

Executive Summary

In recent decades, the quality of child care for children younger than three years old has been of concern nationally and within the West Region. Among mothers of these children, 59.4 percent were in the labor force as of March 2008 (U.S. Department of Labor 2009). The Early Childhood Longitudinal Study conducted earlier in the decade found that, of children younger than three with working mothers, 38 percent spent 35 hours or more in child care and 17 percent spent 15 to 34 hours in child care (Flanagan and West 2004). The National Institute of Child Health and Human Development (NICHD) Study of Early Child Care and Youth Development (2003, 2005) found that the quality of child care during a child's first three years was related to their school readiness, expressive language, and receptive language at age three. And 14 percent of child care centers and 12 percent of regulated family child care homes in California were rated good to excellent, based on the environment rating scales quality measures (Kontos et al. 1995; Helburn and Culkin 1995; Peisner-Feinberg 1999).

Advances in research on early brain development in the 1990s underscored the critical importance of children's early learning experiences and the potential benefits of effective early interventions. A White House Conference on Early Childhood Development highlighted this research in 1997 and, in 1999, the U.S. Department of Education created the National Center for Early Development and Learning to conduct further research on interventions in young children's "critical periods" of development. In 2003, the National Infant and Toddler Child Care Initiative, established by the U.S. Department of Health and Human Services, began offering technical assistance to states, territories, and tribes to help them improve the quality and supply of child care for their youngest children.

Child care improvement strategies have focused increasingly on the education, training, and professional development of early childhood teachers and child care providers. In 2001, the Committee on Early Childhood Pedagogy concluded that there is a serious mismatch between the preparation (and compensation) of the average early childhood professional and the growing expectations of parents and policy makers" (National Research Council, p. 261). Responding to this concern, the National Infant and Toddler Child Care Initiative has been helping states design professional development policies and systems that are informed by standards based on core competencies for infant/toddler caregivers (National Infant and Toddler Child Care Initiative 2010).

Little research has been conducted on the effectiveness of training strategies for child care providers. In a recent literature review (Zaslow, Tout, Halle, Whittaker, and Lavelle 2010), the authors commented, "There is a need to expand understanding of the strategies that are most effective for educators working with infants and toddlers." The report concluded that "the research on early childhood professional development is at an early stage" (p. xi).

Preliminary studies, mostly nonexperimental, have identified training strategies that warrant additional research, including the use of specific curricula, on-site consultation, high intensity and/or duration interventions, and focus on practice (Fukkink and Lont 2007; Zaslow et al. 2010). The Child Care Bureau of the U.S. Department of Health and Human Services, in the recent Quality Intervention for Early Care and Education evaluation, sponsored randomized controlled trials measuring the impact of on-site consultation models of caregiver training. One

study found positive effects of an assessment-based consultation model on quality of care in child care centers but not in family child care homes; no significant child effects were found (Bryant et al. 2009). An impact study of Seeds for Success, a child care quality improvement program in Washington state that includes coaching and quality improvement grants, found positive impacts on child care quality in centers and family child care homes (Boller et al. 2010). This study did not measure child effects.

The current study used an experimental intent-to-treat design to measure the impact of an established intervention, the on-site caregiver training component of the Program for Infant/Toddler Care (PITC), on child development and child care program quality. The PITC was developed by WestEd in 1985, in partnership with the California Department of Education. Over the next 25 years, more than 1,500 early childhood trainers across 30 states became PITC-certified trainers. More than 1,000 Early Head Start trainers have also been trained by the PITC. Regional Educational Laboratory West, administered by WestEd, contracted with Berkeley Policy Associates to conduct a third-party evaluation of the PITC. Berkeley Policy Associates and its subcontractors, the University of Texas, Austin, and Survey Research Management, conducted the evaluation independently of the WestEd staff who developed and implemented the intervention.

PITC is informed by brain development research that emphasizes early relationships as the foundation for healthy child development. Its approach incorporates six essential policies: primary care (assignment of a primary caregiver to each child), small groups, continuity of care, individualized schedules and routines, inclusion, and cultural sensitivity. The training imparts information on infant-toddler development. It encourages practices that facilitate healthy development and sensitivity to children's home communities, cultures, and languages. The training includes program policy recommendations and addresses program operation and environmental arrangements. The PITC training has been delivered in California for more than 20 years, with some modifications in format and additions of support components. Trainers work with child care programs to develop a schedule of 64 hours of training and 40 hours of technical assistance and support, to be delivered over a 10 to 18 months, with a minimum of 4 hours of training or technical assistance per month. The course is delivered to individual child care centers (with at least four staff and a director participating) and to small groups of family child care providers. More limited versions of the PITC, often as between one and four half-day or full-day workshops, have been offered in other states.

The intervention under study combines direct caregiver training and on-site coaching or other tailored assistance. For center-based child care programs, the intervention is delivered on-site. Family child care providers participate in groups of 5 to 10 programs, coming together for training sessions in a provider's home or in a convenient community center or school. The trainer also visits individual family child care homes for on-site technical assistance and support. Technical assistance includes observations, director meetings, and "reflective action planning," group meetings in which staff reflect on progress and plan further improvements. Individual participants can earn up to \$350 in "professional growth incentives" by participating in at least 56 hours of training and 8 hours of reflective action planning.

This study is the first rigorous effectiveness trial of the on-site caregiver training component of PITC. It was implemented over 2007–2010 in six Southern California counties and four Arizona counties. The study sample of 251 child care programs included 92 child care centers and

159 licensed family child care homes, and the sample of 936 children included an average of eight children per center and between one and two children per family child care home. Child care programs were the unit of random assignment. Programs were enrolled in the study subject to consent to participate by program directors and a minimum number of staff who worked with children under the age of three (at least four staff in child care centers and one in family child care homes). In addition, parental consent was needed for children's participation in child-level data collection activities. Children were eligible to participate if younger than 27 months. Parents of at least five children in each child care center and parents of at least one child in each family child care home would have to consent to the study in order for the program to enroll. Children whose parents did not consent were not part of the child-level data collection activities and children could not be added to the study after their programs' random assignment. Data were collected on programs and children at baseline (before random assignment) and in two follow-up waves. The same data were collected on treatment and control group members, and all members of the original sample were contacted for follow-up regardless of whether children remained in their original child care settings and whether programs remained in PITC training. At each wave of data collection, there were no statistically significant differences in response rates between treatment and control groups of centers, family child care homes, or children.

The primary questions focus on child outcomes:

- What is the impact of the PITC on a composite measure of children's cognitive and language skills, at least 6 months after its full delivery to the children's child care programs (within an average of 23 months after random assignment)?
- What is the impact of the PITC on a composite measure of children's social and behavioral skills, at least 6 months after its full delivery to the children's child care programs (within an average of 23 months after random assignment)?

The secondary questions focus on child care quality:

- What is the impact of the PITC on global child care quality at least 4 months after the PITC ends (within an average of 21 months after random assignment)?
- What is the impact of the PITC on a composite measure of the quality of child care programs' staff-child interactions at least 4 months after the PITC ends (within an average of 21 months after random assignment)?

The design of the impact evaluation combined with the duration of the professional development program meant that children participating in the study would be exposed to fully trained child care workers only if the children remained in child care sites for a minimum of 15 months, on average. Children enrolled in participating child care sites were recruited before providers were randomly assigned to treatment and control groups. PITC implementation in treatment sites began, on average, two months after random assignment, and lasted for an average of 13 to 14 months. Of children in the treatment group, 60.0 percent remained in their original program for 15 months or more.

The confirmatory research questions were addressed using hierarchical linear regression models to account for the effect of clustering observations within programs. Each impact analysis included covariates collected before random assignment to improve the estimates' statistical

precision and reduce the likelihood that random sampling variation would affect the impact estimates.

To reduce the number of statistical comparisons in the study, researchers used or created composite measures of child and program outcomes. For the primary child measures, a cognitive/language composite was formed by averaging the *z*-scores from the *Bracken School Readiness Assessment, Third Edition* (BSRA; Bracken 2007) and the *Preschool Language Scale, Fourth Edition*, Expressive Communication Subscale (PLS-4; Zimmerman, Steiner, and Pond 2002). The BSRA measures pre-academic skills and includes six subtests: colors, letters, numbers/counting, sizes, comparisons, and shapes. The PLS-4 measures expressive communication skills for children from birth through 6 years, 11 months of age. A composite child socioemotional/behavior measure was formed using parent ratings on The Child Behavior Checklist (CBCL 1½-5; Achenbach and Rescorla 2000) and The Positive Behavior Scale (Polit 1996). The CBCL 1½-5 has subscales that measure internalizing problems (emotionally reactive, anxious/depressed, somatic complaints, and withdrawn behaviors) and externalizing problems (attention problems and aggressive behavior). The Positive Behavior Scale has three subscales: compliance/self-control, social competence and sensitivity, and autonomy.

Composites were also used to measure program outcomes. One composite is a global quality measure of the environment rating scales, which includes comparable items of the Infant/Toddler Environment Rating Scale-Revised (ITERS-R; Harms, Clifford, and Cryer 2003) or the Family Child Care Environment Rating Scale-Revised (FCCERS-R; Harms, Cryer, and Clifford 2007). These are widely used observational measures of child care quality. A second composite child care quality measure, focusing on staff-child interactions, was constructed using items from both the ITERS-R/FCCERS-R and the PITC Program Assessment Rating System (PITC-PARS). The PITC-PARS is an observational measure of child care quality designed by PITC staff in accordance with how the PITC measures the quality of care children receive from birth through age three in home-based and center-based settings. For the construction of the staff-child interactions composite, four selected items from the Quality of Caregiver Interaction Subscale of the PITC-PARS were used: facilitation of cognitive development, responsiveness and sensitivity, positive tone and attentiveness, and responsive engagement and intervention.

Other PITC-PARS subscales measuring critical PITC policies were used in the implementation analysis. These subscales measure culturally responsive caregiving, primary caregiving, continuity of care, and group size and ratios.

Other measures for the study were incorporated into questionnaires administered at baseline and at the 15-month follow-up to both treatment and control child care staff. These questionnaires included caregiver knowledge and skills measures and questions about program operations and enrollment, program goals, caregivers' educational and professional backgrounds, and professional development received over the prior 12 months.

The primary findings are:

- The PITC did not have a statistically significant effect on a composite measure of children's cognitive/language scores, measured approximately 6 months (on average) after it ended.

- The PITC did not have a statistically significant effect on children’s composite behavior scores, measured at 6 months after it ended. Sensitivity analyses, conducted with two alternative approaches to missing data treatment, had results consistent with these findings.

Secondary research questions addressed the effects of the PITC on child care program quality at, on average, four months after the intervention ended. These estimates also found no significant effects. Findings of this analysis are:

- The PITC did not have a statistically significant effect on global program quality, as measured by trained observers administering the ITERS-R and the FCCERS-R.
- The PITC did not have a statistically significant effect on staff-child interactions, a composite measure incorporating interactions items from the environment rating scales and from the PITC-PARS. Results of sensitivity analyses were consistent these findings.

Analysis of implementation found that, in many child care programs, the intervention was not fully implemented or was not implemented with full participation: Of the 124 child care programs assigned to the treatment group, 11 decided not to participate before receiving any training, and 6 dropped midcourse. In only 59.4 percent of participating family child care homes did at least one caregiver receive the benchmark 56 hours of training, and in 41.9 percent of child care centers, four or more caregivers (the minimum number of participants, plus the director, required for PITC delivery) received at least 56 hours of training. Of children in the treatment sample, 17 percent received no exposure to the PITC, either because they left their original child care programs before start-up or because their programs were among the 11 that declined the intervention after random assignment.

This effectiveness trial was conducted in community child care settings. However, the study was conducted in specific areas of California and Arizona and during an economic recession. Its generalizability is limited by this context and by other features of the study including:

- This study tested a specific implementation model of the PITC, with delivery of 64 hours of training and 40 hours of on-site coaching and support, requiring an average of 14 months for full implementation. The findings should not be generalized to other models of PITC implementation that have different durations and service combinations.
- The study relied on volunteer samples, within the identified geographic regions, of child care providers and families willing to participate in a random assignment study. Recruitment required contacts with many providers who refused to participate or who were unwilling or unable to obtain consent from the number of parents (or, in some centers, from staff) needed to meet the sample requirements. It is possible that providers and families who participated in the study were different than nonparticipants, and results should not be generalized to the larger population.

As an intent-to-treat study, this evaluation measured effects on all children who enrolled in the study and were randomly assigned, including those who left their child care settings well before the PITC was fully implemented. While this design maintained the study’s internal validity, it also reduced the treatment-control contrast. Analysis of children’s time periods in care found that 25.0 percent of treatment children either left their study programs before start-up, left within 6 months of start-up (implementation required 9–20 months), or attended treatment programs

that declined the intervention. These “treatment” children received minimal or no treatment. Conversely, only 49.5 percent of treatment children remained in their programs for 19 months or more, long enough to experience the potential PITC effects—based on the average study treatment period of 13–14 months—as hypothesized in the conceptual timeline for the study, which posits child effects at 6 months after the intervention.

The PITC incorporates a number of the features that preliminary research and expert opinion in the field suggest are most likely to have a positive effect: focus on relationships, on-site consultation, opportunities for assessment and feedback, and application to practice. However, this study finds no positive main effects and also underscores the difficulties of sustaining participation in an intensive, long-term intervention in a large number of community child care settings across geographically dispersed locations. More research on the PITC and other training interventions is needed for fuller examination of both implementation and impacts. Increased understanding of the “transfer” between training strategies, program quality, and child development would inform improved child care training design and implementation.