Lane County Child Care Enhancement Project: *Final Evaluation Report*

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EXECUTIVE SUMMARY

CCEP Overview

In 2003, the Oregon Legislature enacted the Oregon Child Care Contribution Tax Credit, the proceeds of which were used to fund two child care enhancement pilot projects administered by the Oregon Employment Department's Child Care Division. The first project, the Lane County Child Care Enhancement Project (CCEP) was awarded to Lane Community College in 2005. This report summarizes the final results from a 3-year process and outcome study of the CCEP.

The CCEP is guided by three goals:

- To decrease the cost of child care to 10% of gross family income;
- To increase and stabilize child care provider wages; and
- To increase child care quality through provider access to professional development and other enhancements.

The CCEP consists of three program components:

1. *Parent subsidies:* The program provides income-eligible parents with child care subsidies to limit the percentage of family income spent on child care to 10%;
2. *Wage enhancements & financial supports:* The program provides child care providers with wage enhancements, scholarships, and facility improvement grants designed as incentives for quality improvements and to support provider retention and program quality; and
3. *Mentoring, networking, and technical support*: The program provides individualized technical assistance, facilitates networking among providers, and mentors providers to enhance child care quality.

These three components are designed to jointly influence the three project goals, and represent a multi-pronged approach to determining the kinds of investments that are needed to create high-quality, affordable child care.

CCEP Evaluation Overview

A 3-year contract to conduct process and outcome evaluation of the CCEP was awarded to NPC in 2005. The process study was designed to monitor program implementation, document barriers and successes in engaging child care providers and parents, and provide ongoing feedback to the project about implementation. The outcome study was designed to address eight key outcome questions, linked to the study goals:

Family outcomes:

1. Are CCEP parents spending less than 10% of their household income on child care?
2. Are CCEP parents more satisfied with their child care arrangements?

Provider professional development and retention outcomes:

3. Do CCEP providers show more evidence of engagement in professional development activities?

4. Are CCEP providers compensated at a rate commensurate with their level of training and education?
5. Are CCEP facilities more likely to have stable revenue and less likely to have problems with issues of parent non-payment?
6. Are CCEP providers more likely to stay in the field longer?

Child care quality outcomes:

7. Are CCEP providers more likely to make facility improvements?
8. Are CCEP children experiencing higher quality child care?

Methodology

Study Sample

The evaluation employed a randomized design, with providers assigned to either the CCEP intervention or to a control group. The CCEP group consisted of a total of 13 facilities, representing 11 family child care facilities and 2 child care centers. The control group consisted of 15 facilities representing 12 family child care facilities and 3 centers. An additional comparison group was added to the study after it became apparent that a number of the original control group were participating in CARES, a program providing wage enhancements and training to child care providers. Sixteen non-CARES facilities (13 family child care facilities and 3 centers) were added to the control group.

Data Collection

Data were collected in a variety of ways to answer the key study questions. Process study data were collected through quarterly reports submitted by the Program Director, as well as through regular program updates via email, telephone, and project meetings. Outcome data were collected using the following instruments, collected at baseline and annually thereafter:

- Provider surveys;
- Observations of child care settings using the Quality of Early Childhood Care Settings (QUEST) Inventory collected annually by NPC Research staff;
- Facility director surveys; and
- Parent surveys and interviews.

Key Findings

Over the course of the 3-year pilot, the program provided services to a total of 13 facilities (11 family child care facilities and 2 centers) and 34 providers (14 family providers and 20 center providers). During Year 1, CCEP facilities served 218 families including 269 children; during Year 2, CCEP facilities served 230 families including 297 children, and during Year 3, CCEP facilities served 222 families including 307 children.

Results of this evaluation show that the Lane County Child Care Enhancement Project (CCEP) had a number of positive effects for child care providers, families, and children. First, observational data collected by objective outside data collectors found significant improvements in child care quality for CCEP family-based providers. Compared to providers not receiving the program, CCEP family providers provided:

- Higher quality (and more available) developmentally appropriate equipment for children;
- Safer furnishings and materials;
- Higher quality (and more available) materials to support language and literacy;
- Higher quality support for children's social emotional development;
- Higher quality support for children's cognitive development; and
- Higher quality support for children's language development and early literacy.

Further, CCEP parents showed:

- Fewer changes in child care placements for their children; and
- Higher satisfaction with the quality of child care being provided.

The program also increased support and training among CCEP providers, who, compared to control providers:

- Were more likely to be enrolled in the Oregon Registry (OR);
- Were more likely to have advanced their level of qualifications on the OR;
- Were somewhat less likely to report income instability (family providers only); and
- Were less likely to report stress about working with children with challenging behaviors (family providers only).

Finally, the program influenced provider stability: CCEP family child care facilities were less likely to close (one closure during the study period) than were control family child care facilities (six closures during the study period).

"CCEP provided the training and support to become the child care professional I've always wanted to be."

– CCEP Child Care Provider

Overall, the evaluation of CCEP finds good evidence for the efficacy of the program, especially for family child care providers. Results were strongest and most consistent in terms of supporting improvements in child care quality, with significant and meaningful improvements seen in a variety of domains. The program was also clearly successful in engaging providers in professional development activities, and in supporting them to increase their qualifications sufficiently to enable them to move up on the Oregon Registry.

Financial outcomes for both providers and parents proved more difficult to influence, although qualitative responses, and some quantitative data, suggest that CCEP did help both families and providers to accomplish important financial goals that otherwise would not have been met. One of the most important findings related to the financial impact of CCEP was the increased ability of CCEP parents to keep their children in these high-quality child care settings for more hours than would have otherwise been possible. An important question for future study is whether the level of parent subsidy support could be decreased, while continuing to support child care stability for low-income families.

Despite redoubled efforts in the final project year, this evaluation found few significant improvements in quality, work-related stress, or retention for center-based child care providers. It may be that family providers are more open to the kind of individualized technical assistance that were provided by CCEP, or that family providers have more autonomy to implement changes suggested by the project. It is also important to note that early evaluation reports found that family providers were more involved in professional development activities than were center-based providers. While this difference was eliminated in Year 3 as the program increased its level of effort in working with center providers, there may not have been sufficient time for center providers to implement quality changes based on their increased knowledge.

Sustainability and Future Directions

While the research clearly supports implementation of CCEP-like interventions for family providers, such support is not evident for center providers. Future program and evaluation work is needed to determine whether additional strategies, supports, or

interventions can enhance effectiveness for this group of providers.

Further, how much intervention (both in terms of duration and intensity) is needed after the initial 3 years in order to maintain these improvements remains an important, but unanswered question. Qualitative interviews with providers suggest that reductions in the level of technical assistance, networking support, and financial support may be possible without an associated drop in program quality. Family and center providers differed in their perceptions of which program components were most crucial for success, with family providers emphasizing the mentoring and networking components, and center providers emphasizing the wage enhancements and scholarships. These differences in opinion between family and center providers support the idea that the most successful interventions may need to be tailored specifically for center or for family based providers.

INTRODUCTION

What is the Child Care Enhancement Project?

In 2003, the Oregon Legislature enacted the Oregon Child Care Contribution Tax Credit. Taxpayers who make a contribution to the program receive a 75-cent Oregon state tax credit on every dollar. Proceeds from these credits were used to fund a child care enhancement pilot project awarded through a Request for Proposals process administered by the Oregon Employment Department's Child Care Division. Lane Family Connections at Lane Community College submitted the winning proposal for the Child Care Enhancement Project (CCEP). CCEP was designed to address three issues: child care affordability, provider compensation, and child care quality. CCEP has three goals:

1. To decrease the cost of child care to 10% of gross family income;
2. To increase and stabilize child care provider wages; and
3. To increase child care quality through provider access to professional development and other enhancements.

CCEP consists of three components: a parent subsidy component, a provider wage enhancement component, and specialized technical assistance aimed at quality improvement. First, the project subsidizes the cost of child care for parents who meet income eligibility criteria and whose children are enrolled in participating child care facilities. To be eligible for a parent subsidy, a family's income must be at or below 85% of the state median income.

Second, the program offers wage enhancements for providers who enroll and advance on the Oregon Registry at Step 5 and above. Wage enhancements both act as incentives for participation in ongoing professional development and training, as well as contributing to increasing the amount of money earned by child care providers, and therefore, potentially, to their ability to remain in the child care field.

Third, the program offers a variety of supports for participating providers, including facility enhancement funds and mentoring and technical assistance aimed at enhancing quality.

Program logic models that show how each program activity was expected to influence program outcomes can be found in Appendix A.

What is the CCEP Evaluation?

In addition to overseeing the administration of CCEP, the Oregon Employment Department's Child Care Division implemented an evaluation of the program. NPC Research, a Portland-based research and evaluation firm, received the evaluation contract from the Child Care Division. Below we describe the study design and research questions, sample selection, and the evaluation methodology.

STUDY DESIGN AND RESEARCH QUESTIONS

NPC Research received a contract to conduct a 3-year evaluation of CCEP, which included both a process and an outcome study. The process study focused on documenting, describing, and explaining program implemen-

tation. A process study allows evaluators to determine whether a program is implemented as intended, highlight program accomplishments and challenges, and share lessons that may be useful to others seeking to implement similar projects.

The CCEP process study addressed several key research questions:

1. How well was CCEP implemented and to what extent did it produce desired outputs?
2. What were the barriers and facilitators of successful implementation?
3. How were project funds expended?
4. Are the number and characteristics of parents, children, and providers different for the CCEP and control groups?
5. Are CCEP providers satisfied with the CCEP pilot project?

The second component of the evaluation was an outcome study. The purpose of the outcome study was to understand the outcomes of the project on participating providers and families. The outcome study was guided by a set of research questions relating to outcomes for families and providers.

Family Outcomes:

1. Are CCEP families spending less than 10% of their income on child care?
2. Are CCEP parents more satisfied with their child care arrangements?

Provider Outcomes:

3. Do CCEP providers show more evidence of engagement in professional development activities?
4. Are CCEP providers compensated at a rate commensurate with their level of training and education?
5. Are CCEP facilities more likely to have stable revenue?
6. Are CCEP providers more likely to stay in the field longer?
7. Are CCEP providers more likely to make facility improvements?
8. Are CCEP children experiencing higher quality child care?

See Appendix A for logic models illustrating the link between the program intervention and expected outcomes.

SAMPLE SELECTION

The evaluation employed a randomized design, with providers assigned to either the CCEP intervention or to a control group. Lane Family Connections publicized the project among Lane County providers, and those providers that expressed interest in participating were assigned to either the CCEP group or the control group. Providers in both groups had to agree to participate in the evaluation, and were promised $1,000 for their completion of each year's evaluation activities. The CCEP group consisted of a total of 13 facilities, representing 11 family child care facilities and 2 child care centers.[1] The control group consisted of 12 facilities representing 10 family child care facilities and 3 centers.[2] However, once the groups

[1] The program was structured to serve 10 family providers and two centers; one family provider left the field (and therefore left the program) in Year 2 and was replaced by another facility, thus bringing the total number of family providers served to 11.

[2] Similarly, the program was structured to include 10 family providers and two centers in the control group. However, two family providers left the field after Year 2 and were replaced by two additional family providers (one additional family facility left after Year 2 but was not replaced), bringing the total number of family providers included in the study to 12. In addition, one of the control center facilities was dropped from the study after Year 1 due to instability and changes within that facility that resulted in uncertainty about the center's ability to remain in business. This center was replaced by another center, thus bringing the total number of control centers to 3.

were selected, it became apparent that the control group was not a "no-treatment" group, as all of the 10 family child care providers (but none of the 3 centers) were participating in CARES, and therefore were receiving wage enhancements and taking part in professional development activities similar to what CCEP was designed to provide. Therefore, the evaluation team added a third, no-treatment group of providers to the study.

To select the no-treatment group, Lane Family Connections provided NPC Research with a comprehensive list of 447 Lane County providers who met several criteria: providers included on the list could not be participating in child care improvement projects such as CCEP or CARES, had to speak English, and had to serve 40 or fewer children. Next, NPC took a random stratified sample of 122 facilities (85% family child care, 15% centers). The CCEP Program Director removed 17 facilities from this list because they were known to be out of business. Of the remaining 105, the evaluation team was unable to contact 10 due to out of date contact information. NPC spoke to the remaining 95; these calls served to both screen the provider for eligibility for the study and to further explain the study and ask for participation from those who were eligible. The eligibility screening process allowed NPC to verify that the provider was still in business, enrolled more than one child, served children under the age of 6, and worked more than 20 hours per week. This eligibility screening was necessary in order to select facilities that were similar to facilities in the CCEP and control groups. Sixteen (13 family child care providers and 3 centers) were eligible for, and agreed to participate in, the study (21 did not meet the study eligibility criteria and 74 declined to participate in the study).

METHODOLOGY

The process and outcome evaluations rely on information gathered from a variety of different sources, using several methodologies. The three types of information used for the evaluation include program-level data, provider-level data, and parent-level data. The data collected from each of these groups is discussed below.

Program-level Data

In order to address many of the key process study questions, it was necessary to gather information about program implementation. The CCEP Program Director completed quarterly reports; these reports include information about the number of providers and families served, the types of CCEP activities conducted, and the allocation of funds. In addition to these quarterly reports, NPC staff members were in frequent phone, email and in-person contact with CCEP staff members to exchange information about project and evaluation activities.

Provider-level Data

The second type of data necessary for both the process and outcome evaluations is information from providers themselves. CCEP providers can share their perceptions of the services they are receiving, and data from providers in all three study groups can be used to highlight differences in key outcomes such as income stability and quality of care. All participating providers completed a written survey at the start of their participation with the project (called the Provider Enrollment Survey). In addition, NPC conducted a total of four rounds of data collection visits (two rounds during the first year of the project, and one round each in the second and third years of the project). These site visits consisted of an observation, a provider survey, and a director survey. Each component is described in more detail below.

Participant Enrollment Survey. All providers were asked to complete the Participant Enrollment Survey at the start of their in-

volvement with the project.[3] This written survey includes sections on background and demographic information, provider confidence in a variety of domains, provider commitment to the field, and professional development activities. This measure was developed by the Oregon Child Care Research Partnership for use with all State-funded child care projects.

Observations: NPC staff members conducted observations with every provider in the three study groups using the Quality of Early Childhood Care Settings (QUEST) instrument developed by Abt Associates. This instrument consists of multiple subsections that measure environmental quality, the quality of the cognitive development environment, and social/emotional quality. The environmental quality subsections include ratings of health and safety in a variety of areas and the appropriateness/adequateness of equipment and materials. The subsections focusing on cognitive development include ratings of instructional style, learning opportunities, and language development. The subsections that focus on social/emotional quality include ratings of the caregiver's use of positive guidance, supervision style, and supporting social development and play. Each observation takes approximately 2 hours.

Facility Owner/Director Survey: At the time of each observation, the facility directors were asked to complete a written director survey. This survey, developed for this evaluation by NPC, gathers information about enrollment and revenue fluctuations and business practices.

Provider Follow-up Survey: At the time of each observation, providers were asked to complete a paper-and-pencil survey that served as a follow-up instrument to the PES. This brief survey included a subset of PES items that we wanted to track over time (i.e., advancements on the Oregon Registry) along with additional items developed for this evaluation, including a measure of financial stress.

Parent-level Data

In addition to program-level and provider-level data, the evaluation included a parent survey component. Due to budgetary constraints, the parent data collection activities were conducted just with parents in the CCEP and control group; no parent-level data collection was conducted with no-treatment group parents. The parent survey was administered once annually during the 3-year evaluation.

Parent Survey. The parent survey, developed by NPC for this study, includes questions about parental satisfaction with care, stability of care, amount spent on child care, financial stress, and work productivity. In exchange for their participation in the survey, parents receive a $15 gift card to Fred Meyer.

In Year 1, the parent survey was administered through the mail. Providers were asked to give parents a flyer explaining the study along with a *consent to contact form*, and were asked to encourage parents to return the form. Those parents who returned signed *consent to contact forms* with their mailing addresses (100, 58 from CCEP providers and 42 from control providers) became the sample of parents used for the parent survey. The parents who signed a *consent to contact* comprised 32% of families served by CCEP providers and 26% of the families served by control providers. Surveys were mailed to these 100 parents, and NPC conducted follow-up phone calls and second mailings to all parents who did not return their survey. This methodology resulted in an eventual 68 surveys (38 from CCEP parents and 30 from control parents), for a 66% response rate for consenting CCEP parents and a 71% response rate for consenting control parents.

[3] Not all providers completed the PES promptly, and as a result, for some providers it is not a true baseline measure.

These parents represented approximately 20% of the families served by the CCEP and control facilities.

In order to both increase the parent sample size and to use resources more efficiently, NPC adopted a different strategy during Years 2 and 3, involving a three-pronged approach to parent survey data collection.

1. **Survey parties**: NPC staff visited each facility at a pre-arranged time (during busy pick-up times) and invited parents to complete the survey while they picked up their children.
2. **Drop-boxes**: NPC staff left extra blank surveys and drop-boxes at each facility and asked providers to have parents complete the surveys when they dropped off or picked up their children.
3. **Mailed surveys:** Finally, NPC mailed surveys to those parents who received CCEP subsidies who did not complete a survey either at a survey party or through a drop box. Surveys were not mailed to parents who did not receive a CCEP subsidy (that is, parents at control facilities or parents at CCEP facilities who did not qualify for subsidies). Receiving the highest possible response rate from CCEP subsidy parents was the primary concern of the evaluation team, as it is these parents who can comment on what effect the subsidies have had on their families.

This three-pronged approach to the parent surveys resulted in much higher response rates in Years 2 and 3. In Year 2, a total of 207 parents completed the survey: 42 parents receiving the CCEP subsidy (representing 86% of parents receiving a subsidy at the time of the data collection) and 165 other parents (representing 50% of all other parents). In Year 3, a total of 181 parents completed the survey: 34 parents receiving the CCEP subsidy (representing 97% of parents receiving a subsidy at the time of data collection) and 147 other parents (representing 59% of all other parents at the time of data collection).

DATA ANALYSES

For the family-related outcomes in this report, we use data from all three rounds of parent surveys. We examine parent data in two ways: with one combined dataset of parents who participated the survey in any of the 3 years (376 parents), and with pre-post analysis for the subset of parents who participated in more than one round of survey administration (81 parents).

The parent surveys were point-in-time rather than longitudinal surveys, and for the most part, different groups of parents participated in each round of surveys. Thus combining data from all three rounds allows us to capture the experiences of families touched by the program in any of the 3 years. For the 80 parents who participated in more than one round of data collection, we selected their most recent survey for analysis so that these parents are not represented more than once in the dataset. In addition, for these same 80 parents, we examined differences between the first and last surveys.

For the provider-related outcomes, in order to report on change over time (a key indicator for many outcomes), the report presents data in two ways. First, we examine mean-level change between baseline and the last follow-up point for each provider. Next, for those outcomes where CCEP providers exhibited more change than control providers, we focus on the sub-set of providers who were involved with the project for all 3 years (and therefore participated in all data collection time points) to investigate *when* change occurred (e.g., in the first year of the project, in the second year, or in the final year).

For the facility-related outcomes measured by the facility survey, this report presents data from the 2008 facility survey only. The facility survey was significantly revised for

the final round of data collection to capture information not measured in previous years. Therefore, this report presents data from this final round of the facility survey only.

Finally, the outcome analyses discussed in this report combine data from the control and no-treatment group providers. The evaluation team chose to present combined data in this report for three reasons: first, by combining these two groups we can create a group of providers who are most representative of non-CCEP providers (that is, a group including some providers who participate in CARES and some who do not); second, by combining the two groups we can increase our sample size and thus have more statistical power to detect significant differences between the CCEP group and other providers, and third, preliminary analyses revealed that the two groups did not significantly differ from each other on any of the outcome measures. For the sake of brevity, we call this combined control and no-treatment group the "control group."

LIMITATIONS OF THE EVALUATION DESIGN

It is worth noting several limitations of the evaluation design that may have impacted the ability to measure program effects, including small sample sizes, an imperfect control group, and the inability to disentangle the effects of particular program components.

First, the project involved extremely small numbers of providers. The ability to detect statistically significant differences between groups is extremely limited. An intervention must have a very large effect in order for differences between groups to reach statistical significance with small samples; more modest effects of the intervention, though they may be present, may not reach statistical significance. However, in the absence of statistical significance, it is not possible to determine whether observed differences between groups are a result of the intervention, or are simply a result of chance.

Second, the evaluation relied upon a less than perfect control group. While providers were randomly assigned to the treatment or control group, most of the "control" providers were receiving CARES, a similar intervention. The addition of the no treatment group added providers who were not involved in an intervention, but this group was not randomly selected (providers had to agree to participate), and therefore may not be representative of the population of providers. The high percentage of "no treatment" providers who declined to participate in the study is further cause for concern that the sample is not representative. In particular, it may be that lower-quality providers are especially unlikely to agree to participate in this type of study. Preliminary analyses confirm this hypothesis, as the no-treatment providers did not differ significantly from the control providers on any of the quality outcome measures.

Third, the program design did not allow for an evaluation that could test the relative impact of the various program components (e.g. wage enhancements, parent subsidies). Because all participating providers received the same combination of services, it was not possible to disentangle the effects of one individual component.

About This Report

The next section of this report describes the implementation of the CCEP, including a description of program activities and provider and parent characteristics. The third section of this report presents data on program outcomes for families and providers. The final chapter discusses the implications of study findings and provides recommendations for future program development.

CCEP IMPLEMENTATION

To answer the process study research questions listed above, the evaluation team focused on CCEP activities and expenditures and the demographic characteristics of providers and parents.

CCEP Activities and Expenditures

The first year of the project included start-up activities, such as recruiting providers and spreading the word about the program through mailings and word-of-mouth. Once the target number of providers were recruited (during the first quarter of the project, July through October 2005), the Project Director randomly assigned providers to the CCEP and control groups. In addition, the Project Director developed necessary forms and paperwork (e.g., parent income verification forms) and provided assistance to the CCEP providers in completing all the necessary paperwork.

The project started enrolling families into the subsidy component in the second quarter (October-December 2005). In addition, during this quarter, the program began providing wage and program enhancements, and support, mentoring, and networking activities for providers. These program activities continued through Years 2 and 3.

Over the course of the 3-year pilot, the gram provided services to a total of 13 facilities (11 family child care facilities and 2 centers) and 34 providers (14 family providers and 20 center providers). During Year 1, CCEP facilities served 218 families representing 269 children, during Year 2, CCEP facilities served 230 families

representing 297 children, and during Year 3, CCEP facilities served 222 families representing 307 children.

Below we highlight the program activities in each priority area: promoting child care affordability, promoting child care provider compensation, and promoting child care quality.

While program activities for providers took place over the three-year pilot period, not all providers received program services for the full 3 years. Some providers left their place of employment during the pilot period, and others joined their place of employment midway through the pilot period. Table 1 displays the length of intervention received for family and center providers. As illustrated in the table, while most family providers (71%) took part in the full 3 years of the program, this was true for just 35% of the center providers. Thus, the intensity of the intervention (in terms of number of activities and contacts with the Program Director) as well as the length of intervention, differed greatly; family providers received a far more extensive intervention than did center providers.

Table 1. Length of CCEP Intervention for Family and Center Providers

Length of time in CCEP:	Family Providers	Center Providers
Less than 1 year	2 (14%)	3 (15%)
More than 1 but less than 2 years	1 (7%)	7 (35%)
More than 2 but less than 3 years	1 (7%)	3 (15%)
3 years	10 (71%)	7 (35%)

Activities to Promote Child Care Affordability

The program paid subsidies directly to the providers each month; parents were responsible for paying the providers the remainder of their child care bill, which totaled 10% of the family's income.

During the first year, a total of 95 families (representing 130 children) received subsidies, out of a total of 200 families served by CCEP providers.

During Year 2, 97 families received CCEP subsidies for some or all of the year, representing 159 children. Just over half (51 families) were new to the subsidy program during Year 2, and 46 families who received subsidies during Year 1 continued to receive subsidies during Year 2 (49 families who received subsidies in Year 1 did not continue to receive subsidies in Year 2. Parent eligibility was confirmed twice during the second year: at the start of the year (in August 2006), Year 1 families were asked to re-enroll, and new families were invited to join the subsidy program through the Fall. In January 2007, the program verified eligibility on all families again, and for many families this mid-year eligibility check resulted in changes to their subsidy amounts (due in large part to an increase in the minimum wage). In addition, families' subsidy participation and rate was verified anytime the family had a change in DHS subsidy, change in jobs, or change in household size. All families who applied for CCEP subsidies also were required to apply for a DHS subsidy if they met the DHS income requirements.

During Year 3, an additional 32 families (representing 42 children) enrolled in the subsidy component of the project, for a grand total of 178 families (258 children) who received subsidies at any time during the 3-year pilot project. As in Year 2, families' income was verified twice during Year 3. Through her role in overseeing the eligibility and verification processes, the Project Director assisted families with the paperwork and answered their questions about the program.

Activities to Promote Child Care Provider Compensation

Each CCEP provider who enrolled on the Oregon Registry (OR) at Step 5 or above was eligible for wage enhancements. The wage enhancements were based on a provider's OR step and ranged from $1,000 to $5,000 per year. Fifteen providers enrolled on the OR at Step 5 or above during Year 1.

During Year 2, the CCEP Program Director focused a good deal of her mentoring and support on making sure that CCEP providers were enrolled on the OR at a Step 5 or higher, and therefore eligible for the wage enhancements. Twenty-four CCEP providers received wage enhancements in Year 2, as compared to 14 in Year 1. Many CCEP providers saw a substantial increase in their income, with 14 providers receiving $2,000 or more and 5 CCEP providers receiving $5,000 each in enhancements. During Year 3, 27 providers received wage enhancements, with

19 receiving $2,000 or more and 5 CCEP providers receiving $5,000 in enhancements.

ACTIVITIES TO PROMOTE CHILD CARE QUALITY

Each year, each participating CCEP family facility received a $1,000 program enhancement grant and each center facility received a $2,000 grant. The CCEP Program Director worked with each program to identify priorities for facility improvements. Facilities used these grants for toy, equipment, and furniture purchases; home repairs; and staff training.

The mentoring and technical assistance provided by the program took several forms, including networking meetings for the providers, monthly (and sometimes more frequent) site visits from the Project Director, and frequent telephone contact between the Project Director and the providers.

Over the course of the first year, in addition to monthly provider networking meetings, the Project Director logged 193 site visits, 796 phone calls, and 172 email contacts with providers. During the second year, the Program Director logged 1,198 phone contacts, 425 email contacts, and 201 site visits with the participating providers. During the third year, the Program Director logged 2, 297 phone calls, 585 email contacts, and 214 site visits. In hours, each year, this technical assistance took up just over 50% of the Program Director's time.

Each month, the participating family providers gathered for networking meetings. In addition to offering a chance for the providers to come together to support each other and share stories and experiences, each meeting focused on a particular topic and sometimes involved guest speakers or presentations. Below are some topics covered by the networking meetings:

- Making nutritious lunches using fresh produce;
- Learning about the Lane Community College Biz Center and the services it offers;
- Car seat safety (including free safety checks by a certified car seat safety instructor);
- Working with children with special needs and learning disabilities;
- Maintaining a hygienic environment;
- Gardening with children;
- Enriching outdoor play stations;
- Recycling and reusing, including recycled art;
- Family dynamics and cultural differences in communication;
- Learning styles;
- Sharing family and community history through pictures and stories;
- Incorporating music and movement into programs;
- Stress management;
- Communicating with parents;
- Eco-friendly child care;
- Organizing the child care environment; and
- Protecting your business (including how issues of child abuse, substance abuse, domestic violence, and natural disasters can imperil the business).

Along with these networking meetings, the Program Director prepared monthly newsletters that often included a book review and art project ideas.

During Year 2, the Program Director put increased effort into engaging center staff. One of the challenges identified through the Year 1 Evaluation was that center staff did not feel as connected to the program as the family providers did, primarily because it

was center directors, and not the line staff, who interfaced most with the program.

Therefore, during Year 2, center staff were invited to participate in two Center Staff Development Trainings. The first training was an opportunity for the providers to get to know each other and the Program Director and also included a review of the QUEST observation tool. The second training included a discussion of the difference between process art and product art. The Program Director also met individually with all center staff to set professional development goals, and she observed and provided feedback on each of their teaching styles.

The Program Director continued efforts with center providers during Year 3; these providers participated in quarterly meetings and goal-setting and visits from the Program Director.

In addition to these group activities, the Program Director spent much of her time in one-on-one consultations with providers (primarily with family providers, but to a lesser degree with center providers as well), both via phone or email, as well as in person through site visits. These consultations covered a wide range of topics, including, but not limited to:

- Helping providers determine the provider to child ratio that would be the best fit for each program and helping providers identify whether there were certain age groups with which they worked best;
- Problem-solving around how to meet the required staff/student ratio at all times;
- Helping providers use their space most efficiently in terms of the arrangement of toys, furniture, and equipment—helping providers create work zones, make their space visually appealing and "fun;"
- Working with providers to display and share art projects;
- Establishing schedules and curriculum;
- Building an understanding of child development stages to help providers identify normal and abnormal behavior;
- Assisting with group activities and curriculum development;
- Discussing how to embrace diversity among families;
- Observing and coaching about interpersonal interactions including tone of voice;
- Training on outdoor play safety issues;
- Reviewing of evacuation and emergency procedures;
- Helping with marketing ideas to boost enrollment;
- Providing trainings with certificates for completion to the providers in the following topics: diversity, OR registration, classroom management, ADHD, health and safety, science for young children, and DHS subsidy regulations;
- Providing information, resources, and referrals on dealing with children with challenging behaviors, learning or developmental delays, or medical problems; and
- Strategizing about how to handle difficult family situations, such as parental substance abuse or incarceration.

The business-oriented issues that the Project Director addressed with providers included the following:

- Helping providers enroll on the Oregon Registry;
- Explaining the process and requirements for wage enhancement payouts;
- Explaining the parent subsidy process to providers and helping them enroll parents;
- Helping transition from part-time to full-time slots;

- Mentoring with center directors around personnel issues;
- Helping providers develop or modify contracts, billing systems, and rate schedules;
- Helping family providers become certified sites; and
- Consulting with providers on the process and benefits of the DHS subsidy program.
- Referring providers to classes and trainings and helping secure scholarships, including sending 19 providers to the OAEYC conference.

In addition to the above activities, each year the Project Director referred providers to classes and trainings and provided many with scholarships. During Year 3, CCEP sent 19 providers to an OAEYC conference. In addition, one center director took part in the OAEYC Director Certification Training.

During the third year of the project, the Project Director's activities also included reviewing with each provider their QUEST observation conducted by NPC. The Project Director worked with each provider to identify areas of focus and goals based on the QUEST data.

PROGRAM EXPENDITURES

The majority of CCEP funds over the 3 years were spent on the parent subsidy component of the project, as illustrated in Table 2. Program administration, including the Program Director's salary, was the next largest expenditure, followed by funds for wage enhancements. While expenditures in most categories remained relatively stable across the 3 years, the amount spent on wage enhancements in the third year was more than double the amount spent in the second year ($106,000 in Year 3 compared to $47,125 in Year 2) due to providers' increased enrollment and advancement on the OR.

The project expenditures on all provider supports (wage enhancements, program enhancements, administration, and other expenditures) amounted to approximately $15,500 per provider over the 3 years, or just over $5,000 per provider per year. The expenditures on family subsidies amounted to approximately $4,000 per family across the 3 years, though this figure should be interpreted with caution, as the length of time families remained on the subsidy, and the amount of each family's subsidy, varied widely.

CCEP Provider and Parent Characteristics

Table 3 presents demographic information for all of the providers in the CCEP, control, and no-treatment groups.[4] Overall, the providers were largely female and Caucasian. The providers across the three groups ranged in age, and the highest educational degree of roughly half the providers was a high school diploma or a GED.

[4] Four control providers never completed the PES.

Table 2. CCEP Expenditures

Activity	Year 1 Amount (% of Annual Expenditures)	Year 2 Amount (% of Annual Expenditures)	Year 3 Amount (% of Annual Expenditures)	Total Amount (% of Annual Expenditures)
Parent subsidies	$210,854 (62%)	$250,230 (58%)	$223,204 (52%)	$684,288 (57%)
Provider Supports:				
Wage enhancements	$40,500 (12%)	$47,125 (11%)	$82,500 (19%)	$170,125 (14%)
Program enhancement grants	$12,886 (4%)	$16,363 (4%)	$16,822 (4%)	$46,071 (4%)
Program Director salary, benefits, and other administration	$69,779 (21%)	$95,861 (22%)	$99,152 (23%)	$264,792 (22%)
Other (materials, scholarships, mail, telephone, incentives to control sites)	$7,016 (2%)	$23,587 (6%)	$7,805 (2%)	$38,408 (3%)
Total Provider Supports	$130,181 (38%)	$182,936 (42%)	$206,279 (48%)	$519,396 (43%)
Total	**$341,035**	**$433,166**	**$429,483**	**$1,203,684**

Table 3. Provider Demographics

Characteristic	CCEP % (n)	Control % (n)
Gender	N=37	N=63
Female	92% (34)	97% (61)
Male	8% (3)	3% (2)
Age	N=37	N=62
25 and under	30% (11)	19% (12)
26 to 35	27% (10)	36% (22)
36 to 46	8% (3)	26% (16)
46 and older	35% (13)	19% (7)
Race/ethnicity	N=37	N=61
White	78% (29)	75% (46)
Hispanic	14% (5)	18% (11)
African American	1% (3)	0% (0)
Asian/Pacific Islander	1% (3)	5% (3)
American Indian/ Native Alaskan	0% (0)	0% (0)
Other	0% (0)	2% (1)
Primary language	N=36	N=62
English	94% (34)	94% (58)
Spanish	6% (2)	6% (4)
Other	0% (0)	0% (0)
Highest education level	N=36	N=61
Master's degree	3% (1)	2% (1)
Bachelor's degree	17% (6)	18% (11)
Associate's degree	6% (2)	18% (11)
Certification (child-related or other)	14% (5)	5% (3)
High school diploma/GED	56% (20)	54% (33)
Less than high school	6% (2)	3% (2)

Table 4 presents providers' professional characteristics. Most providers had been in the field for a substantial period of time, and almost all report that their income from child care is less than $30,000 per year, though fewer than half report that their child care income is the majority of their household income.

Table 4. Provider Professional Characteristics

Characteristic	CCEP % (n)	Control % (n)
Type of position	N=35	N=59
Director/owner	46% (16)	41% (24)
Staff	54% (19)	59% (35)
Length of time in field	N=37	N=61
Over 5 years	60% (22)	61% (37)
3 to 5 years	11% (4)	21% (13)
1 to 2 years	8% (3)	8% (5)
Less than 1 year	22% (8)	10% (6)
Income from child care	N=34	N=60
$15,000 or less	68% (23)	62% (37)
$30,000 or less	94% (42)	93% (57)
Child care percent of total income	N=36	N=57
Only source of income	19% (7)	23% (13)
More than half of income	11% (4)	16% (9)
About half of income	33% (12)	16% (9)
Less than half of income	36% (13)	46% (26)

Demographic information about CCEP parents is available only for those parents who participated in the parent survey. Parents who participated in the survey provided information including age, race, primary language spoken at home, and education level. Table 5 displays the demographic information for two sub-groups of CCEP parents (those who received subsidies and those who did not) and the control parents. The groups were similar on most dimensions. However, CCEP subsidy parents were significantly younger than CCEP non-subsidy and control parents, and CCEP non-subsidy parents were significantly more likely to hold a Bachelor's degree than CCEP subsidy and control parents.

Table 5. Parent Demographics

Characteristic	CCEP Subsidy Parents	CCEP Non-subsidy parents	Control Parents
Age*	N=77	N=127	N=171
Mean	31	35	34
Standard Deviation	6.9	7.2	8.3
Race/ethnicity	N=77	N=128	N=168
White	86% (66)	85% (109)	88% (148)
Hispanic	5% (4)	5% (6)	5% (9)
African American	0% (0)	2% (2)	1% (1)
Asian/Pacific Islander	3% (2)	2% (2)	1% (2)
American Indian/Native Alaskan	1% (1)	5% (6)	2% (4)
Other	5% (4)	2% (3)	2% (4)
Primary language	N=77	N=128	N=171
English	96% (74)	95% (121)	97% (166)
Spanish	1% (1)	2% (2)	2% (3)
Other	3% (2)	4% (5)	1% (2)
Highest education level**	N=77	N=128	N=170
Bachelor's degree or higher	17% (13)	42% (54)	25% (43)
Associate's degree	16% (12)	20% (26)	22% (37)
Certification	9% (7)	9% (11)	13% (22)
Some vocational/trade school	17% (13)	10% (13)	15% (25)
High school diploma/GED	36% (28)	13% (17)	21% (36)
Less than high school	5% (4)	6% (7)	4% (7)

* CCEP subsidy parents are significantly younger than CCEP non-subsidy and control parents, $p<.01$.

** CCEP non-subsidy parents are significantly more likely to hold Bachelor's degrees than CCEP subsidy or control parents.

CCEP OUTCOMES

Data from the provider observations, provider surveys, facility director surveys, and parent surveys provided the information necessary to answer the evaluation's outcome questions. Below we present data for each research question that highlights CCEP families' and providers' improvements. Appendix C contains additional results for areas in which the CCEP and control groups did not differ.

Question 1: Are Parents Spending Less Than 10% of Their Income on Child Care?

ANSWER IN BRIEF

YES: CCEP subsidy parents, by definition, spent only 10% of their income on child care, and spent less, compared to control parents. CCEP subsidy parents also indicated that they could not have afforded their current childcare without the CCEP subsidy.

RESULT DETAILS

As described previously, over the 3-year pilot project, a total of 178 families (including 258 children) received subsidies capping the families' child care expenditures at 10% of gross family income. Clearly, these subsidies impacted affordability for participating parents: 91% indicated that they would have been unable to afford their current child care arrangements without the subsidy. Further, almost all parents (96%) agreed that the subsidy helped them to be able to provide for the basic needs of their families. Table 6 shows the subsidy parents' ratings of how helpful the subsidies were in a variety of areas.

Table 6. Impact of CCEP Subsidy on Families Receiving the Subsidy

	Strongly Disagree % (n)	Disagree % (n)	Agree % (n)	Strongly Agree % (n)
The CCEP subsidy has helped our family	1% (1)	0% (0)	4% (3)	95% (75)
The CCEP subsidy has helped us to afford our basic needs (e.g., food, mortgage/rent, etc.)	0% (0)	4% (3)	25% (19)	71% (55)
We would not have been able to afford this child care without the subsidy	3% (2)	8% (6)	23% (18)	68% (54)
The CCEP subsidy has improved our standard of living	0% (0)	4% (3)	28% (21)	68% (53)
The CCEP subsidy has helped us be able to save for our long-term goals	3% (2)	21% (16)	22% (17)	55% (42)
If we didn't have the subsidy we would have to take our child out of this child care	11% (9)	33% (26)	18% (14)	39% (31)

Table 7 displays parents' income and child care expenditures. CCEP subsidy parents, on average, spent less on child care each month (averaging $282 per month, compared to $544 for the CCEP non-subsidy parents and $420 for the control parents) and had cheaper hourly rates. This is not surprising, given that, by definition, CCEP subsidy parents are paying less for child care. The average monthly take-home income for CCEP subsidy parents was significantly less than the other two groups: $1,868, compared to $3,456 for CCEP non-subsidy parents and $3,077 for control parents. Again, this is not surprising, as, by definition, CCEP subsidy parents have lower incomes. It is interesting to note, however, that CCEP subsidy parents also purchased significantly more hours of care per week than the other two groups: 37 hours for CCEP subsidy parents (essentially, full-time child care) compared to just under 30 hours for parents in the other two groups.

"Before being on the CCEP program I would have to decide between buying food or paying some bill. I was overdrawn at my bank often. There was never enough money to buy the smallest of needs. Though things still get tough I am never overdrawn now all the bills are paid and we have food."

– CCEP Parent

Table 7. Family Income and Child Care Expenditures

	CCEP Subsidy	CCEP Non-Subsidy	Control
Monthly take-home income*			
Mean	$1,868	$3,456	$3,077
Standard Deviation	$738	$1,649	$2,060
N	77	125	154
Monthly child care expense**			
Mean	$282	$544	$420
Standard Deviation	$173	$696	$323
N	77	126	160
Number of hours purchased per week***			
Mean	37	28	29
Standard Deviation	11	14	15
N	34	73	73
Hourly rate****			
Mean	$1.62	$3.14	$2.45
Standard Deviation	$1.46	$2.55	$1.82
N	34	67	71

* CCEP subsidy parents had significantly lower incomes than CCEP non-subsidy or control parents at p<.001.

** CCEP subsidy parents pay significantly less for child care than CCEP non-subsidy or control parents at p<.01.

*** CCEP subsidy parents use significantly more hours of care per week than CCEP non-subsidy or control parents at p<.01.

**** CCEP subsidy parents have a significantly cheaper hourly rate than CCEP non-subsidy or control parents at p<.01.

Question 2: Are CCEP Parents More Satisfied with Their Child Care Arrangements?

Answer in Brief

YES: CCEP parents reported significantly higher satisfaction with their child care arrangements, compared control parents. CCEP subsidy children also experienced significantly fewer changes in child care placements during CCEP than in the year prior to the program.

Result Details

The CCEP is designed both to support parents financially as well as to improve the quality of care. Both of these may, in turn, influence parents' satisfaction with care as well as the stability of the child care situations for children. Moreover, by reducing stress over finding quality, stable child care, the CCEP may influence parents' ability to be productively engaged in the workforce. These outcomes are discussed below.

Parents were asked on the parent survey how many times they had changed child care arrangements in the past year. For the subset of parents who participated in more than one round of parent survey administration, the CCEP subsidy parents indicated a significant decrease in the number of changes in child care arrangements over time, while other parents did not show a decrease. CCEP subsidy parents reported an average of .6 changes in child care arrangements in the year prior to their first parent survey, and this dropped to an average of almost zero (.03) in the most recent year. Control parents (including income-matched control parents) reported an average of less than one change at each time point.

The evaluation team also collected measures of parents' perceptions of the quality of care through several items on the parent survey. Parents were asked how much they agreed that their child care provider was just what their child needed and how much they agreed that their provider was a skilled professional (on a scale of 1, strongly disagree, to 5, strongly agree). In addition, the survey included a 17-item assessment of quality scale developed by Arthur Emlen.[5]

Table 8 displays parents' satisfaction ratings for CCEP (subsidy and non-subsidy parents are combined for this analysis, as both of these groups of parents were sending their children to the same group of providers) and control parents. CCEP parents scored significantly higher on the satisfaction with quality of care scale, were more likely to agree that the child care arrangement was just what their children needed, and were more likely to agree that their provider was a skilled professional.

Table 8. Mean Parental Assessment of Quality Scores

	CCEP Parents	Control Parents
Satisfaction with quality of care scale score*	4.8 (n=183)	4.6 (n=152)
Care arrangement is just what child needs*	4.6 (n=203)	4.4 (n=169)
Provider is a skilled professional*	4.8 (n=203)	4.7 (n=169)

*CCEP had significantly higher satisfaction scores at p<.01.

Finally, parents answered open-ended questions about how the CCEP subsidy had helped them. Two themes emerged from parents' open-ended responses. First, parents discussed how grateful they were to be able to enroll and keep their children in the high quality care offered by the CCEP providers; many stated they would not be able to have their children in that care without the CCEP subsidy. Second, parents stressed that, particularly during the current difficult economic times, the CCEP subsidy made it possible for them to afford their daily expenses, including gas and rent.

"This program is one of the best things that a family can have. If not for the program, it would be impossible for me to have my kids in a daycare even close to good as [CCEP child care facility]."

– CCEP Parent

[5] This scale had an alpha=0.92.

Question 3: Do CCEP Providers Show More Evidence of Engagement in Professional Development Activities?

Answer in Brief

YES: Almost all (94%) of CCEP providers were enrolled on the Oregon Registry (a professional development system), compared to only 29% of control providers. CCEP providers were also significantly more likely to have increased their step on the OR during the program. CCEP family providers enrolled on the OR earlier, and had a higher average step by the end of CCEP, compared to CCEP center providers.

Research Support for Education, Training, and Networking as a Strategy to Enhance Child Care Quality

Early childhood research has clearly demonstrated a connection between education and training, and child care quality. Providers who have more years of formal education and/or early childhood training have been found to provide a more safe, hygienic, and developmentally appropriate physical caregiving environment (Cassidy, Buell, Pugh-Hoese, & Russell, 1995; Howes, 1997; Mueller & Orimoto, 1995). Providers with more education and training also tend to have more developmentally appropriate, sensitive, and positive, and fewer harsh, detached, and punitive interactions with children (Arnett, 1989; Burchinal, Howes, & Kontos, 2002; Cassidy et al., 1995; Ghazvini & Mullis, 2002; Howes, 1997; Howes, Whitebook, & Phillips, 1992). Global ratings of child care quality, which include features of the physical and social caregiving environment, have also been linked to higher levels of education and training among child care providers (Blau, 2000; Burchinal et al., 2002, Cassidy et al., 1995; Clarke-Stewart, Vandell, Burchinal, O'Brien, & McCartney, 2002; Epstein, 1999; Ghazvini & Mullis, 2002; Kontos, Howes, & Galinsky, 1996; Todd & Deery-Schmitt, 1996). It has been shown that education and training are related to more developmentally appropriate beliefs about caregiving and less authoritarian attitudes toward child rearing (Arnett, 1989; Cassidy et al., 1995). In fact, there is evidence suggesting that education/training has its effect on child care quality through its influence on teacher's beliefs about caregiving (Cassidy et al., 1995).

Education and training may work to produce quality child care in different ways for different subgroups of providers. Different kinds of providers (e.g., infant/toddler vs. preschool, family care vs. center care providers) may experience improvements along different dimensions of their caregiving (Ontai, Hinrichs, Beard, & Wilcox, 2002). Further, infants and toddlers may benefit from providers with specialized early childhood training, whereas preschool children may benefit more from providers with college-level education (e.g., Bachelor's degree) (Howes, Whitebook, & Phillips, 1992). Providers with more training and less formal education have been shown to exhibit different caregiving skills than providers with more years of formal education (Clarke-Stewart et al., 2002; Howes, 1997). Another example of subgroup

differences is that in one caregiving setting (e.g., public child care centers), education may be associated with higher quality care, and in another setting (e.g., Head Start, family child care), training may be associated with higher quality care (Dunn, 1993; Epstein, 1999; Pence & Goelman, 1991). At this point, an optimal or universal combination of training and formal education that promotes high-quality care has not been clearly identified (Whitebook & Sakai, 2003).

[The most important part for me was the] help and encouragement to go back to school and get my degree in Child Development. I'm 51 years old and would not have done that on my own.
–CCEP Child Care Provider

The quality of the child care *system* is in part determined by job turnover among providers. Some research suggests that more years of formal education is associated with job stress, job dissatisfaction, less organizational commitment, and turnover (Gable & Hunting, 2001; Todd & Deery-Schmitt, 1996). However, this may be true only under certain conditions such as low wages and unstable work environments (Whitebook & Sakai, 2003). Training, especially for providers with less formal education, seems to be associated with job satisfaction and less job stress (Mueller & Orimoto, 1995; Todd & Deery-Schmitt, 1996). Education and training are not necessarily accompanied by commensurate compensation, a common reason for job dissatisfaction and turnover in the child care field (Todd & Deery-Schmitt, 1996).

With so much focus on the regulatable features of child care quality, the 'non-regulatable' features have been largely overlooked. The social support literature suggests that supportive interactions with social partners can be beneficial to individuals in a variety of ways (e.g., more positive self-perceptions, instrumental aid) (Sarason, Pierce, Shearin, Sarason, Waltz, & Poppe, 1991). However, very few studies even include social support and collegial relationships as predictors of high-quality social and physical caregiving environments. The literature hints at the importance of emotionally supportive collegial relationships for child care providers, but few studies examine these relationships directly (Buell, Pfister, & Gamel-McCormick, 2002). Research has shown, however, that social support is associated with reduced stress, which is a predictor of child care quality (Ghazvini & Mullis, 2002). Programs with a support group component may show positive outcomes (e.g., increased provider knowledge about child development), but to date research has not been able to evaluate the unique influence of the support groups.

Perceived social support has also been linked with greater job satisfaction and job commitment, and lower job-related stress (Kontos & Riessen, 1993; Mueller & Orimoto, 1995). Thus, social support may have a positive influence on the child care system if job satisfaction and commitment lead to lower turnover.

RESULT DETAILS

A primary goal of CCEP is to encourage and facilitate providers' enrollment and advancement on the Oregon Registry (OR) through the use of wage enhancements. Professional development, and the commitment to child care as a profession that engaging in the Oregon Registry represents, are important precursors to increased quality of care and to retention of child care providers in the field.

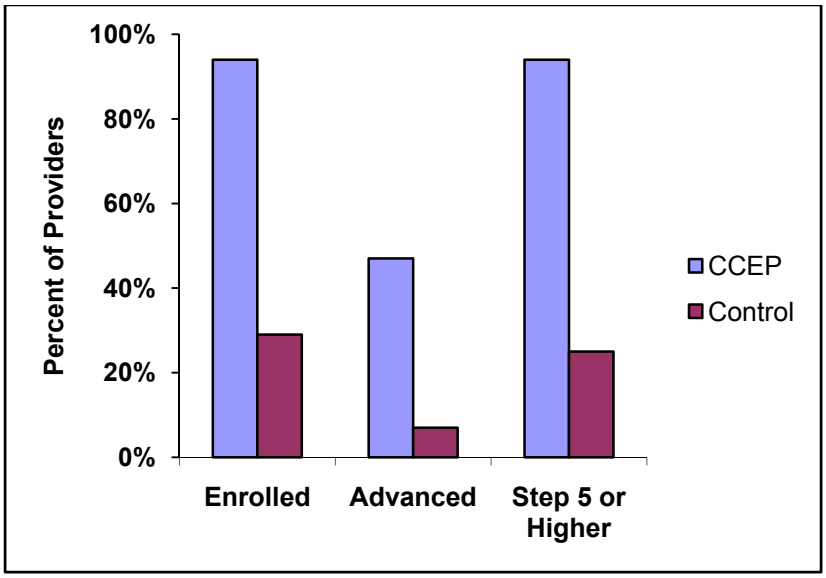
The CCEP Program Director collects information about enrollments and advancements on the OR. Because one of the primary interventions of CCEP is to provide wage enhancements based on providers' OR step, a

major project goal was to assist providers in registering and advancing on the OR.

As illustrated in Table 9 and Figure 1, over the course of the 3-year pilot project, most CCEP providers (94%) enrolled on the Oregon Registry, and all of those who enrolled were at a Step 5 or higher by the end of Year 3. Furthermore, almost half of those who enrolled advanced at least one Step during the course of the pilot project. In contrast, not even one-third of the control group enrolled on the OR during the 3-year pilot project, fewer than 10% advanced during the 3 years, and only one-quarter were at Step 5 or higher by the end of Year 3. Much of the Oregon Registry activity took place during the first 2 years of the project, when the Program Director put effort into helping providers with the necessary paperwork and linking providers with the trainings necessary for Step advancements.

While early on during the pilot program there were marked differences between CCEP family and center providers on Oregon Registry enrollment (during Year 1, all but one CCEP family provider enrolled on the OR at Step 5 or higher, while just 4 center providers were enrolled at Step 5 or higher), this difference diminished during Years 2 and 3. All but two center providers were enrolled on the OR at Step 5 or higher during Year 2, and all were enrolled at Step 5 or higher during Year 3.

Figure 1. Oregon Registry Activity



Finally, several CCEP providers embarked on more than just occasional classes or trainings. For example, eight providers worked toward their Early Childhood Education degrees and two family providers undertook the rigorous process of becoming certified sites.

Question 4: Are Providers Compensated at a Rate Commensurate with Their Level of Training and Education?

Answer in Brief

Results Mixed: While CCEP providers received significant monetary rewards for engaging in professional development activities, and therefore increased their work-related compensation, there were no significant differences in overall income between CCEP and non-CCEP providers. Measurement of overall provider income may not have been sensitive enough to detect the impact of the wage enhancements.

Research Support for Monetary Incentives as a Strategy to Enhance Child Care Quality

It is well documented that child care providers are paid low wages, with only meager wage increases since 1988 (Whitebook, Howes, & Phillips, 1998). Over the past decade, there has been a growing awareness that in order to produce high-quality child care, providers must be adequately compensated (Whitebook, 2001). Indeed, the National Association for the Education of Young Children (NAEYC) has called for compensation commensurate with training, equal pay for educators regardless of child age and care setting, and institutionalized career ladders with associated compensation standards (National Association for the Education of Young Children, 1990).

Higher wages have been found to be associated with higher quality social and physical caregiving environments (Ghazvini & Mullis, 2002; Peisner-Feinberg, Burchinal, Clifford, Culkin, Howes, Kagan, Yazejian, Byler, & Rustici, 1999; Whitebook et al., 1998). It is more difficult to evaluate the efficacy of monetary incentives in *producing* higher quality child care: even though higher wages are associated with higher quality child care, it is unclear whether wage enhancements actually *increase* quality. Other types of monetary incentives (e.g., scholarships for training, materials stipends, bonuses) may function to motivate caregivers toward training and professional development, but so far these links have not been empirically examined. Some studies have evaluated the effects of programs aimed to increase child care quality that include monetary incentives. These programs are credited with increasing levels of training, certification, and licensure; use of developmentally appropriate activities; teacher sensitivity; confidence in child-caring skills; gains in knowledge about business practices, child development, and behavior management; and job satisfaction (Buell et al., 2002; Cassidy et al., 1995; Mueller & Orimoto, 1995). However, it is impossible to assess the unique contribution of monetary incentives in producing higher quality child care.

Some studies also show that higher wages are associated with less job turnover among child care providers. (Peisner-Feinbert et al., 1999; Whitebook et al., 1998). It has been shown that higher wages help child care providers feel more committed to their workplace (Gable & Hunting, 2001), which may then reduce turnover. Interestingly, level of provider training makes a difference. Low-skilled providers who make low wages appear to be committed to their workplace and to their job, whereas highly skilled providers who make low wages report less commitment and experience higher turnover (Gable & Hunting, 2001; Whitebook et al., 1998). Compensation, therefore, appears to be im-

portant for retaining highly skilled child care providers.

RESULT DETAILS

As discussed above, one of the key components of CCEP involves giving wage enhancements to providers who enroll on the OR, with the hope that these enhancements will result in increased wages, reduced financial stress, and ultimately, increased retention of child care providers in the field.

Providers were asked on the provider survey to indicate their income category (within $5,000 ranges). Family providers (both CCEP and control) indicated significant increases in income between baseline and follow-up, while center providers (both CCEP and control) did not indicate any significant change. However, these results should be interpreted with caution, as the measure may have been insufficiently sensitive to capture actual income changes. For example, many CCEP providers received wage enhancements in the $1,000-$2,000 range. While this may represent a significant increase in income, especially for relatively low paid child care providers, it would not be enough to "move" the provider a full income category on the survey.

"The wage enhancement is the most beneficial part of the CCEP project to me. The extra money is VERY helpful, especially on a limited teacher's salary."

—CCEP Child Care Provider

A more accurate means of looking at increases in provider income is to examine wage enhancement data. CCEP uses wage enhancements tied to Oregon Registry enrollment and advancement as a means to increase providers' income. Figure 2 presents the wage enhancements received by the CCEP and control providers.

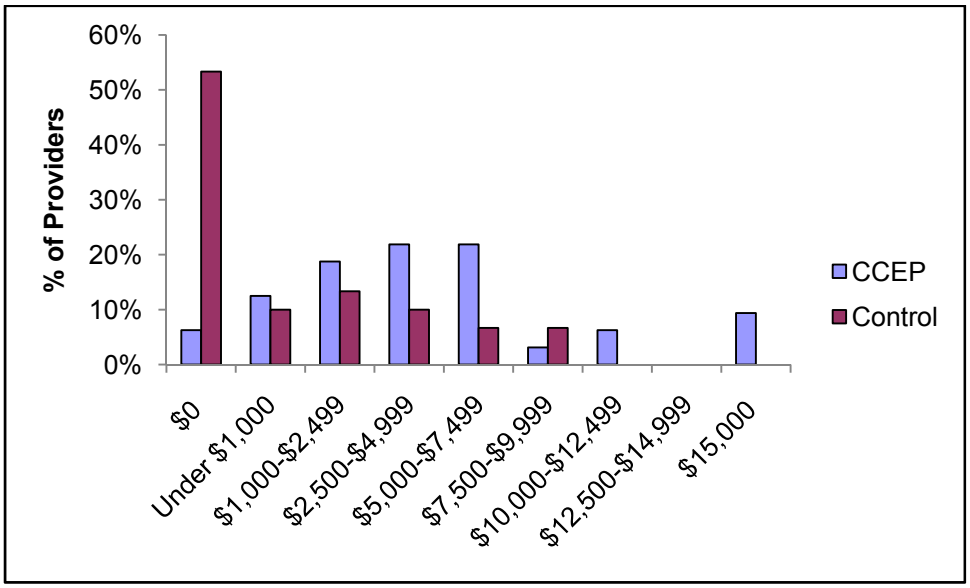
Despite the fact that both the CCEP and CARES program (in which a number of control providers were enrolled) place an emphasis on enrollment and advancement on the OR (see above), CCEP providers received significantly higher wage enhancements than comparison providers[6] due to the fact that they had more advancement and were at higher steps on the OR. These enhancements represented significant increases in income for providers.

As illustrated in Figure 2, CCEP providers received significant wage enhancements: three providers received $15,000 over the 3-year pilot project, and 13 CCEP providers received $5,000 or more, compared to just 4 comparison providers.

Interestingly, CCEP family providers received somewhat more in wage enhancements than did center providers, despite the fact that by the end of the project CCEP center providers were just as likely CCEP family providers to be enrolled on the OR at Step 5 or higher. While the average OR Step did not differ significantly between the two groups (Step 7 for CCEP controls vs. Step 8 for CCEP family providers), this difference in average Steps was enough to account for different wage enhancement amounts. CCEP family providers received on average approximately $3,200 (with a range of $500 to $5,000), CCEP center providers received on average approximately $2,300 (with a range of $500 to $4,000).

[6] The no treatment group providers are excluded from this set of analyses because they received no wage enhancements. Therefore, rather than the combined control group (comparison plus no treatment) used elsewhere in this report, this section uses just the comparison providers.

Figure 2. Three-Year Provider Wage Enhancements



Question 5: Are Facilities More Likely to Have Stable Income and Less Likely to Have Problems With Issues of Parent Non-Payment?

Answer in Brief

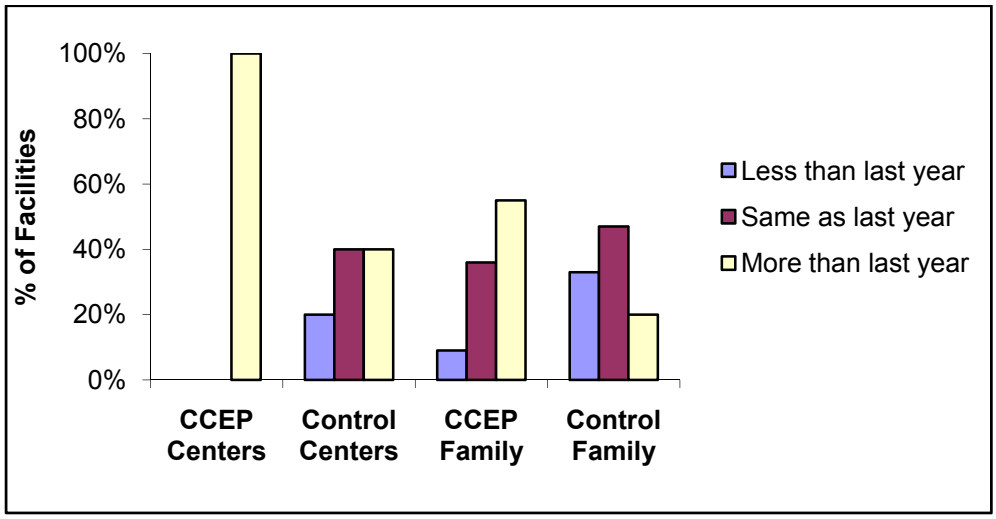
YES: CCEP facilities were more likely to report that their income had increased than were control facilities. CCEP providers also facilities that the parent subsidy program was a significant factor in increasing the stability of revenues, and decreasing problems with parental non-payment.

Result Details

The parent subsidies, by covering a portion of each family's child care expenses, provide a guaranteed source of income for facilities, and as a result, it was hoped that CCEP facilities would experience an increase in the stability of their revenue along with decreased problems with parental nonpayment.

The facility director survey asked whether their revenue was the same, more, or less than a year ago. As illustrated in Figure 3, both CCEP center directors reported that revenue now was more than a year ago. Six (55%) of the CCEP family providers reported that income was more than a year ago, 4 (36%) reported that income had not changed in the past year, and one reported that income now was less than a year ago. In contrast, just 40% (2 facilities) of the control center directors and 20% (3 facilities) of the control family providers reported higher revenues this year, 40% of the control center directors (2 facilities) and 47% (7 facilities) of the control family providers reported no change in revenue, and 20% of the center directors (1 facility) and 33% (5 facilities) of the control family providers reported a decrease in revenues. These results did not reach statistical significance due to the extremely small sample sizes, but the pattern of results is clearly in the expected direction.

Figure 3. Facility Revenues Now Compared to One Year Ago



The facility survey also asked CCEP directors to what extent they felt that the parent subsidies helped to keep a consistent cash flow and to reduce family turnover. Both CCEP center directors and 70% (7) of the CCEP family providers indicated that the parent subsidies were very important for keeping a consistent cash flow. Twenty percent (2) of the family providers stated the parent subsidies were somewhat helpful for keeping a consistent cash flow, and one family provider indicated that the parent subsidies were not necessary for keeping a consistent cash flow.

Results were similar for family turnover. Both CCEP center directors and 90% (9) of the CCEP family providers indicated that the subsidies were very helpful for keeping families at their facilities, and one CCEP family provider indicated that the subsidies were somewhat helpful.

The Year 3 facility director survey also included a series of questions about whether providers had instituted a variety of business practices, including contracts, billing systems and statements, policies for dealing with non-payment, and exit policies. As illustrated in Table 9, while similar numbers of CCEP and control facilities have these business practices in place, fully two-thirds of facility directors indicated that since enrolling in CCEP, they had instituted a policy for handling late payments from families, and half indicated that they had created parent contracts for the first time since enrolling in CCEP. Having these sorts of policies in place gives facility directors the tools they need to successfully manage their businesses and decrease parental non-payment.

Table 9. CCEP Facility Business Practices

	Does provider have?		Was this instituted since the start of CCEP? (Answered by CCEP group only)	
	CCEP	*Control*	*Yes*	*No*
Parent contract	100% (13)	95% (20)	50% (6)	50% (6)
Payment tracking system	92% (12)	95% (20)	33% (4)	67% (12)
Policy for handling delinquent payments	85% (11)	76% (16)	67% (8)	33% (4)
Written billing statements for parents	77% (10)	100% (21)	42% (5)	58% (7)
Exit policy for families leaving care	85% (11)	91% (19)	42% (5)	58% (7)

Question 6: Are Providers More Likely to Stay in the Field Longer?

Answer in Brief

Results Mixed: Results found that while CCEP wasn't associated with whether individual *providers* left the field, far fewer CCEP *family-based facilities* closed (1) compared to non-CCEP family facilities (6). Further, of those providers who left the field, those in the CCEP group were much less likely to report leaving because of job dissatisfaction, compared to controls.

Result Details

One goal of the CCEP is to foster conditions that would encourage providers to stay in the field; indeed, it is hypothesized that all of the components of CCEP (parent subsidy, provider wage enhancements, and funds and technical assistance for quality improvements) could lead to increased retention and decreased provider stress.

Retention rates were similar for CCEP and control providers. Since the start of the program, 30% (11) of CCEP providers left their jobs (7 center providers and 4 family providers) and 40% (25) of control providers left their jobs (16 center providers and 9 family providers). However, while the percent of family *providers* exiting the field was similar across the two groups, there was a difference in number of *facilities* that went out of business. Over the course of the 3-year pilot project, six control family child care facilities went out of business (employing the 9 family providers who left their jobs), while only one CCEP family child care facility left during the 3-year pilot project.

Of the providers who left, 10 (2 CCEP and 8 control) left because of dissatisfaction with the child care field; 6 (1 CCEP, 5 control) left because of personal reasons (e.g., family relocation); and for the remainder the reason for leaving their job was unknown.[7] Thus, for those with a known reason, only 18% of CCEP providers left because of dissatisfaction with the field, compared to 32% of control providers; however, the sample size is too small to allow significance testing.

[7] Reasons for leaving were tracked when possible. However, often providers would leave their job before the evaluation team or Program Director could gather information on the reason for departure.

Analyses of the group of providers who left their jobs over the course of the 3 years indicate that, as a group, these providers tended to have less experience as measured by the number of years they had been in the field, were younger, and had lower incomes than providers who did not leave their jobs. Dropouts did not differ from those who remained at their jobs on any other demographic variables or on the financial stress, sense of accomplishment, or networking scales. Further, those who left their jobs did not differ significantly in terms of any of the measures of child care quality from those who remained in the study.

Question 7: Are Providers More Likely to Make Facility Improvements?

Answer in brief

YES, for Family Providers Only: CCEP family providers, compared to controls, made significantly more improvements, and had higher overall quality at the end of the project in terms of: (1) quality and amount of developmentally appropriate materials; (2) safety of equipment and furnishings; and (3) quality and amount of materials for supporting language and literacy.

Result Details

To examine the influence CCEP on the quality of child care environments being provided to children, the Quality of Early Childhood Care Settings (QUEST) observational assessment was used. The QUEST taps six dimensions of environmental quality:

1. The quality and comfort of the general space provided (e.g., enough space for children, areas for active and quiet play, adequate lighting, etc.);
2. Quality and developmental appropriateness of equipment, for children less than 1 year old;
3. Quality and developmental appropriateness of equipment, for children one to 3 years;
4. Quality and developmental appropriateness of equipment, for children aged three through five;
5. Adequacy of materials to support language and literacy development (e.g., functional print items such as calendars, menus, schedules, reading areas, adequate numbers and variety of books, materials with alphabet letters used, etc.); and
6. Safety of equipment and materials.

A total of 98 Quest assessments were conducted at baseline (56 center-based providers and 42 family providers). Of these, 36 were conducted on CCEP providers, 34 on control providers, and 28 on no-treatment providers. Eight-one (81) providers had both baseline and at least one follow-up data point, and are included in the analyses presented below. Sample sizes by group are shown in the Table 10. Missing item-level data results in some variability in sample sizes for specific analyses.

Table 10. QUEST Sample Sizes

	Family Providers	Center Providers	Totals
CCEP	15	17	*32*
Comparison	11	17	*28*
No-Treatment	11	10	*21*
Totals	***37***	***44***	***81***

Thus, it is important to note that the sample sizes for these analyses are quite small. Data were examined for the presence of outliers that could unduly skew the results, and no clear outliers were identified. However, because of these small sample sizes, and the relatively large number of statistical tests performed, it is important to view these results in context, and attend to the general patterns that occur over multiple measures, rather than generalizing too broadly from individual findings.

To determine whether the CCEP intervention resulted in significant effects on the quality of child care being provided, we compared quality scores on each QUEST subscale for the CCEP versus comparison/control providers. Because preliminary analyses presented in the Year 1 report suggested that patterns of change were quite different for center vs. family-based providers, we conducted the analyses separately for each of these two groups. Further, to increase sample sizes among the control groups, the "comparison" and "no treatment" groups were combined.[8] Regression analyses were used comparing outcomes for each provider's final assessment score, controlling for their score at baseline. This approach maximizes power while addressing the key outcome question of whether CCEP providers had higher quality scores, relative to their baseline scores, compared to control/comparison providers. All providers with a baseline assessment and at least one follow-up were included in these analyses.

Table 11 shows the average score (possible scores ranged from a low of 1 to a high of 3) for six dimensions of environmental quality. As can be seen, there was a significant effect of CCEP in several areas of environmental quality for family providers. Compared to controls, CCEP family providers had higher quality Equipment (for toddlers and preschoolers), safer materials and furnishings, and more materials to support language and literacy. Sample sizes for Infant Equipment were too small to allow significance testing. However, as can be seen, there were no significant effects for Center-based providers.

[8] Initial analyses examined whether there were differences between the two comparison groups; patterns of change were not significantly different for most variables, thus providing rationale for combining these groups.

Table 11. Improvements in Environmental Quality as Measured by the QUEST

	Family Providers		Center-Based Providers	
	CCEP	*Control*	*CCEP*	*Control*
Space & Comfort				
	n=15	*n=22*	*n=15*	*n=27*
Baseline	2.68	2.62	2.86	2.72
Follow-up	2.92	2.87	2.88	2.95
Significant change over time?	*Yes*	*Yes*	*Yes*	*Yes*
CCEP group higher quality?	*No*		*No*	
Equipment & Materials – Infants				
	n=1	*n=3*	*n=3*	*n=5*
Baseline	2.0	1.95	2.40	1.64
Follow-up	2.71	2.30	2.71	2.48
*Significant change over time?**	*NA*	*NA*	*NA*	*NA*
*CCEP group higher quality? **	*NA*		*NA*	
Equipment & Materials – Toddlers				
	n=9	*n=13*	*n=2*	*n=8*
Baseline	2.21	1.91	3.00	1.85
Follow-up	2.78	2.22	2.28	2.24
Significant change over time?	*Yes*	*Yes*	*NA*	*NA*
CCEP group higher quality?	*Yes*		*NA*	
Equipment & Materials – Preschoolers				
	n=15	*n=21*	*n=6*	*n=15*
Baseline	2.27	2.00	2.56	2.22
Follow-up	2.75	2.30	2.61	2.47
Significant change over time?	*Yes*	*Yes*	*NA*	*NA*
CCEP group higher quality?	*Yes*		*NA*	
Safety of furnishings and materials				
	n=15	*n=22*	*n=17*	*n=27*
Baseline	2.64	2.68	2.83	2.90
Follow-up	2.96	2.87	2.88	2.92
Significant change over time?	*Yes*	*Yes*	*No*	*No*
CCEP group higher quality?	*Yes*		*No*	
Materials to support language and literacy				
	n=15	*n=22*	*n=15*	*n=27*
Baseline	2.08	2.07	2.37	2.01
Follow-up	2.66	2.26	2.39	2.28
Significant change over time?	*Yes*	*Yes*	*Yes*	*Yes*
CCEP group higher quality?	*Yes*		*No*	

*Sample sizes insufficient for significance testing

Figure 4. Equipment and Materials for Toddlers

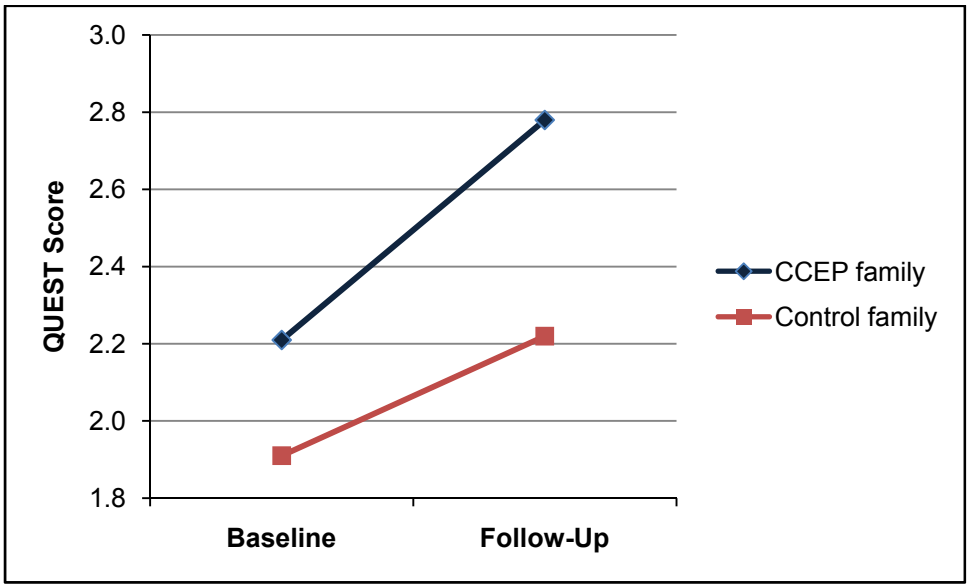


Figure 5. Equipment and Materials for Preschoolers

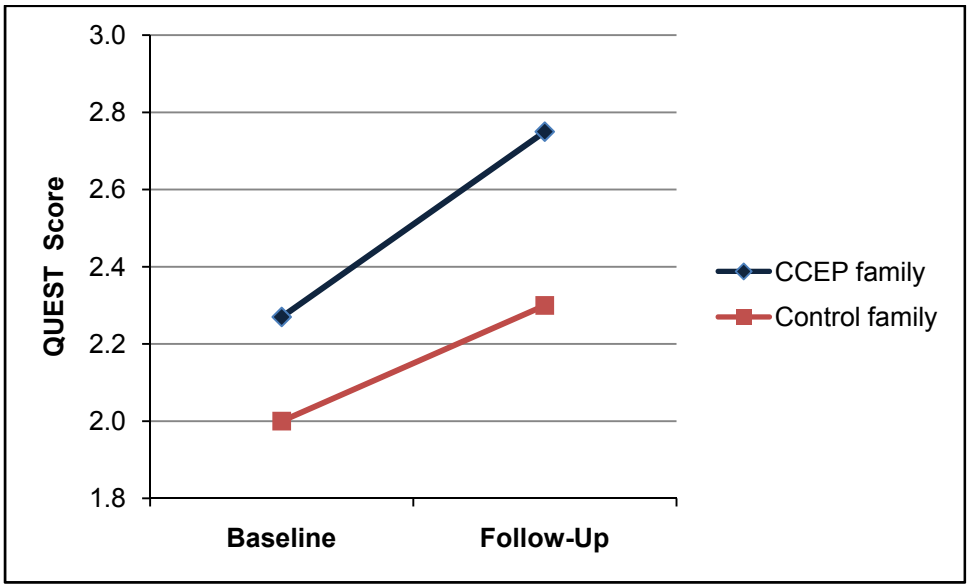


Figure 6. Safety of Furnishings and Materials

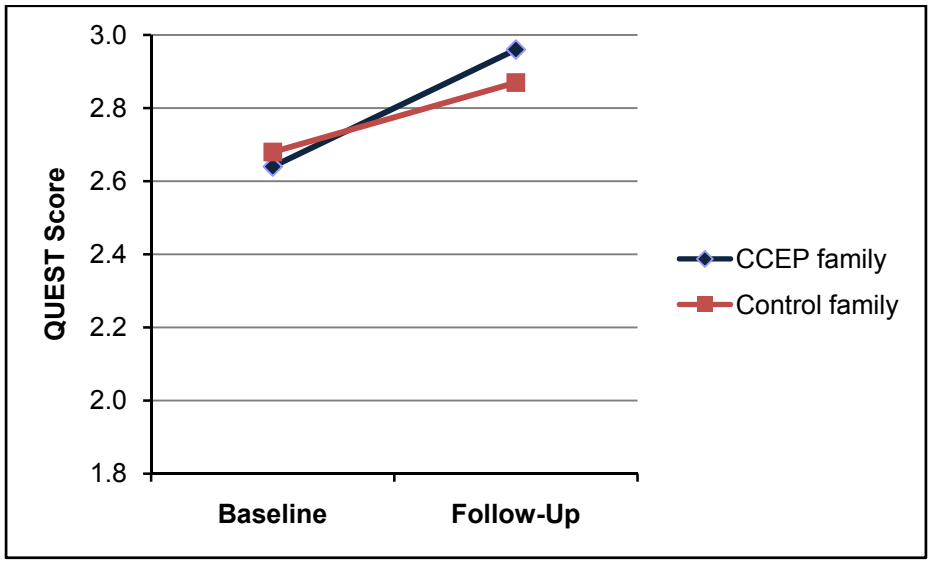
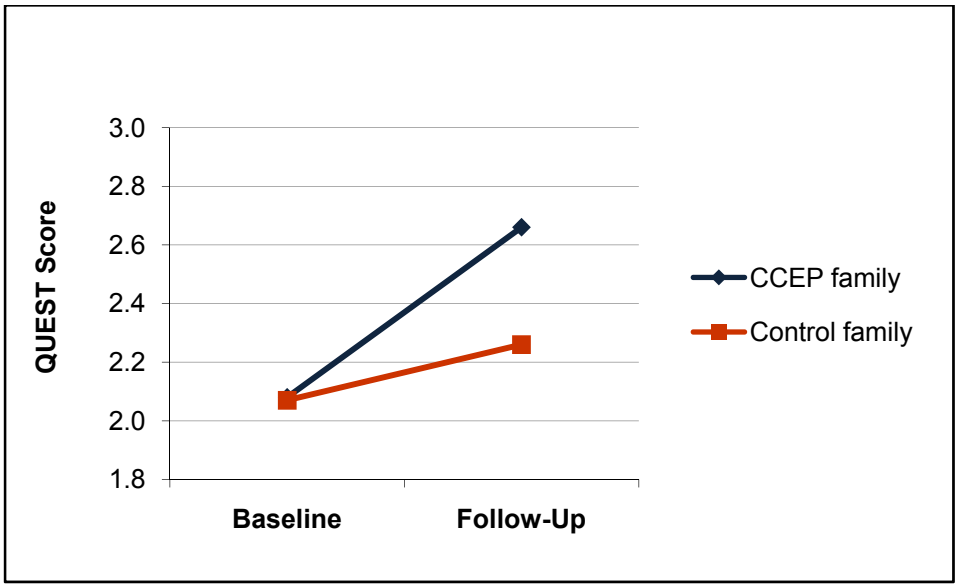


Figure 7. Supporting Language and Early Literacy



Question 8: Are Children Experiencing Higher Quality Child Care?

Answer in Brief

YES, for Family Providers: One of the primary goals of CCEP is to improve the quality of care received by children. A major focus of the CCEP's Program Director's activities included mentoring providers to encourage quality improvements.

In addition to the facility improvements reported above, CCEP family providers showed more improvements, and higher overall quality in the nature of their interactions with children, compared to controls. Controlling for baseline, CCEP family pro-

viders had significantly more positive scores in terms of their ability to provide adequate and effective supervision and a positive instructional style, and to effectively support children's social-emotional, language, and literacy development.

Research Support for Mentoring as a Strategy to Enhance Child Care Quality

Child care workers with more child-specific training tend to provide higher quality care than providers who are not trained (Arnett, 1989; Burchinal et al., 2002). In a mentoring or consultation context, child care providers receive collegial support, as well as the knowledge and skills typically received in other more traditional training modalities such as workshops and classes (Wesley, 1994).

The effect of mentoring on the overall quality of the social and physical caregiving environment appears to be modest. Studies have found improvements in child care quality associated with participation in mentoring or consulting projects (Bagnato, Suen, Brickley, Smith-Jones, & Dettore, 2002; Ontai et al., 2002; Palsha & Wesley, 1998; Wesley, 1994), but often the effects are not statistically significant (DeBord & Sawyers, 1996; Fiene, 2002). In some cases improvements were noted along specific dimensions of caregiving quality, such as planning high-quality learning activities and using developmentally appropriate discipline strategies (Fiene, 2002; Mueller & Orimoto, 1995). The type and extent of improvement made in child care quality may depend upon children's age (Ontai et al., 2002; Palsha & Wesley, 1998), the caregiving setting (e.g., family care vs. center care) (Fiene, 2002), or the level of caregiving quality produced by the provider before engaging in the mentorship program (DeBord & Sawyers, 1996; Palsha & Wesley, 1998). The nature of the mentor/mentee relationship may also impact child care quality outcomes (Wesley, 1994), but this is rarely addressed in the literature. Research has yet to provide a clear picture of how mentorship works to improve child care quality; nevertheless, mentoring and consultation appears to be a promising avenue for delivering training and professional support to child care providers.

Mentorship that offers professional support for child care providers may have positive effects on the providers' sense of professionalism, which could impact the quality of the local child care system. There is some evidence that mentorship is linked with job satisfaction (Buell et al., 2002; Fiene, 2002; Mueller & Orimoto, 1995; Palsha & Wesley, 1998; Wesley, 1994), attaining early childhood credentials and/or seeking more training (Buell et al., 2002; Mueller & Orimoto, 1995), and increased knowledge about business practices (Mueller & Orimoto, 1995). These findings imply that the supportive nature of mentorship may indirectly influence larger indicators of systemic health, such as lower rates of job and occupational turnover; however, these relationships have not yet been directly examined.

We investigated three dimensions of quality of care that were addressed through the Program Director's mentorship of CCEP providers: the quality of caregiver-child interactions, the quality of the social-emotional development environment, and the quality of the cognitive/language development environment. Each of these dimensions of quality is discussed below.

Result Details

Quality of Caregiver-Child Interactions Outcomes

The QUEST measure also assesses the quality of caregiver-child interactions, as rated by a trained observer. Table 18 shows the average QUEST scores for three areas of caregiver-child interaction:

1. General caring and responding (e.g., responsiveness to verbal and nonverbal cues from children, warmth and affection, recognition and responsiveness to distress, etc.);
2. Use of positive guidance techniques (states limits, talks through conflicts, redirects children, etc.); and
3. Adequacy of supervision (e.g., caregiver can see/hear children, supervision appropriate to age is provided).

Using the regression approach described above, we tested whether the CCEP groups had higher quality at the final assessment point, controlling for baseline, compared to the control groups.

As can be seen in Table 12, there were few significant findings in these areas. Both control and CCEP providers improved in most of these areas over time, and there was a marginally significant effect such that CCEP family providers were somewhat more likely to be providing adequate and appropriate supervision, compared to controls. However, no other significant changes were found. It is important to note that CCEP family providers may have encountered a "ceiling effect" at follow-up, given that their average scores are very close to the maximum scale score of three (3).

Table 12. Improvements in Quality of Caregiver-Child Interactions as Measured by the QUEST

	Family Providers		**Center-Based Providers**	
	CCEP	*Control*	*CCEP*	*Control*
Caring and responding				
	n=14	*n=18*	*n=15*	*n=24*
Baseline	2.62	2.41	2.76	2.38
Follow-up	2.94	2.76	2.66	2.67
Significant change over time?	*Yes*	*Yes*	*No*	*No*
CCEP group higher quality?	*No*		*No*	
Using positive guidance				
	n=22	*n=22*	*n=17*	*n=27*
Baseline	2.45	2.30	2.51	2.17
Follow-up	2.78	2.66	2.60	2.60
Significant change over time?	*Yes*	*Yes*	*Yes*	*Yes*
CCEP group higher quality?	*No*		*No*	
Supervision				
	n=15	*n=22*	*n=17*	*n=27*
Baseline	2.78	2.52	2.75	2.77
Follow-up	2.97	2.68	2.95	2.93
Significant change over time?	*Yes*	*Yes*	*Yes*	*Yes*
CCEP group higher quality?	*Trend (t=-1.79; p=.08)*		*No*	

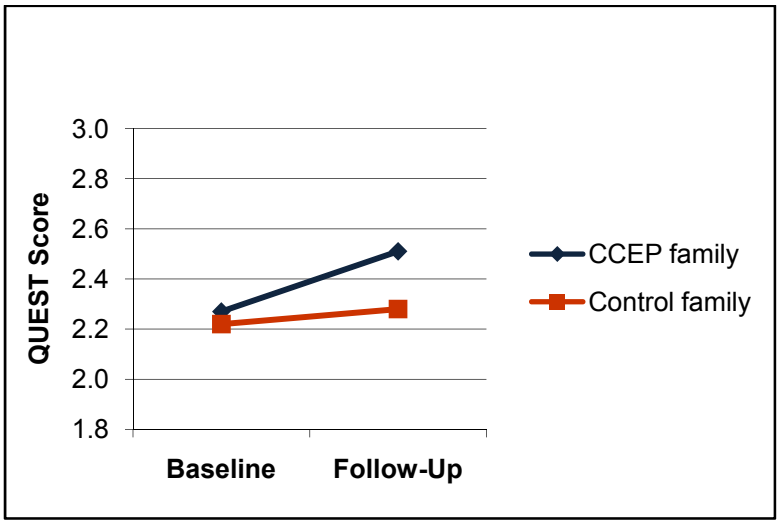
Quality of Social-Emotional Development Environment Outcomes

Promotion of children's social-emotional development is a critical role for early childhood care providers. The QUEST assesses the extent to which providers support children's social emotional development in general (e.g., provides opportunity for pro-social activities and positive peer interactions, teaches social rules, etc.) as well as specific support for children's play (e.g., provides ample free choice opportunities, interacts appropriately during play, etc.). As illustrated in Table 13, for family providers there was a significant effect of the CCEP intervention on the extent to which providers were supporting children's social emotional development. This is an important finding, given the critical importance of social-emotional development during children's pre-school years. Again, however, there were no significant differences for center-based providers.

Table 13. Changes in Social-Emotional Development Support as Measured by the QUEST

	Family Providers		Center-Based Providers	
	CCEP	*Control*	*CCEP*	*Control*
Supporting social emotional development				
	n=15	*n=22*	*n=17*	*n=25*
Baseline	2.22	2.25	2.05	1.88
Follow-up	2.64	2.48	2.31	2.37
Significant change over time?	*Yes*	*Yes*	*Yes*	*Yes*
CCEP group higher quality?	*Yes*		*No*	
Supporting play				
	n=15	*n=22*	*n=17*	*n=27*
Baseline	2.76	2.34	2.84	2.62
Follow-up	2.96	2.85	2.83	2.89
Significant change over time?	*No*	*No*	*No*	*Yes*
CCEP group higher quality?	*No*		*No*	

Figure 8. Supporting Social-Emotional Development



Quality of Cognitive/Language Development Environment Outcomes

Support for children's cognitive and language development is assessed on the QUEST measure through three subscales:

1. Using an instructional style that promotes cognitive development (e.g., builds on teachable moments, helps children interact with materials to support cognitive development, encourages questioning, and helps teach specific age-appropriate cognitive skills);
2. Providing a variety of activities that support fine motor, dramatic play, early math, natural environment, and art and music-related skills; and
3. Supporting language and early literacy by reading to children, encouraging children to look at books, drawing attention to features of print, encouraging writing and sounding out letters and words.

Table 14 presents the average scores for each group. As can be seen, this is clearly an area where CCEP showed consistent and positive effects for family providers. In all three areas (supportive instructional style, support for language development, and learning activities) CCEP family providers had significantly higher scores compared to control providers (see Figures 9-11). This is an important finding, as it is clear that the CCEP intervention was successful in helping these family providers to do a better job in supporting children's early learning and therefore setting the stage for later cognitive and language development. However, again, no such effects were seen for center-based providers.

Table 14. Provider Cognitive and Language Development Quality as Measured by the QUEST

	Family Providers		Center-Based Providers	
	CCEP	*Control*	*CCEP*	*Control*
Supportive Instructional Style				
	n=15	*n=22*	*n=16*	*n=22*
Baseline	2.32	2.36	2.44	2.24
Follow-up	2.92	2.62	2.70	2.71
Significant change over time?	*Yes*	*Yes*	*Yes*	*Yes*
CCEP group higher quality?	*Yes*		*No*	
Supporting language development and early literacy				
	n=15	*n=22*	*n=13*	*n=21*
Baseline	1.96	2.04	2.12	1.96
Follow-up	2.40	2.08	2.13	2.22
Significant change over time?	*Yes*	*Yes*	*No*	*No*
CCEP group higher quality?	*Yes*		*No*	
Learning activities and opportunities				
	n=15	*n=22*	*n=17*	*n=27*
Baseline	2.22	1.90	2.04	206
Follow-up	2.73	2.20	2.35	2.31
Significant change over time?	*Yes*	*Yes*	*Yes*	*Yes*
CCEP group higher quality?	*Yes*		*No*	

Figure 9. Supportive Instructional Style

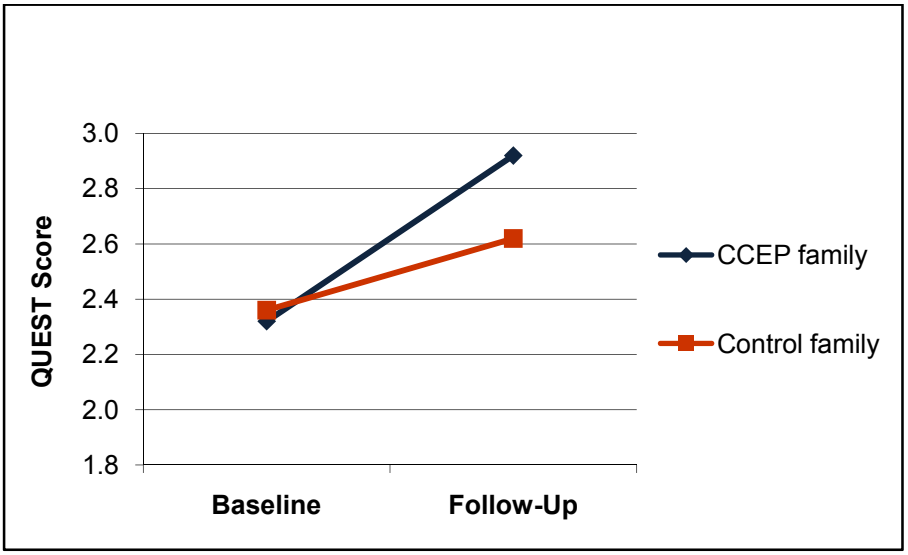


Figure 10. Supporting Language & Early Literacy

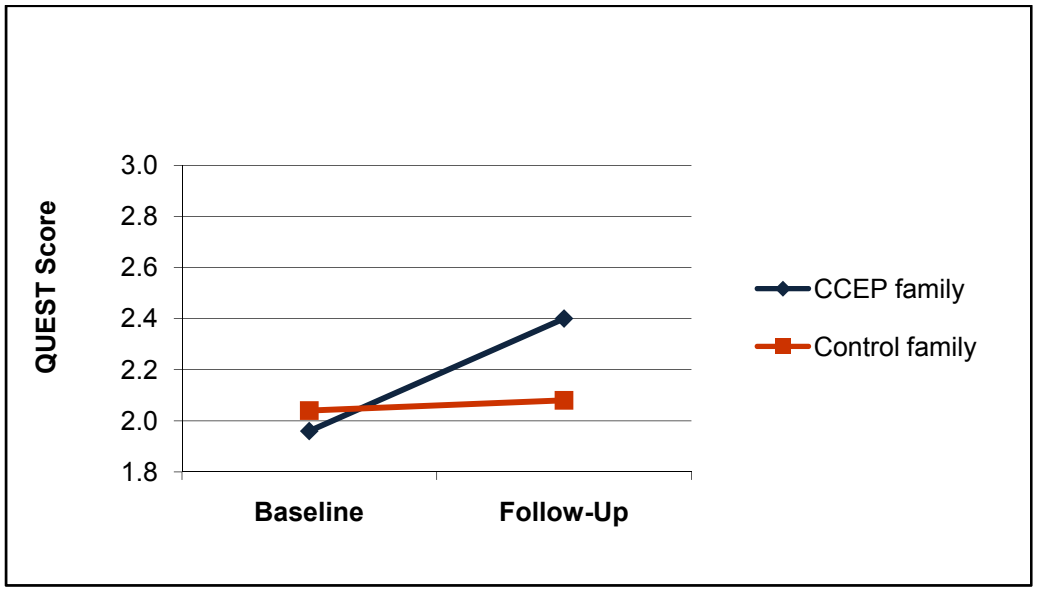
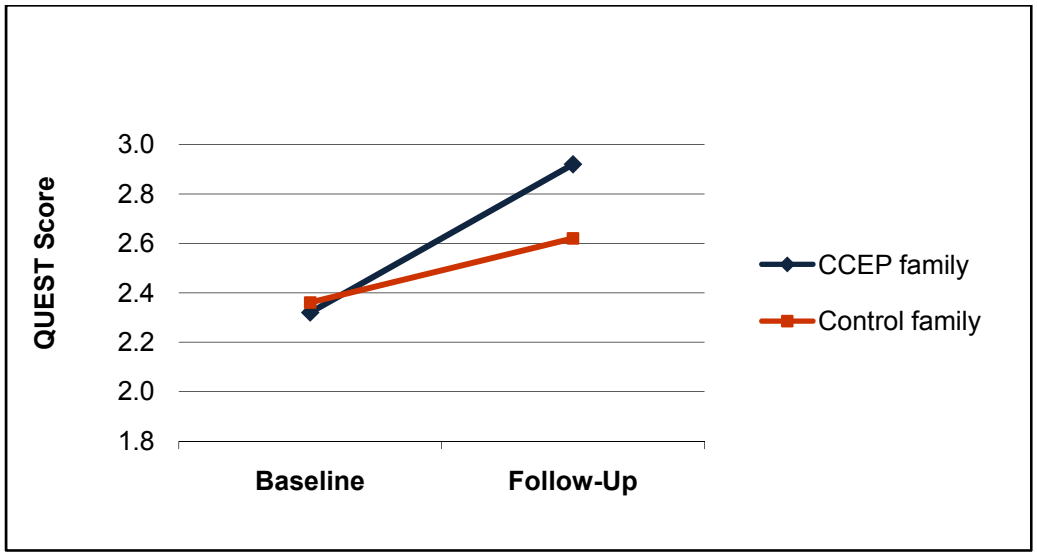


Figure 11. Providing Learning Activities



Provider Satisfaction and Suggestions

The CCEP evaluation also assessed overall provider satisfaction with the project. The provider survey included a question for the CCEP group that asked them to indicate their overall level of satisfaction with CCEP, and also included questions on what they liked best about the program and what suggestions, if any, they had for improvement. All but one CCEP provider was satisfied with the program; the lone dissenter (a center provider) stated she was neutral about the program. Notably, during Year 1, three center providers stated they were neutral about the program; this number dropped to just one provider in subsequent years. (See Appendix B for a complete list of providers' optional write-in survey responses.)

Additionally, to collect more information about provider's perceptions of the program and which components were most valuable, NPC conducted wrap-up interviews with thirteen CCEP providers (seven family providers and six center staff, including two directors and four teachers).

Results suggested that for most of the family providers, mentoring and technical assistance, provider networks, and wage enhancements were considered the most important components of the project. Three providers ranked wage enhancements as "most important;" two ranked mentoring/TA as most important; and two ranked the networks as most important. One of these three components was ranked as either first or second in importance by all of the family providers, with network meetings having the highest overall average rating among these providers. Scholarships and program improvement grants were rated as least important, relative to the others, although four of the family providers also indicated that taking classes

would have been difficult without the scholarship support.

Interestingly, the center providers who participated in the interviews expressed different opinions about what they felt were the most important components of the project. All but one of the center staff ranked the wage enhancements as the most important component, followed closely by the scholarships (the four center staff indicated that they would not have been able to take classes without the scholarships). Furthermore, all but one ranked networking as the least important component, with mentoring and program improvement grants also receiving lower rankings.

While wage enhancements were viewed as important, especially by the center staff interviewed, almost all providers felt that the dollar amount could be reduced and still function effectively to motivate participation in the OR. Five providers suggested the annual "cap" be set at $500, five at $1,000, and three suggested the cap should be somewhere between $1,500 and $3,000 per year. One commented that "you don't need as much early on; then there is a plateau in the middle. You need higher incentives as you move up the steps to keep people moving."

At the completion of the project, all providers that we interviewed felt that their level of contact with the Program Director could be reduced significantly. Most indicated that

one telephone call every month to two months would be sufficient, coupled with a site visit 2-4 times per year. Similarly, these providers felt that the frequency of network meetings could be reduced, to 2-4 times per year. While the providers emphasized their appreciation for the support the Program Director offered during the 3-year pilot, and many expressed a desire for ongoing contact, (albeit at a reduced level), several interview respondents stated that they felt they had reached a point where they would be able to sustain the quality of their program with more limited support from the Program Director.

Providers were also asked about their perceptions of the effects of the parent subsidies on their enrollment stability and income from child care. Two family providers who indicated that none of their families would have to leave if the subsidies were discontinued also indicated that the parent subsidies had very little effect on enrollment or income stability and amounts. The other five family providers consistently reported that they felt the parent subsidy was very important in helping stabilize enrollment, reduce late payments, and for stabilizing and/or increasing their income. These providers also reported that 1-4 families would probably leave if the subsidies were discontinued. However, these providers also indicated that it would not be very difficult to fill these parents' slots; this is not surprising given the large number of parents needing quality childcare for their young children. The two center directors indicated that the subsidies did have a large effect on increasing and stabilizing enrollments and revenues. The directors explained that whether it would be difficult to replace families who may leave if the subsidies were discontinued would depend on the time of year; each Fall the centers often have many families interested in enrolling, but this interest wanes at other times of the year.

These providers indicated that increased income due to the parent subsidies were primarily used for program improvements: six of the seven family providers and both center directors reported using the increased revenues for either purchasing learning materials or funding facility and environment improvements; four family providers and both centers used the revenue to provide health or retirement benefits, and only two family providers and one of the centers indicated using the money to supplement wages directly.

The center staff who were interviewed had fairly consistent answers about which parts of the program they felt could be cut and which parts were most crucial to maintain. Center staff felt that technical support, mentoring, and networking were the areas that could be scaled back, while it was important to retain wage enhancements. Family providers were more diverse in their opinions about what aspects of the program could be scaled back; indeed, each provider stressed something different. One provider stressed the importance of networking, especially if mentoring time were to be cut, while another suggested cutting networking but keeping mentoring. Several providers suggested that parent subsidies could be reduced, while another stressed that this component should not be reduced. One provider emphasized the importance of wage enhancements, and another suggested dropping the scholarship funds.

DISCUSSION

Summary: Impact on Parents

CCEP provided 178 families (representing 258 children) with subsidies at some point during the 3-year pilot project, capping the families' child care expenditures at 10% of gross family income. Almost all families who received the subsidies reported that they would not be able to afford their child care arrangement without the subsidy and that the subsidy helped their families meet basic needs.

CCEP subsidy families, not surprisingly, had lower incomes than other families and paid a lower per-child, per-hour rate. However, families who received the CCEP subsidy reported purchasing significantly more hours of care than non-subsidy families, perhaps due to subsidy receipt. This is notable, given research that suggests that high-quality childcare for high-risk, low-income families can help to support better long-term developmental and school outcomes (NICHD Early Child Care Research Network, 2000). Interestingly, subsidy families did not display any lower financial stress than similarly low-income control families. Thus, while subsidy parents were able to describe in detail how the subsidy helped their family, these families still were struggling with numerous financial difficulties.

CCEP showed some success in helping to stabilize childcare for these low-income children. For those parents who participated in two rounds of surveys, CCEP subsidy parents reported significantly fewer changes in child care placements during CCEP than during the year prior to the program; there were no such changes among control parents. Stability in childcare placements, like quality childcare, has been associated with better long-term developmental and other

outcomes for children (Clarke-Stewart, et al., 2002; Howes et al., 1992)

Finally, CCEP parents were significantly more satisfied with their child care quality across three different indicators, compared to control providers. This may reflect actual changes in quality that occurred as a result of CCEP (described below).

Summary: Impact on Providers

PROFESSIONAL DEVELOPMENT

CCEP focused considerable attention on engaging providers with professional development activities, and the results of these efforts are quite apparent. Despite the fact that many control group providers participated in CARES (which also seeks to engage providers in professional development activities), significantly more CCEP providers than control providers enrolled on the Oregon Registry (OR), advanced on the OR, and reached a Step 5 or higher over the 3-year pilot project:

- Almost all (94%) CCEP providers had enrolled on the OR by the close of the 3-year pilot project, compared to just 29% of the control providers;
- Almost half (47%) of CCEP providers advanced at least one step on the OR during the 3-year pilot project, compared to just 7% of control providers; and

- Almost all (94%) of CCEP providers were at Step 5 or higher by the close of the 3-year pilot project, compared to just 25% of the control providers.

PROVIDER INCOME

As a result of CCEP providers' participation in professional development activities, they were eligible to receive wage enhancements. CCEP providers received sizeable wage enhancements compared to control providers. Indeed, three CCEP providers received $15,000 over the course of the 3-year pilot project, and 13 CCEP providers received $5,000 or more. Only 4 comparison providers received $5,000 or more.

Interestingly, despite these differences in wage enhancement amounts, there were not many differences between CCEP and control providers on several measures of financial stress and financial stability. While CCEP family providers were somewhat less likely to report income instability at follow-up compared to control family providers, there were no significant differences on other financial measures (see Appendix C).

These findings could be explained by several factors. First, it is possible that the measures created for this evaluation were simply not sensitive enough to capture changes in provider financial stability and stress, or the instruments may not be measuring the appropriate dimensions of financial stability and stress. Alternatively, it is possible, despite the generous wage enhancements received by CCEP providers, that these enhancements, coupled with the more stable flow of income due to parent subsidies, were not sufficient to impact providers' overall sense of financial stability and stress, particularly during the current economic environment. As is the case for parents' financial stress, there are likely to be multiple influences on this domain that are unrelated to, and unaffected by, the relatively modest economic interventions provided by CCEP.

RETENTION AND JOB STRESS

Retention rates were similar for the CCEP and control providers; however, it is important to note that the number of child care *facilities* that remained in business over the course of the 3-year pilot project differed across groups. While six family child care facilities from the control group went out of business, only one CCEP family child care facility left during the 3-year pilot project.

CHILD CARE QUALITY

Results clearly show that CCEP had significant and positive effects on several important areas of child care quality, although these effects were found only for family-based providers. Using observations conducted by trained outside observers, data indicated that the CCEP resulted in significant increases in:

- Quality and amounts of equipment available for children;
- Safety of furnishings and materials;
- Quantity and quality of materials to support language and literacy;
- Providers' ability to support children's social emotional development;
- Providers' ability to support children's cognitive development; and
- Providers' ability to support children's language development and early literacy.

The quality of child care environments has been consistently linked to children's later social-emotional well being and school success (Clarke-Stewart, et al., 2002; Howes et al., 1992; Peisner-Feinberg, Burchinal, Clifford, Culkin, Howes, Kagan, & Yazejian, 2001). Thus, these findings are of significant practical importance, as CCEP providers are supporting children during the critical early stages of development and therefore laying the foundations for later school success. Im-

proving the ability of child care providers to lay this foundation is vitally important.

Because data were collected longitudinally, it is possible to examine the pattern of change over time, at least for providers who participated in all assessments periods. These details are provided in Appendix D. Several things are notable about these data. First, it is clear that at least for those providers who remained in the study (and therefore also continued to stay in business), there were improvements in both the CCEP and control groups over time.

This suggests the possibility that the data collection process itself may have influenced control providers to make improvements over time, based on the areas that were the target of data collection (i.e., a "Hawthorne Effect"). Thus, the process of entering these child care settings several times over 3 years may have heightened providers' awareness of the kinds of things that they should be doing. It is also possible that other historical changes (such as other programs providing similar services to CCEP) that occurred during the study period may have influenced quality among child care providers, although discussions with project staff did not suggest any obvious alternative interventions, other than the CARES program. It may also be the case that staying in business for 3 years results in self-motivated improvements in quality, as providers seek out information for themselves, and learn over time "what works" for children in their care.

This said, it is also clear that at least for family providers, the CCEP intervention was associated with larger increases in quality than would have been expected without the intervention. Despite increases in control participants' quality, CCEP providers increased quality to a significantly greater tent, and ultimately created higher quality interactions and environments for children in their care. examining the data over three time points, it also appears that the largest "gains" in quality generally occur during the first 2 years of intervention, although some areas continued to show growth during years 2 and 3.

For family providers, CCEP resulted in significantly higher child care quality across a broad spectrum of domains related to children's later school success.

Physical environment and safety improvements, especially, tended to increase during the first year, and then remain stable. Other areas, such as support for language and literacy and support for cognitive development showed continuous growth over the duration of the intervention. These patterns are logical, as working with family providers involves first establishing trust and working on concrete changes (many of which were made possible by CCEP's available funds for equipment and supplies). As the program works with these providers to make these changes and develop working relationships, providers may become more open to hearing suggestions in other areas, such as interaction quality, that are both more sensitive to discuss as well as more difficult to change.

The 3-year period of the CCEP intervention seems important to being able to achieve gains in a broad spectrum of quality domains. The importance of the providing CCEP supports to providers is underscored by the lack of findings for center-based providers, who were also much less likely to remain in CCEP for the entire three-year period. Center providers also tended to engage later in the program (most family providers were actively participating in the OR by the end of year 1; for center providers this did not happen until the end of year 2). This may account for the lack of findings in the area of quality improvements for center-based providers.

How much intervention (both in terms of duration and intensity) is needed after the initial 3 years in order to maintain these improvements remains an important, but unanswered question. Qualitative interviews with providers suggest that some reductions in the level of technical assistance, networking support, and financial support may be possible without an associated drop in program quality.

Study Limitations

Conclusions from this study should be drawn in the context of three primary study limitations. First, the project involved extremely small numbers of providers. The ability to detect statistically significant differences between groups was therefore somewhat limited. Further, studies based on small sample sizes can be disproportionately affected by pre-existing differences in baseline characteristics among providers, or individual scores that are either extremely high or low. The ability of the random assignment design to fully equate groups at baseline is limited for studies of small samples, and in fact, data suggest that the CCEP and control groups were not equivalent in quality at baseline (see CCEP Year One Evaluation Report, Worcel, Green & Brekhus, 2006). Future studies could employ matching of providers prior to randomization to avoid this issue.

Second, the evaluation relied upon a less than perfect control group. As described previously, most of the "control" providers were receiving CARES, a similar intervention. While a "no-treatment" group was added to help address this issue, this group was not randomly selected (providers had to agree to participate), and therefore was likely to be less representative population of providers.

Third, the program design did not allow for an evaluation that could test the relative impact of the various program components (e.g. wage enhancements, parent subsidies). Because all participating providers received the same combination of services, it was not possible to disentangle the effects of one individual components. Future program variations and evaluations could randomly assign providers to different components of the intervention in order to better understand the relative impact of parent subsidies, wage enhancements, training and mentoring, and provider networks.

Conclusions & Recommendations

Overall, the evaluation of CCEP finds good evidence for the efficacy of the program, especially for family child care providers. Given the small sample sizes and the fact that many providers came into the study with relatively high baseline quality ratings, it is especially impressive that results indicate statistically significant gains in quality. Results were strongest and most consistent in terms of supporting improvements in child care quality for family providers, with significant and meaningful improvements seen in a variety of domains. The program was also clearly successful in engaging providers in professional development activities, and in supporting them to increase their qualifications sufficiently to enable them to

move up on the Oregon Registry. These professional development activities no doubt contribute, along with the intensive technical support, to the family providers' improved quality.

Financial outcomes for both providers and parents proved more difficult to impact, although qualitative responses (see Appendix B), and some quantitative data, suggest that CCEP did help both families and providers accomplish important financial goals that otherwise would not have been met. The financial impact was likely to be quite varied within the group of providers, depending on other available resources, level of wage enhancements received, and proportion of the overall enrolled parents who were receiving the subsidy; this variability no doubt influenced the ability of the evaluation to detect impacts, especially in such a small sample.

One of the most important findings related to the financial impact of CCEP was the increased ability of CCEP parents to keep their children in these high-quality child care settings, for more hours than would have otherwise been possible. An important question for future study is whether the level of subsidy could be decreased while continuing to support child care stability for low-income families.

Despite redoubled efforts in the final project year, this evaluation found few significant improvements in quality, work-related stress, or retention for center-based child care providers. One methodological problem for evaluating the center-based providers is that randomization occurs at the center, rather than the individual, level. Centers represent "clustered" data in that providers within a center are likely to be more similar to each other (because of center leadership, policies, common practices, tendencies to hire particular types of workers, etc.). Because of these "nested" similarities, baseline differences between treatment and control provider characteristics are more likely and

differences in change over time may be statistically more difficult to detect.

Examination of means suggests that quality gains for center providers were not as marked as was the case for family providers, and in fact, in most cases more improvement was seen among control center providers than among CCEP center providers. It may be that family providers are more open to the kind of individualized technical assistance that were provided by CCEP, or that family providers have more autonomy to implement changes suggested by the Program Director. This interpretation is borne out by the differences between center and family providers in terms of which program elements were seen as most valuable. While family providers reported that mentoring, networking, and training and technical assistance were key components, center-based providers rated these as much less valuable.

Furthermore, family providers were more likely to be involved with CCEP for the full 3 years, compared to center-based providers, which is likely to both reflect their greater engagement as well as lead to more positive outcomes. Finally, it should be noted that the impacts of the parent subsidies on financial stress and related outcomes would not necessarily be expected for center-providers, who may not even know such subsidies are being delivered.

It is also important to note that early evaluation reports found that family providers were more involved in professional development

activities than were center-based providers. While this difference was eliminated in Year 3 as the program increased its level of effort in working with center providers, there may not have been sufficient time for these providers to implement quality changes based on their increased knowledge.

In sum, at this point the research clearly suggests that CCEP-like interventions for family providers can result in meaningful quality improvements. However, these outcomes were not found for center providers. Future program and evaluation work is needed to determine whether additional strategies, supports, or interventions can enhance effectiveness for this group of providers. It will be especially important to consider ways to engage center-based providers in mentoring and technical assistance. Networking may be less important for center-based providers, who have existing peer networks through their work, and could perhaps be eliminated from a center-based model. Active engagement of facility directors in quality improvements may be particularly important for center-based staff, who may have limited autonomy to make changes given organizational policy and culture.

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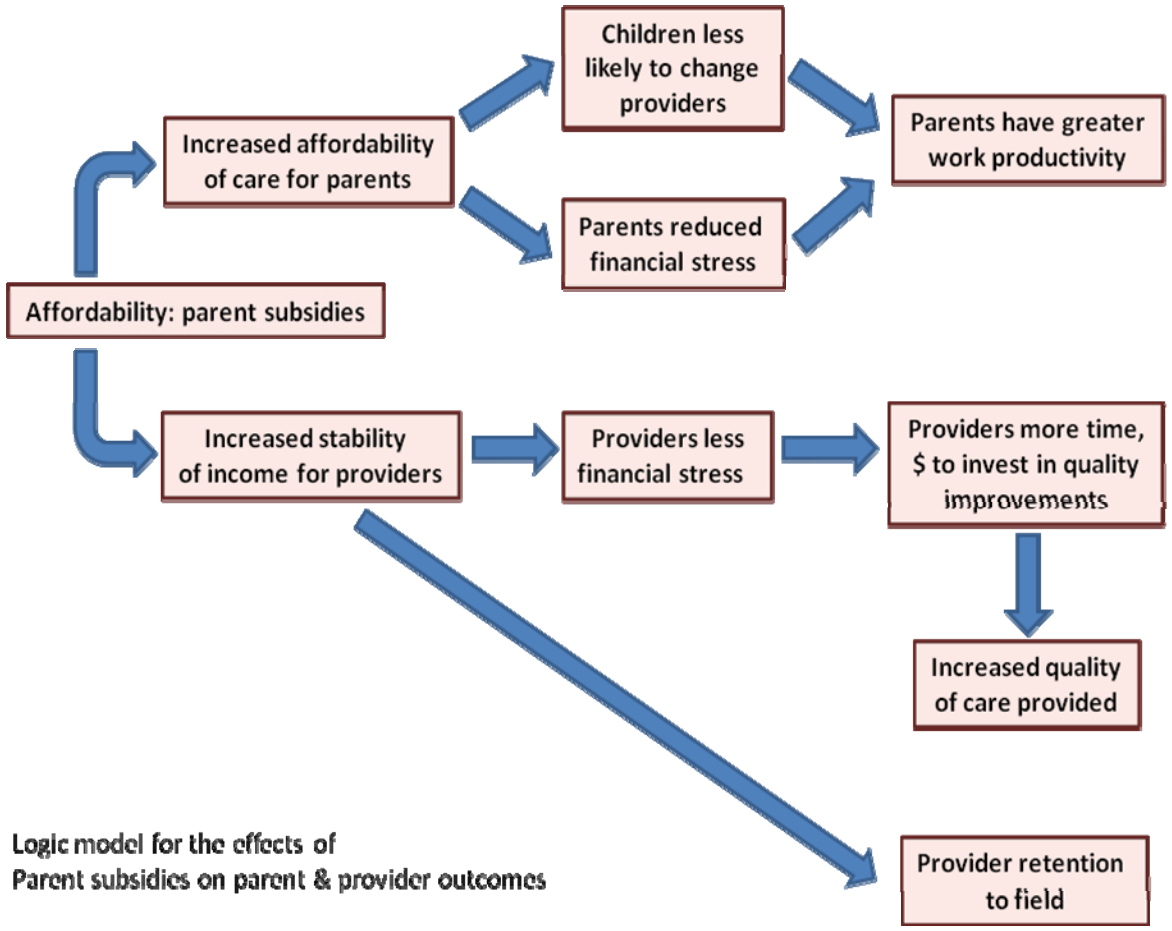
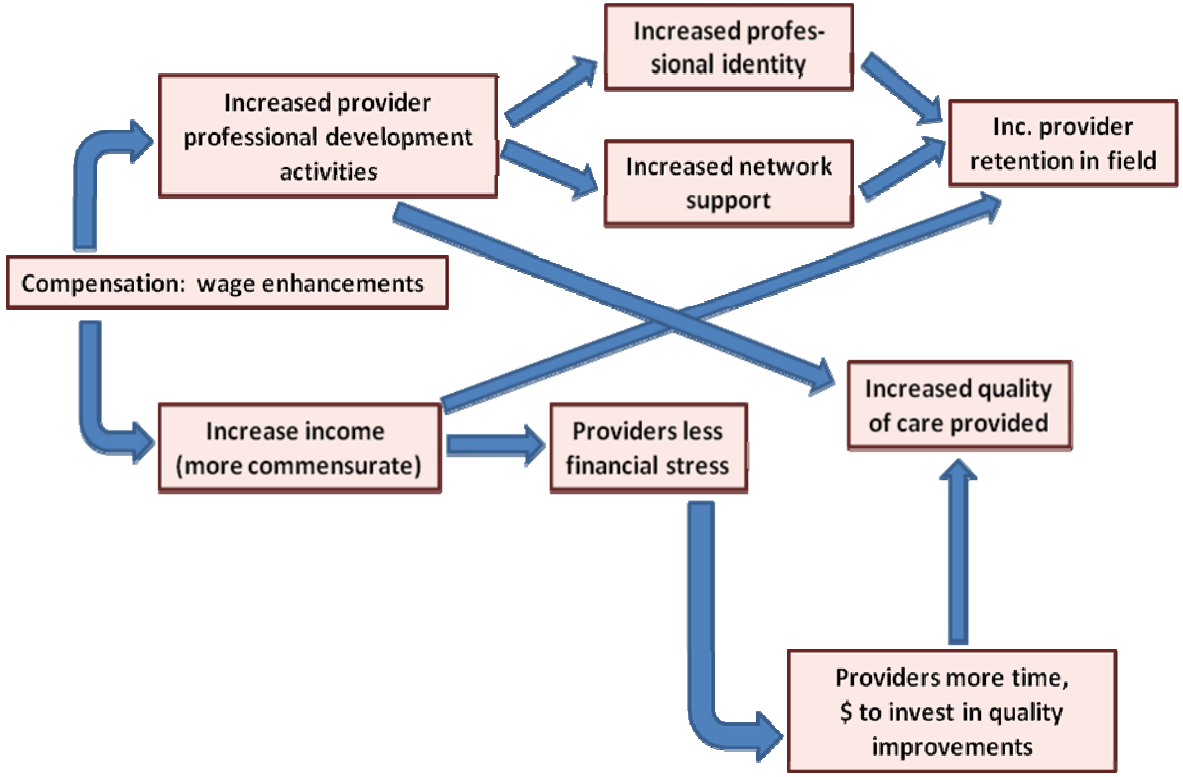
APPENDIX A: LOGIC MODELS

Logic Model for the Effects of Parent Subsidies on Parent & Provider Outcomes



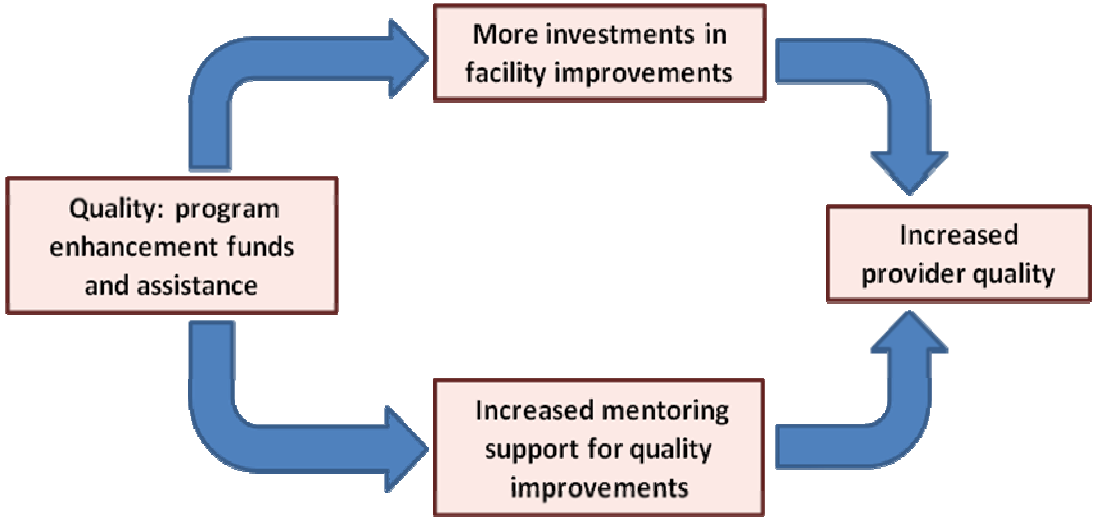
Logic model for the effects of
Parent subsidies on parent & provider outcomes

Logic Model for the Effects of Wage Enhancements on Parent & Provider Outcomes



Logic model for the effects of
Wage enhancements on parent & provider outcomes

Logic Model for the Effects of Program Enhancement Funds and Technical Assistance



CCEP Logic model for the effects of
Program enhancement funds and technical assistance

APPENDIX B: PROVIDERS' QUALITATIVE RESPONSES

Providers' Qualitative Responses

Below we present CCEP providers' responses to the question, "Tell us what the most important part of the CCEP was, for you."

CCEP provided the training and support to become the child care professional I've always wanted to be. We've been able to remodel our daycare center with the grants and extra income. Our daycare is great, thanks to hard work and CCEP!

I have become far more knowledgeable in the developmental areas of a child's ages and stages. I cannot describe all of the ways [the Program Director] has helped me. Some changes were environmental in my room, setting up a routine and schedule, introducing me to the John and Betty Gray grant, plus the meetings where various topics were discussed, plus the management of the business end of this job. I can now write my philosophy and that is huge.

[The most important parts for me were the] nuts and bolts information on DHS, licensing, education, growth in child care profession, membership in NAEYC and conferences.

I learned so, so much. It's wonderful. I'm really able to provide better quality [through] acquiring knowledge and understanding in this field and practice.

Definitely with CCEP, I have a great opportunity for "networking." I attended training related to ECE and business management which is very helpful to do my job better. I work with [the Program Director] who helps me to plan and meet my goals.

[The most important parts for me were the] wage enhancements and the support of [the Program Director] and the [networking] group.

[The most important part for me was the] help and encouragement to go back to school and get my degree in Child Development. I'm 51 years old and would not have done that on my own. And a group of providers to talk with and to learn from [was important]. We give each other support.

I have gained much knowledge that was directly brought about by the networking, trainings and educational scholarships offered from CCEP.

[The most important parts for me were] going to classes, learning more about child care. Also, going to visit other sites and to see their situations.

[The most important part for me was] the chance to improve in my educational career.

It has made me more aware of what my duties are with respect to childhood education. Now that I'm 53, I never thought I could do this. But it's working and I feel good about it!

[The most important parts for me were] [the Program Director]; education opportunities; knowledgeable input.

[The most important parts for me were] getting the proper training, education and support I need.

As an owner, having stipends for my staff is the best part of the grant. It allows them to have that extra money that I am not financially able to commit to.

[CCEP] relieves stress of being in field I love, but doesn't bring in a lot of income; helps me attend classes; helps me feel recognized for my impact on kids.

[The most important parts for me were] seeing improvements in our center, ourselves and each other.

[The most important parts for me were] meeting with other child care professionals and gaining greater financial security.

Our monthly meetings with [the Program Director] have been very supportive at our site; we feel seen AND appreciated! Our meetings/trainings with other teachers make me feel less "lonely" and more part of an extended ECE community. The wage enhancement aspect has been SO valued in supporting our household and making our preschool the very best it can be!

It [CCEP] helps many teachers take classes and keep up on the new activities children are learning and it is very helpful with the extra stipends for teachers, depending on your Oregon Registry level.

[The most important parts for me were] the classes we get to take and the checks, which help us to be able to take a trip or two.

[The most important parts for me were] the way I am able to get grants to help me in getting some of my training classes [and] the bonus checks that come quarterly are a life saver for me. The training classes have given me some good training skills.

It [CCEP] pays for me to go to classes to better my education in the child care workforce.

[CCEP] helps me understand kids better; offers classes that give me ideas to help play better with kids.

[The most important part for me was] having the extra money to buy supplies for the kids and classroom.

[CCEP] offers classes that you can do at home to educate yourself in your profession.

The wage enhancements really help me with my limited pay; I am very grateful for that.

The wage enhancement is the most beneficial part of the CCEP project to me. The extra money is VERY helpful, especially on a limited teacher's salary.

[The most important parts for me were] the opportunities that this program offers with funding and trainings.

Begin on the CCEP grant has been the most important thing in my 25-year career in childcare. I thought I was good before, but all of the classes and mentoring have broadened my horizons.

For me, having the network meetings was really important. I could share ideas and problems. When you take classes you are just sitting next to someone. In the meetings you could see these people were really professional.

I was not on the Oregon Registry before and I am now a 9 and my husband is a 7.5. For sure <u>that</u> would not have happened without CCEP!

APPENDIX C: NON-SIGNIFICANT OUTCOMES

PARENTAL FINANCIAL STRESS

In this section, we present detailed results for outcome measures that did not show statistically significant effects for the CCEP.

Through the parent survey, the evaluation team examined levels of financial stress among parents using a series of questions about potential financial stressors in parents' lives. Parents were asked if they worried about whether they could pay their child care bills, whether they worry about finances overall, and were asked a series of questions about whether they worry about meeting a variety of needs, including mortgage/rent payments, food, clothing, and medical care (the financial stress subscale).[9] Table 10 displays the number of parents who agreed or strongly agreed that they often worried about these financial stressors.

As displayed in Table C-1, CCEP subsidy parents reported significantly more financial stress than CCEP non-subsidy and control parents. Furthermore, for the subset of parents who participated in more than one round of parent survey administration, there were no significant decreases over time in financial stress. These findings could be due to the fact that the CCEP subsidy parents were lower income than other parents, and therefore, it is understandable that they would have higher levels of financial stress.

However, to examine the effect of CCEP on financial stress more closely, we selected a subset of the control families who were matched to the CCEP subsidy families on income (that is, a similarly low-income group of parents). CCEP subsidy parents scored similarly to the matched control group parents in terms of worries about paying child care bills and worries about their families' finances overall, but still were more likely than the matched control group to have worries about meeting basic financial needs. Thus, even with the subsidy support, CCEP subsidy parents experience significant amounts of financial stress.

Table C-1. Parent Financial Stress

Parents who agree with the following statements:	CCEP Subsidy Parents % (n)	CCEP Non-subsidy parents % (n)	Control Parents % (n)	Matched Control Parents % (n)
I often worry about whether I will be able to pay my child care bills.*	38% (29)	19% (23)	23% (37)	30% (33)
I often worry about my family's finances overall.*	68% (52)	46% (56)	47% (78)	60% (67)
I often worry about meeting my family's financial needs (e.g., mortgage/rent, food, etc.).**	38% (28)	18% (22)	18% (29)	24% (27)

* CCEP subsidy parents reported significantly more financial stress than CCEP non-subsidy and all control parents ($p<.01$), but similar levels to the matched control parents.

**CCEP subsidy parents reported significantly more financial stress than CCEP non-subsidy parents, all control parents, and the matched control parents ($p<.01$).

[9] Seven items made up this financial stress subscale, with alpha=0.94.

INCREASED MOTIVATION FOR PROFESSIONAL DEVELOPMENT

On the provider surveys, providers were asked to rate their level of agreement (from 1, strongly disagree, to 5, strongly agree) with two questions about motivation for professional development: "I would like to improve my education and training in childhood care and education" and "It is important to me to improve my training and education in childhood care and education." Table C-2 displays average scores on these items at baseline and follow-up. As illustrated in the table, CCEP family providers had higher scores than control providers on both items at baseline and follow-up, and CCEP center providers had higher scores than control providers on one of the items at both baseline and follow-up. However, there was no significant change over time for any group on either item. This could be due to the fact that scores for all groups at baseline were quite high, leaving limited room for improvement over time.

Table C-2. Mean Provider Motivation for Professional Development Scores

	Family Providers		**Center-Based Providers**	
	CCEP	*Control*	*CCEP*	*Control*
I would like to improve my education and training in childhood care and education				
	n=15	*n=20*	*n=17*	*n=17*
Baseline	4.7	4.0	4.6	4.4
Follow-up	4.7	4.0	4.5	4.1
Significant change over time?	*No*	*No*	*No*	*No*
CCEP group higher motivation?	*No*		*No*	
It is important to me to improve my education in childhood care and education				
	n=15	*n=20*	*n=17*	*n=19*
Baseline	4.8	4.2	4.6	4.4
Follow-up	4.7	4.2	4.2	4.4
Significant change over time?	*No*	*No*	*No*	*No*
CCEP group higher motivation?	*No*		*No*	

INCREASED SUPPORTIVE NETWORKS

The provider survey included a provider sense of community subscale consisting of four items.[10] Table C-3 displays mean scores on this subscale. While neither CCEP nor control *center* providers showed change over time on this subscale, both CCEP and control *family* providers showed significant increases in scores over time, indicating that family providers felt more connected to a peer network at follow-up than at baseline (although CCEP providers were not more connected than were control providers).

It is also worth noting, that while not reaching statistical significance, CCEP center providers tended to have higher networking scale scores at follow-up than at baseline, while control center providers tended to have lower networking scores at follow-up than at baseline.

Table C-3. Mean Provider Networking Scale Scores

	Family Providers		**Center-Based Providers**	
	CCEP	*Control*	*CCEP*	*Control*
	n=13	*n=18*	*n=17*	*n=18*
Baseline	3.7	3.3	3.4	3.6
Follow-up	4.2	3.6	3.7	3.4
Significant change over time?	*Yes*	*Yes*	*No*	*No*
More networking for CCEP group?	*No*		*No*	

[10] This subscale had an alpha=0.89

REDUCED FINANCIAL STRESS

The provider survey included a scale consisting of seven items that measured the degree to which providers could meet their families' basic needs (such as housing, food, and clothing).[11] In addition, the survey included questions about whether providers worried about their income from child care, whether they worried about their families' finances overall, and whether they were unsure about their income month-to-month. Higher scores indicated more stress or worry.

As illustrated in Table C-4, there were no differences between CCEP and control providers on financial stress subscale scores, nor were there changes in time on this subscale. However, both CCEP and control center providers worried more about finances at follow-up than at baseline, while both CCEP and control family providers worried less about finances at follow-up than at baseline. In addition, control family providers had more month-to-month income instability than CCEP family providers at both baseline and follow-up, with a trend for CCEP family providers to indicate more increase in stability over time.

Table C-4. Mean Provider Financial Stress Scores

	Family Providers		Center-Based Providers	
	CCEP	*Control*	*CCEP*	*Control*
Meeting Financial Needs Scale				
	n=10	*n=16*	*n=15*	*n=16*
Baseline	4.0	3.7	3.5	3.2
Follow-up	4.1	3.7	3.3	3.0
Significant change over time?	*No*	*No*	*No*	*No*
Less financial stress for CCEP group?	*No*		*No*	
Worry about child care income				
	n=14	*n=20*	*n=16*	*n=19*
Baseline	3.2	3.5	3.0	3.4
Follow-up	2.5	3.1	3.3	3.6
Significant change over time?	*No*	*No*	*No*	*No*
Less financial stress for CCEP group?	*No*		*No*	
Worry about finances in general				
	n=15	*n=20*	*n=17*	*n=19*
Baseline	3.4	3.4	3.2	3.1
Follow-up	2.7	3.1	3.5	3.6
Significant change over time?	*Yes*	*Yes*	*Yes*	*Yes*
Less financial stress for CCEP group?	*No*		*No*	
Unsure about income month-to-month				
	n=15	*n=20*	*n=17*	*n=19*
Baseline	2.7	3.4	2.5	2.8
Follow-up	1.9	2.9	2.7	2.7
Significant change over time?	*Yes*	*Yes*	*No*	*No*
Less financial stress for CCEP group?	*Trend (t=1.7; p=.09)*		*No*	

[11] The alpha for this scale was 0.94.

DECREASED PROVIDER STRESS

The provider survey included eight items to measure providers' feelings of accomplishment in regard to their positions as child care providers[12] along with two items to measure job stress: "Dealing with children with challenging behaviors adds stress to my role as a child care provider" and "Overall, being a child care provider is stressful for me."

Table C-5 displays the baseline and follow-up scores on these items. Control center providers indicated more overall stress about being a child care provider than CCEP center providers at both baseline and follow-up, though both CCEP and control center providers indicated more overall stress about being a child care provider at follow-up than at baseline. There was a trend for CCEP family providers to indicate less stress about working with children with challenging behaviors at follow-up than control providers.

Table C-5. Mean Provider Stress Scores

	Family Providers		**Center-Based Providers**	
	CCEP	*Control*	*CCEP*	*Control*
Sense of Accomplishment Scale				
	n=15	*n=18*	*n=16*	*n=14*
Baseline	4.3	4.1	4.1	4.0
Follow-up	4.3	4.2	4.0	4.1
Significant change over time?	*No*	*No*	*No*	*No*
More sense of accomplishment for CCEP group?	*No*		*No*	
Dealing with children with challenging behaviors adds stress to my role as a child care provider				
	n=15	*n=19*	*n=17*	*n=19*
Baseline	3.5	4.0	3.1	3.6
Follow-up	3.3	4.1	3.0	3.7
Significant change over time?	*No*	*No*	*No*	*No*
Less stress for CCEP group?	*Trend (t=1.9; p=.07)*		*No*	
Overall, being a child care provider is stressful for me				
	n=15	*n=19*	*n=17*	*n=19*
Baseline	2.4	2.3	1.8	2.4
Follow-up	2.1	2.6	2.3	2.9
Significant change over time?	*No*	*No*	*Yes*	*Yes*
Less stress for CCEP group?	*No*		*No*	

[12] This scale had an alpha=0.79.

APPENDIX D: ENVIRONMENTAL QUALITY SUBSCALE MEANS

Table D. Environmental Quality Subscale Means*

	Family Providers		Center Providers	
	CCEP (n)	Control (n)	CCEP (n)	Control (n)
Environmental Quality				
Space & Comfort	(12)	(18)	(10)	(13)
Baseline	2.66	2.60	2.85	2.57
R2	2.69	2.66	2.85	2.73
R3	2.93	2.87	2.83	2.93
Equipment/Materials—Infants	(4)	(6)	(4)	(2)
Baseline	1.88	1.67	2.40	1.05
R2	2.28	1.86	2.57	1.73
R3	2.19	2.26	2.33	2.00
Equipment/Materials—Toddlers	(10)	(12)	(4)	(9)
Baseline	2.19	1.97	2.37	1.87
R2	2.50	1.97	2.23	2.02
R3	2.58	2.33	2.50	2.32
Equipment/Materials—Preschoolers	(12)	(18)	(6)	(7)
Baseline	2.26	1.87	2.61	2.10
R2	2.51	1.90	2.38	2,12
R3	2.63	2.34	2.46	2.30
Safety furnishings/materials	(12)	(18)	(10)	(13)
Baseline	2.65	2.66	2.80	2.91
R2	2.89	2.78	2.86	2.85
R3	2.88	2.82	2.90	2.91
Materials to support language/literacy	(12)	(18)	(8)	(13)
Baseline	2.09	2.04	2.31	1.96
R2	2.30	2.09	2.24	2.16
R3	2.67	2.25	2.38	2.08
Quality of Interactions				
Caring/Responding (n)	(12)	(16)	(9)	(13)
Baseline	2.57	2.33	2.67	2.28
R2	2.76	2.54	2.44	2.51
R3	2.90	2.84	2.86	2.82
Positive Guidance	(12)	(18)	(10)	(13)

*This table shows QUEST subscale scores for providers who had at least three complete rounds of data collection.

Baseline	2.42	2.21	2.47	1.92
R2	2.62	2.50	2.44	2.32
R3	2.79	2.67	2.62	2.58
Supervision	(12)	(18)	(10)	(13)
Baseline	2.80	2.42	2.74	2.52
R2	2.76	2.60	2.93	2.92
R3	2.75	2.66	3.00	3.00
Social Emotional Supports				
Supporting social-emotional development	(12)	(18)	(10)	(13)
Baseline	2.29	2.18	1.94	1.78
R2	2.52	2.22	2.04	1.99
R3	2.50	2.47	2.30	2.32
Supporting Play	(12)	(18)	(10)	(13)
Baseline	2.69	2.33	2.81	2.56
R2	2.88	2.64	2.75	2.67
R3	3.00	2.87	2.87	2.92
Supporting Cognitive & Language Development				
Supportive Instructional Style	(12)	(18)	(10)	(13)
Baseline	2.31	2.31	2.46	2.03
R2	2.62	2.37	2.24	2.31
R3	2.78	2.61	2.70	2.68
Supporting language development & early literacy	(12)	(18)	(9)	(13)
Baseline	1.95	2.02	2.07	1.86
R2	2.20	2.04	2.01	2.04
R3	2.63	2.03	2.35	2.24
Learning activities & opportunities	(12)	(12)	(10)	(13)
Baseline	2.18	1.87	2.11	2.00
R2	2.39	1.94	2.15	2.03
R3	2.66	2.18	2.28	2.21