child care subsidies, parents earned on average just over a dollar. Given the typical long-term trajectory for these

parents' earnings if they stay in these sectors, the long-term "payback" is likely to remain low.

Collecting information on the earnings of parents receiving child care subsidies and the industries or sectors in which they work would allow for better tracking of family progress toward self-sufficiency and development of training and employment programs specific to industries with career ladders. This information also would provide a basis for projections of families' on-going need for child care subsidies as they move toward financial self-sufficiency. If the public policy goal of assisting families to become able to cover their expenses through employment is to become a reality, more attention should be paid to the jobs in which they work, and their readiness to move into better jobs. This research suggests that the child care assistance program could be more fully utilized to both improve the financial well-being of families and contribute to the state's economic development efforts. Given the importance of the health care sector for community development and projected future shortages of workers, opportunities for linking work supports like child care subsidies with training and employment in these fields could improve outcomes for both families and communities.

This study used data from Minnesota, and thus the results and policy recommendations reflect the characteristics and policy environment of only one state. Generalization to other states should be done with caution given differences in subsidy policy, welfare (TANF) programs, and economic and demographic characteristics. Child care subsidy programs and participation rates vary considerably across states (Meyers et al., 2002). Nonetheless, consistent employment patterns by child care subsidy recipients have been observed across states

(Okuyama and Weber, 2001). The particular industries of employment were similar in about half a dozen states despite differences across the states in their policies and economic environments.

Conclusion

In order to qualify for child care subsidies, parents typically must be working and have relatively low earnings. Thus it is no surprise that many of the parents receiving child care subsidies in Minnesota were working in certain economic sectors known for low-wage jobs. Yet the role of the employer and sector of employment in influencing worker outcomes is an understudied area. Workers with similar education and work experience often have very different earnings trajectories. In addition, the parents receiving child care subsidies worked disproportionately more than the total workforce in industries projected to add workers in the coming years, such as the health care and retail sectors. Opportunities for linking work supports like child care subsidies with training and employment in fields such as health care could improve outcomes for both families and communities.

Public spending for work supports like child care subsidies has been greatly increased in recent years to "make work pay' and to encourage the labor force participation of low-income parents. Yet policy makers have largely ignored the linkages between government funding of child care subsidies and meeting the present and future workforce needs of the local economy. Child care subsidies support the goals of welfare policy in terms of increased employment and support workforce and economic development goals by increasing the available labor force in specific industries. Given the importance of child care both as an economic sector with linkages to the

local economy and its role in enabling parents to work, child care and child care subsidies should play an important role in economic development policy at the state and local level.

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Appendix Table: Key Demographic and Economic Characteristics of the Four Counties and Minnesota

	Anoka County	Becker County	Brown County	Hennepin County	Minnesota
Type of county	Suburban	Rural	Rural	Urban	
Population, 2000	298,084	30,000	26,911	1,116,200	4,919,479
Population change, 1990-2000	22.3%	7.6%	-0.3%	8.1%	12.4%
Number of children age 0 to 14 years, 2000	72,123	6,398	5,538	224,150	1,060,483
Children age 0 to 14 years as percent of total population, 2000	24.2%	21.3%	19.9%	20.1%	21.5%
Change in number of children age 0 to 14 years, 1990-2000	13.9%	-5.9%	-15.1%	8.9%	6.5%
Median family income, 1999	$64,261	$41,087	$49,811	$65,985	$56,874
Percent of families with children in poverty, 1999	4.3%	14.0%	7.2%	8.0%	7.6%

Sources: U.S. Census Bureau, Census 2000, 1990.

ENDNOTES

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[2] An additional analysis was done using only one job per parent (the job with the highest earnings). This analysis found that the percentage of jobs in each industry sector was quite similar to the results reported here.

[3] Ideally we would have liked to have had information on continued receipt of child care assistance, but these data were not available due to resource limitations.