



## Crisis nursery effects on child placement after foster care<sup>☆</sup>

Susan A. Cole<sup>a,\*</sup>, Pedro M. Hernandez<sup>b,1</sup>

<sup>a</sup> School of Social Work, University of Illinois at Urbana-Champaign, 1010 West Nevada, MC-082, Urbana, IL 61801, United States

<sup>b</sup> Children and Family Research Center, School of Social Work, University of Illinois at Urbana-Champaign, 1010 W. Nevada St., MC-082, Urbana, IL 61801, United States

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### ABSTRACT

The results of a study of the relationship between receiving crisis nursery services and the placement outcomes for young children leaving the child welfare system in Illinois are reported in this paper. The placement outcomes for children leaving foster care whose families received crisis nursery support prior to the children's placement in foster care is compared to the placement outcomes for children whose families received only foster care services. The children in two samples were identified by matching crisis nursery children's data from FY 2006 with children's data in the Illinois Child Abuse and Neglect Tracking System and Children Youth and Services Information System databases. After children served by crisis nursery and foster care services were identified, a comparison group of children with like-characteristics whose families received only foster care services was identified using propensity score matching. The children were followed until their out-of-home placement was terminated or until June 30, 2009. The placement outcomes and the length of stay were compared for the two groups. Using logistical regression analysis the results showed that children whose families received crisis nursery services prior to foster care placement were twice as likely to be reunited with their biological families (birth or extended family members) when compared to children whose families received only foster care services. The difference in the length-of-stay in foster care was not statistically significant when the two groups were compared. This preliminary study using administrative data shows that receiving crisis nursery services may have positive effects on the children's ultimate placement outcome after foster care. Additional research is needed to further explore the relationship between placement outcome and crisis nursery services.

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### 1. Introduction

The stress and isolation many caregivers of young children experience linked with the developmental vulnerability of infants and young children make them the age group that is most at risk for placement in foster care. Thirty-eight percent (121,352) of children who entered foster care in the United States in FY 2008 were infants and young children aged birth to five years. Sixteen percent (44,365) of the children entering out-of-home care were less than a year old (U.S. Department of Health and Human Services, Administration for Children and Families, Administration on Children, Youth and Families, Children's Bureau, 2009). Emergency support services (such as crisis nurseries) that assist caregivers during the stressful periods of infancy and early childhood often prevent the need for out-of-home foster care placement (Cole, Wehrmann, Dewar, & Swinford, 2005). It is not known if the

length of stay of out-of-home care for infants and young children who are removed from their home is affected by receiving crisis nursery interventions. The study discussed in this paper investigated the effect of crisis nursery services on the length of stay in foster care of infants and young children in Illinois. It also investigated if children in families who received crisis nursery services were placed differently when child welfare services were terminated as compared to children in families who received only child welfare services.

#### 1.1. Infants and young children in child welfare

With the mean length of stay for children in the foster care system at 27.2 months (about 2.25 years) many infants and young children spend their critical early developmental years in foster care. In an early study of infant placement in foster care, Wulczyn, Hislop, and Hardin (2002) found that the youngest infants (less than four months of age) stayed in foster care longer than children of other ages and were less likely to be reunited with their birth families when they left care. They were also more likely to be adopted. In a longitudinal study of infants and young children entering foster care in six counties in California, Frame (2002) and Frame, Berrick, and Brodowski (2000) found that drug and alcohol exposed infants were more likely to stay in care during the four-year study period. If the children were

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\* Corresponding author. Tel.: +1 217 244 5231.

E-mail address: [sacole@illinois.edu](mailto:sacole@illinois.edu) (S.A. Cole).

<sup>1</sup> Tel.: +1 217 244 0562; fax: +1 217 333 7629.

reunited with their families, they were more likely to re-enter foster care than children placed for other reasons.

Considering the struggles of their caregivers, one might think that placement in foster care is a better option for these vulnerable infants. In fact, some children are not adversely affected by foster care placement. A recent study (Proctor, Skinner, Roesch, & Litrownik, 2010) shows that children who enter foster care with positive developmental attributes (positive cognitive ability and social competence), who have stable foster placements, and who experience low abuse and neglect in later life, have good outcomes in later life. This study indicates that the children placed in foster care with optimum personal traits, placements, and care after permanency can develop positively. Unfortunately, not all infants and young children who enter care are so robust nor do they receive such optimum care during or after out-of-home placements (American Academy of Pediatrics, Committee on Early Childhood, Adoption, and Dependent Care, 2000; Dozier & Albus, 2000; Dozier, Albus, Fisher, & Sepulveda, 2002; Dozier, Stovall, Albus, & Bates, 2001; Stovall & Dozier, 2000; Tyrrell, Dozier, Teague, & Fallot, 1999).

Other longitudinal studies investigating the effects of foster care placement over time show that society ultimately pays a high price for many infant and young children in foster care placements. Poor physical, cognitive, social, and emotional outcomes are often associated with early and lengthy foster care placement at an early age (Dozier & Albus, 2000; Lawrence, Carlson, & Egeland, 2006; Stovall & Dozier, 2000).

### 1.2. Crisis nurseries in the United States

Crisis nurseries in the United States evolved from a grassroots movement to develop immediate interventions for stressed caregivers of young children to prevent abuse and neglect and the need for out-of-home placement (DeLapp, Denniston, Kelly, & Vivian, 1998). Because crisis nurseries grew reflecting the family and support needs of local communities, each crisis nursery offers a range of emergency and follow-up services that support the unique needs of caregivers and the infants and young children they serve. Most crisis nurseries offer initial crisis assessment and intervention services (e.g., respite child care, caregiver counseling), after-crisis interventions such as follow-up care, and/or referral to community services (Andrews, Bishop, & Sussman, 1999; ARCH National Resource Center for Respite and Crisis Services, 1994; Clark, 1990; Dougherty, Yu, Edgar, Day, & Wade, 2002; Subramanian, 1985). The services are usually provided with no waiting period and often without charge to the client families.

### 1.3. Crisis nurseries in Illinois

Five crisis nurseries were established in Illinois in 1985 with the support of federal funding. Two of the five crisis nurseries are independent 501-C-3, non-profit organizations. Two crisis nurseries are part of the services provided by a large statewide social service agency that provides prevention and intervention services to children and families. One nursery is one of the support services for the families of infants and young children. All the initial agencies were located in medium and small cities in the central part of Illinois. A sixth nursery was established in Chicago in 2005 as a service of an independent, non-profit agency that provides support services to children and youth in the Chicago area. The type of agencies that provide services are as different as are the needs of local communities, but the needs of stressed parents are similar across service providers—support and respite for caring for fragile infants and young children.

### 1.4. Crisis nursery evaluation

Although crisis nurseries have provided services to vulnerable families in Illinois since 1985, the impact of their services using

empirical strategies that could provide an evidence base to evaluate their effects for children and families has been elusive. Crisis nursery evaluation, like crisis nursery services, needs to be immediate, appropriate, and responsive to the unique characteristics of the community and agencies in which they are located as well as responsive to the monitoring requirements of state and private funders (Cole et al., 2005). Crisis nursery service recipients may access the range of services provided or only crisis care one time in a stressful situation. It became clear early in the work that trying to ascertain the effects on children would not be possible because of their rapid developmental changes and limited stay at the crisis nurseries (at times as little as a single visit for 2 h). The decision was made to focus on caregivers' perceptions of the effect of crisis nursery services. Working with crisis nursery staff and directors over a period of nine years, the authors conducted a number of non-intrusive evaluation studies and reports using data previously collected by the nurseries to ascertain the effects of crisis nursery interventions. These studies and reports included evaluating trends of aggregate data reported to the Department of Human Services from 2001 to 2009 and using geo-coding to map the location of crisis nursery users in counties surrounding crisis nurseries (Cole & Hernandez, 2008, 2009; Cole, Hernandez, & Swinford, 2007; Cole & Record, 2010). Unfortunately, the crisis nature of the services provided makes double blind assignment and random selection of caregivers and infants to receive services unethical. Even pre- and post-tests, quasi-experimental designs prove difficult and intrusive when caregivers are in crisis. The studies and research reports cited used administrative data collected and reported by the individual crisis nurseries to the Illinois Department of Human Services (monitoring agency for state funding) using the ARCH Survey 5.2 (ARCH National Respite Network and Resource Center, 2000), a retrospective, caregiver self-report instrument. Caregivers' reports of the change in stress, change in potential for abuse and neglect, and change in parenting skills after receiving crisis nursery services were used as outcome variables in these studies and evaluation reports. Significantly positive changes in stress were reported by caregivers in these studies at the  $p < 0.05$  level. Single-parenting caregivers reported the greatest change in stress. Change in potential for abuse and neglect and change in parenting skills were positive, but not significant at the  $p < 0.05$  level.

### 1.5. Crisis nurseries and child welfare research

Although the evaluations of crisis nursery services showed perceptions of positive changes by caregivers, objective study of the effect of crisis nursery services on the prevention of the need for child welfare services was more difficult.

To investigate the effects of crisis nursery service on abuse and neglect beyond caregiver self-report, a study in California used administrative data to test if counties served by crisis nurseries had lower abuse and neglect rates (ARCH National Respite Network and Resource Center, 2006). The effects of crisis nursery services on child abuse and neglect rates in counties served by crisis nurseries were compared with counties that did not have crisis nursery services. Researchers found that the families in counties served by crisis nurseries had higher numbers of reports for abuse and neglect. This demonstrated the child abuse and neglect monitoring function of crisis nurseries. The study also found that counties with crisis nurseries had fewer substantiated cases of abuse and neglect than families served in counties that did not have these services. This outcome shows the family skills development and support function of crisis nurseries. This study compared counties' data on abuse and neglect, but not the effects of crisis nursery service on individual children or caregivers.

In order to investigate the effectiveness of crisis nursery services, Cole and Hernandez (2009) used data reported by crisis nursery served caregivers who also reported using child welfare. Based on the

data from the crisis nurseries that were used for this analysis (from FY 2006), approximately 14% of caregivers served by the crisis nursery, reported involvement with child welfare services. Using propensity score matching, the caregivers who received crisis nursery services were matched with a like group of caregivers who only received crisis nursery services. The caregivers' outcomes on three variables (change in stress, change in risk of abuse and neglect, and change in parenting skills) of the ARCH 5.2 Survey (ARCH, 2000) were compared. The researchers found that although both groups reported positive changes on all three variables, there was no statistical difference between the outcomes reported by the two groups in their reported perceptions of decreased stress and risk of abuse. There was a statistically significant difference in the change reported in parenting skills when the outcomes of the two groups were compared. The caregivers served only by the crisis nursery services reported significantly higher changes in parenting skills after using crisis nursery services than the caregivers served by child welfare and crisis nursery services.

No current study has investigated what happens to the infants and young children whose families receive crisis nursery care and then enter out-of-home care. We studied if receiving crisis nursery services prior to placement in out-of-home care affects length of stay and placement at termination of care or the end of the study period. We investigated the following questions. Considering the many factors that affect outcomes in child welfare, with the information available in the crisis nursery, Child Abuse and Neglect Tracking System (CANTS), and Children and Youth Services Information System (CYSIS) databases, do infants and young children whose families receive crisis nursery care have different out-of-home placement outcomes than infants and young children in substitute care who did not receive these services? We also investigated what factors are associated with the differences in length of stay and placement at termination of out-of-home placement. We hypothesized that the children in families who received crisis nursery services would have a shorter duration in out-of-home care and that they would be more likely to be returned to the families they were removed from at placement.

## 2. Theoretical model

Crisis nursery services in Illinois are based on current child development research. Early and continuing research show the significant effects that secure infant-caregiver attachment has on development in infancy and over the life course of children (Egeland & Sroufe, 1981; Shonkoff & Phillips, 2001; Sroufe, Egeland, Carlson, & Collins, 2005). Other attachment research shows that contextual factors in which the infant-caregiver relationships are embedded can support or impede positive long-term development of children (Belsky, 1984, 1996, 1998, 2005; Belsky, Bakermans-Kranenburg, & van Ijzendoorn, 2007; Belsky & Jaffee, 2006). Belsky's research shows how various contextual factors affect, such as the mother's psychological state, the presence of fathers who provide infant care, the quality of the intimate relationships of the mother, and length time in daycare, all affect the quality of attachment relationships and subsequently the overall development of the child. This relationship has been confirmed in recent large studies of developmental trajectories and the factors that affect them (National Institute of Child Health and Development (NICHD) Early Child Care Research Network, 2005).

Based on this theory, we hypothesize that crisis nurseries provide positive contextual support for caregivers who are in stress, have limited positive home support, or are in challenging environments such as domestic violence or poverty that affect their ability to maintain their children in their homes. This hypothesis is supported by the earlier study of Cole and Hernandez (2008) that showed single-parenting caregivers reporting the greatest decrease in stress. For a majority of parents who access crisis nursery services the immediate

crisis support they receive and ongoing individual case management is sufficient to assist them in maintaining their children in the home.

The services that crisis nurseries provide are often not sufficient to prevent child abuse and neglect from occurring. Crisis nursery employees and volunteers are trained to identify signs of abuse, neglect, and trauma. Employees are mandated reporters and are required to report families to protective services when they perceive children are at-risk. When abuse or neglect is suspected in infants and young children served by crisis nurseries, the situation is discussed with families and then reported to child protective services. If the abuse or neglect is indicated (substantiated), the family can be assigned to intact child welfare services and receive both child welfare and crisis nursery services or the child could be placed in out-of-home care (e.g., foster or kinship care). The crisis nursery services are discontinued while the child is in out-of-home care.

About 9.5% of the families who received services from crisis nurseries personally disclosed that they were also receiving child welfare services when they entered crisis nursery programs in Illinois (Cole & Hernandez, 2008). Families served by crisis nurseries seem to under-report their involvement with child welfare services. When families served by crisis nurseries were matched with the CANTS database in 2006 in Illinois, about 35% of families served by crisis nurseries in Illinois were reported to protective services for follow-up investigations. Fifty-three percent of these families had indicated cases as shown in the CYCIS database.

Most infants and young children in families with indicated reports remain in their homes, often with crisis nursery and other intact family support (Cole & Hernandez, 2009). In addition to providing emergency interventions to temporarily stressed families, crisis nurseries provide close supervision and support to at-risk families. This is a collaborative effort between families, crisis nursery staff, and child welfare case managers (Cole & Hernandez, 2009) to ensure that the infants and children are safe and remain with their birth families to support optimum development of infants and young children who are at-risk.

There is no current study evaluating if and how receiving crisis nursery interventions prior to out-of-home placement affects the length of stay of infants and young children or their ultimate placement at the termination of out-of-home child welfare placements. In this study, we investigate if receiving crisis nursery services has an effect on the outcomes of child welfare services for families that have their young children removed and placed in substitute care. We compare the differences in length of stay and placement outcomes over a three-year period for infants and young children whose families received crisis nursery services prior to entry into substitute care with a comparison group of infants and young children with like-characteristics who did not receive crisis nursery services prior to entry into substitute care. We hypothesized that because of the enhanced contextual support of crisis nurseries, infants and young children whose families received crisis nursery interventions would stay in care significantly less time and ultimately be returned to their parents or birth families more frequently than children whose families only received child welfare services.

## 3. Method

The study discussed in this paper was undertaken as a result of requests from the Illinois Department of Human Services, Illinois Department of Children and Family Services, and the Crisis Nursery Coalition to examine empirical data, beyond caregiver self-report, to test the effect of crisis nursery services on children in out-of-home placements in the child welfare system in Illinois.

### 3.1. Study sample

The present study is based on a sample from the administrative data of the five crisis nurseries in Illinois, the Illinois Department of

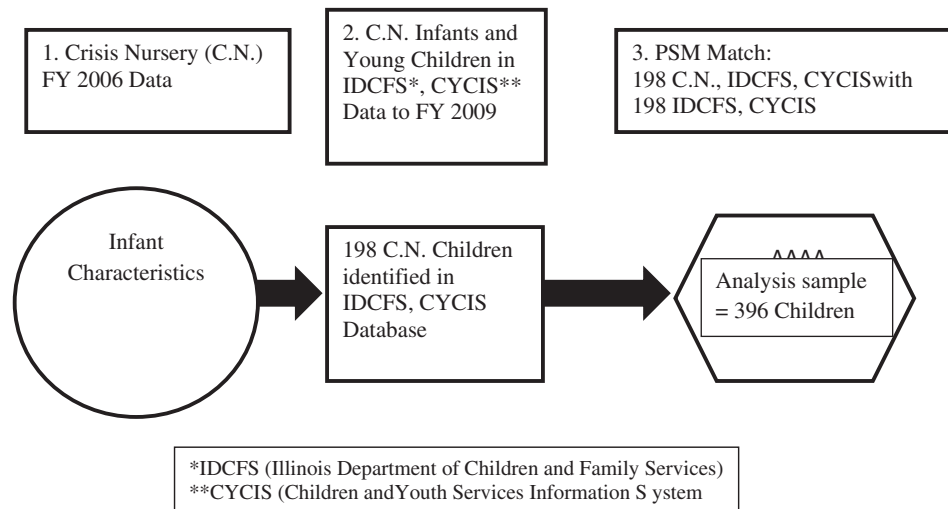


Fig. 1. Sampling method.

Children and Family Services CANTS and CYCIS. All children served by crisis nurseries in Illinois in FY 2006 were matched with children in the CANTS database to identify children served by crisis nurseries who were reported for abuse and neglect. A second match with the CYCIS database identified the children who were placed in out-of-home care (i.e., foster care, kinship care, institutional care, etc.). After the determinant match was completed all names and other identifying information were deleted and each case continued using its respective CYCIS case number. The CYCIS case numbers were used to follow the infants and young children until they were either placed in a permanent home or the completion of the study (June 30, 2009). In FY 2006, 2065 children from 1303 families served by five crisis nurseries in Illinois were identified. Of these, 198 infants and young children that received both crisis nursery and child welfare services between FY 2006 and FY 2009 were identified for this study.

In order to compare how the length of stay and placement outcomes of these infants and young children served by the crisis nurseries differed from infants and young children who did not receive crisis nursery services, a comparison group of infants and young children with like characteristics was identified using propensity score matching. Propensity score matching (PSM) allows the outcomes for differently served children with like attributes to be matched and compared for outcome variables of interest without the ethical issues of being assigned randomly to an intervention and control group (Guo, Barth, & Gibbons, 2006; Guo & Fraser, 2010; Rosenbaum & Rubin, 1984). Thus, the impact of program participation can be assessed without randomization in cases such as crisis nursery services where the use of random assignment to a treatment or a control group could endanger the infant and young children in families seeking crisis care. PSM requires the use of unique variables to identify an adequate comparison group. For this study, the use of existing administrative data narrowed the unique variables available for matching. This may affect the outcomes observed. Although these variables are limited, studies have shown that such child characteristics affect permanency outcomes (Wulczyn et al., 2002). The child variables used for the match were age, gender, race/ethnicity, caregiver, type of abuse, and county of residence. When the match was completed the sample contained 396 cases (See Fig. 1).

### 3.2. Study design and procedures

When the sampling design was completed, logistic regression was used to identify the relationship between the independent variables

and the effect of receiving crisis nursery service on the outcome variables.

#### 3.2.1. Independent child variables

Independent child variables in the administrative data used in the analyses were defined in the following way. "Age" was the age at first report and the categories were defined in the following way: "less than one year" represented children birth to less than one year; "one year" represented children one year old and less than two years old; "two years" represented children two years old but less than three years old; "three years" represented children three years old but less than four years old; and "four years or older" represented children four years of age or older. "Gender" was the reported sex of the child and defined as "female" or "male". "Child ethnicity" was the child's ethnicity identified in the CANTS database. The categories identified were "African-American," "Caucasian," "Hispanic," and "Other."

"Type of abuse" was defined as the initial type described in the database. These were "physical abuse," "sexual abuse," "neglect," and "lack of supervision". "County of residence" was defined as the county in the Illinois in which the infants and young children were residing at the time of the first reported abuse. "Type of placement" was defined as the type of out-of-home placement the child received: "foster care," "kinship care," or "other". "Permanency goal" was defined as the goal at termination of out-of-home placement. These categories included: "remain in home," "birth home," "substitute care," "adoption," "guardianship," "unable to return due to developmental disability."

#### 3.2.2. Independent caregiver variables

Independent caregiver variables in the administrative data used in the analyses were defined in the following way. "Age" was the age of the caregiver at first report of abuse and neglect for this child. "Gender" was the reported sex of the caregiver and defined as "female" or "male". "Caregiver ethnicity" was the caregiver's ethnicity identified in the CANTS database. The categories identified were "African-American," "Caucasian," "Hispanic," and "Other."

#### 3.2.3. Outcome variables

Outcome variables were defined in the following ways. "Length of stay in substitute care" is defined as the total number of days the infants and young children in the treatment and comparison group were in out-of-home care before they were placed in a stable, permanent home. "Child placement outcome" was defined as the type of home the infants or young children were placed in at the termination of out-of-home placement or as of June 30, 2009. The categories for last type of



placement from the CANTS and CYCIS data bases were: “Return home within five months,” “return home within one year,” and “return home pending court hearing” were identified as “returned to the family of origin.” “Remaining in substitute care” were those infants and young children that were still in substitute care as of FY 2009. “Adoption” was the designation for the infants and young children that were placed in adoptive homes. “Guardianship” was the designation for the infants and young children that were placed in homes of extended family members in a permanent subsidized guardianship arrangement. “Other” was defined as those infants who were identified as being too impaired due to developmental disabilities to be returned to their home.

### 3.2.4. Procedures

Using STATA 9.2 statistical software (2006), children with like characteristics served only by the IDCFS were identified using the variables available in the crisis nursery data base, CANTS and CYCIS data base: age, gender, child ethnicity, caregiver, and county of residence. Then the probability of similarity of the two groups based on the estimated logistic regression was calculated. The log of the predicted probability (i.e.,  $\log [p/(1-p)]$ ) is defined as a propensity score. The sample used in the PSM procedures included 30,181 children. Before matching, the group who had received crisis nursery services before being removed from their homes had an  $n = 198$  and a mean propensity score of 0.0319 ( $SD = 0.0253$ ,  $\min = 0.0003$  and  $\max = 0.1043$ ). We used the variables described to create the matched groups. There were 29,983 children with a mean propensity score of 0.0034 ( $SD = 0.0131$ ,  $\min = 0.00002$  and  $\max = 0.1201$ ) who did not receive crisis nursery services prior to placement in out-of-home care. Subsequent to matching, the children whose families had received crisis nursery care had an  $n = 198$  and a mean propensity score of 0.0319 ( $SD = 0.0253$ ,  $\min = 0.0003$  and  $\max = 0.1043$ ). The group of children whose families had not received crisis nursery services prior to their out-of-home placement had an  $n = 198$  and a mean propensity score of 0.0319 ( $SD = 0.0253$ ,  $\min = 0.0003$  and  $\max = 0.1043$ ). The mean propensity score for the matched treatment group (0.03) was the same as the mean propensity score for the non-treated group (0.03).

It is important to note that there were some differences in the two groups prior to the propensity score matching procedure. For example, the ethnicity of children who received crisis nursery services prior to their placement in out-of-home care had a higher percentage of African Americans (64% versus 52%) and a lower percentage of Caucasians (32% versus 39%) than the children in out-of-home care that did not receive crisis nursery services prior to placement. In addition, the percentage of Hispanics was lower (4% versus 6%) in the group of children who received crisis nursery services prior to placement compared with the children who had not received these services prior to placement. The group of children who received crisis nursery services prior to placement did not contain children of “Other” ethnicity as compared to 3% in the group who had not received crisis nursery services.

Although the infants and young children in the current study were similar to each other, they were different from the other children who had indicated reports in Central Illinois where the crisis nurseries were located. Overall approximately 61% (16% sexual abuse) of children in Illinois had indicated reports of physical abuse in 2006, while 80.3% (10% sexual abuse) of the study sample experienced some type of physical abuse (Child Abuse and Neglect Statistics—CANS, 2006). Twenty-three percent of the children in Central Illinois had indicated reports for neglect while the infants and young children in the study 25.9% of the infants in the study group had indicated reports for neglect.

The county the children resided in when the abuse was reported was another important variable to use in the PSM due to the differences in out-of-home placements in the five counties studied. In County 1 the percent of children who received crisis nursery services

and were placed in out-of-home care was 15%, County 2 was 15%, County 3 was 21%, County 4 was 20%, and County 5 was 18%.

In the current study we used propensity score matching procedures to minimize selection bias. The new PSM-created sample allowed us to control the differences in the two groups in order to better assess the effect of crisis nursery participation. After the samples were identified, the length of time in out-of-home care was compared in the two groups as well as the children’s placement at termination of out-of-home care. SPSS (2006) statistical software for analysis of variance, logistic regression analysis, and multiple regression analysis were used to identify associations between the independent variables and the outcome variables.

## 4. Results

### 4.1. Demographics

Although propensity score matching identifies an overall like-comparison group, the characteristics in each group are statistically similar, but not the same. The demographic characteristics of the children in the crisis nursery served group are statistically similar, but not the same as the children whose families received only child welfare services.

#### 4.1.1. Characteristics of children

**4.1.1.1. Crisis nursery and child welfare served.** The children in the sample who had crisis nursery intervention services and out-of-home placements had the following characteristics. Of the 198 infants and young children served by the crisis nurseries and in out-of-home placement, 47% (93) were female and 53% (105) were male. The mean age of the children was 1.04 ( $SD = 1.39$ ) and varied from birth to six years old. A majority of children in this group were African-American, 64.1% (127). The next highest were identified as Caucasian, 31.8% (63). Only 4% (8) were identified as Hispanic.

The infants and young children who were in the group who received crisis nursery and child welfare services entered out-of-home care due to the following types of abuse and neglect: 70.2% (139) physical abuse; 9.6% (19) sexual abuse; 19.2% (38) neglect; and 26.8% (53) lack of supervision. Children were placed in foster care and kinship care for their out-of-home placements. The mean length of stay in out-of-home care for children served by crisis nurseries and who were in foster care was slightly more than one year. The mean length of stay in kinship care was slightly less than one year (See Table 1). Reunification with their birth families was the permanency plan for 54% (107) of these infants and young children. About 23% (46) were headed for adoption and only 1% (2) for subsidized guardianship. The largest percentage and number of children were from County 4, 0.7% (41). The smallest percentage and number of children were from County 1 and County 2 15.2% (30). At termination of out-of-home placement or the end of the study, about 49.5% (98) of the infants and young children in the group who had received crisis nursery services prior to placement were returned to their families and about 17.7% (35) were placed in adoptive homes or subsidized guardianship (See Table 1).

**4.1.1.2. Child welfare only served.** The children in the sample who received only child welfare services were matched with the variables available of the children who were served by CN and IDCFS. Although PSM uses a statistical number (propensity score) for the match, the samples were very similar. Of the 198 infants and young children served by the crisis nurseries and in out-of-home placement, 48% (95) were female and 52% (103) were male. The mean age of children was 1.03 ( $SD = 1.43$ ) and varied from birth to six years old. The children in the sample were identified by their caregivers as being from the following ethnic groups: 63.6% (126); African-American; 32.8% (65) Caucasian; and 3.5% Hispanic. During the initial child abuse and

**Table 1**  
Characteristics of children in the study sample.

Child characteristic	IDCFS (N = 198)	CN/IDCFS (N = 198)
Gender		
Female	95 (48%)	93 (47%)
Male	103 (52%)	105 (53%)
Age	Range = 0–6; Mean = 1.03 (SD = 1.43)	Range = 0–6; Mean = 1.04 (SD = 1.39)
>0 to <1	51.5% (102)	50.5% (100)
>1 to <2	23.2% (46)	23.7% (47)
>2 to <3	9.1% (18)	9.1% (18)
>3 to <4	7.6% (15)	8.6% (17)
>4 to <5	5.1% (10)	5.1% (10)
>5	3.5% (7)	3.0% (6)
Ethnicity		
African-American	63.6% (126)	64.1% (127)
Caucasian	32.8% (65)	31.8% (63)
Hispanic	3.5% (7)	4.0% (8)
Other	0 (0)	0 (0)
County	20 counties	19 counties
Champaign	15.2% (30)	15.2% (30)
McLean	16.2% (32)	15.2% (30)
Peoria	19.7% (39)	20.7% (41)
Sangamon	20.2% (40)	19.7% (39)
Winnebago	17.2% (34)	17.7% (35)
Others	11.5% (23)	11.5% (23)
Type of abuse*		
Physical abuse	70.7% (140)	70.2% (139)
Sexual abuse	9.6% (19)	9.6% (19)
Neglect	19.2% (38)	19.2% (38)
Lack of supervision	6.7% (33)	26.8% (53)
* >1 type reported for child		
Permanency goal		
Remain in home	4.0% (8)	1.5% (3)
Birth home	44.4% (88)	52.5% (104)
Substitute care (TPR)	6.0% (12)	11.1% (22)
Adoption (TPR)	32.8% (65)	23.2% (46)
Guardianship	1.5% (3)	1.0% (2)
Unable to return (DD)	0.5% (1)	1.0% (2)
Missing information	10.6% (21)	9.6% (19)

neglect report the children served by child welfare services were reported for experiencing the following types of abuse and neglect—70.7% (140) physical abuse, 9.6% (19) sexual abuse, 19.2% (38) neglect, and 16.7% (33) lack of supervision. The mean length of stay in foster care for children in this group was slightly less than the group who received crisis nursery services prior to placement (368.75 days), while the mean length of stay in kinship care was slightly less than one year (274.64 days). The permanency goal for 44% (88) of the children was reunification with their birth families. About 33% (65) had a permanency goal of adoption. Only 1.5% (3) had the permanency goal of subsidized guardianship. At termination of out-of-home placement or the end of the study (June 30, 2009), about 31.3% (62) of the infants and young children in this group were returned to their families at the termination of out-of-home placement. Almost the same percent of infants and young children 30.8% (61) were placed in adoptive homes or subsidized guardianship, almost twice the number of crisis nursery served infants and young children placed in adoptive homes (See Table 1). The largest percentage and number of children were from Sangamon County 20.2% (40) while the smallest percentage and number of children were from Champaign County 15.2% (30). (See Table 1 for a full summary of child characteristics of the intervention and control groups).

#### 4.1.2. Characteristics of caregivers

**4.1.2.1. Crisis nursery and child welfare served.** The caregivers of the infants and young children in the sample had the following

characteristics. Although there were 198 infants and young children that were followed who received crisis nursery services and were in out-of-home placement, fifteen of the families had two caregivers in the home. Of these, nine families had male and female caregivers of approximately the same age at the termination of out-of-home care. There was no information regarding the relationship between the caregivers. When the head of household was identified in the data it left 158 caregivers for analysis. Eighty-seven percent (138) of the primary caregivers were female and 12.7% (20) of the primary caregivers were male. The mean age of caregivers was 29.3 (SD = 7.79 years) years of age and varied from 17 to 61. The modal age of caregivers in the treatment group was 26 years. About 51.3% (81) of the caregivers who had received crisis nursery services were Caucasian and 44.3% (70) were African-American. About 3.1% (5) were Hispanic and 0.06% (1) was Asian or Other.

**4.1.2.2. Child welfare only served.** The characteristics of the caregivers of the children in the sample who only received child welfare services had the following characteristics. There were 198 infants and young children that were identified who received only child welfare services with statistically similar characteristics to the crisis nursery served group, when the caregiver duplications were eliminated by choosing the caregiver for whom the allegation of abuse was made, there were 127 unique caregivers in the group who received only child welfare services. About 93.7% (119) were females and 8 (6.3%) were males. No information was available on the number of families that had a male and female in the household at the termination of out-of-home care. There was no information regarding the relationship between the caregivers. Eighty-seven percent (138) of the caregivers were female and 12.7% (20) of the primary caregivers were male. The mean age of caregivers was 29.3 (SD = 7.79 years) years of age and varied from 17 to 61. The modal age of caregivers in the comparison group was 27. About 48.8% (62) of the caregivers who received only child welfare services were African-American and 45.7% (58) were Caucasian. About 4.0% (5) were Hispanic (Table 2).

**4.1.2.3. Factors associated with length of stay.** The length of stay for infants and young children served by crisis nurseries and child welfare services compared with infants and young children that received child welfare services was not statistically different when bi-variate analyses were conducted. Infants and young children served by crisis nursery and child welfare services stayed in out-of-home care longer than children served only by child welfare services. The average length of stay for infants and children who served by crisis nurseries placed in foster care was slightly longer (379.55 days) when compared to the infants and young children in the comparison group (368.75 days). The average length of stay for infants and young children in out-of-home placements that received crisis nursery services and were placed in kinship care was 349.81 days. The infants and young children who received only child welfare services were in kinship care for 274.64 days (See Table 3).

To compare the factors associated with the length of stay in out-of-home placements ordinary least square multiple regression analysis (Neter, Kutner, Wasserman, & Nachtseim, 1996) was applied. The effects of the child and caregiver characteristics and the dichotomous variable “received crisis nursery services or not” on Length of Stay was investigated. The model was not significant.

**4.1.2.4. Factors associated with child placement outcomes.** We also investigated the factors that significantly predicted the placement the infants and young children received at the termination of out-of-home placement. Using logistic regression, the model that tested the effect on the dichotomous variable of “returned to their home or not returned to their home” was significant. The independent child variables tested were: type of abuse, gender, age, ethnicity, and “received crisis nursery services or not.” The variable “received crisis

**Table 2**  
Caregiver characteristics in study sample.

Characteristics of caregivers in the study sample		
Caregiver characteristics	IDCFS (N = 127)*	CN/IDCFS (N = 158)*
Age	Range = 12–47 years Mean = 29.70 years SD = 6.56 years	Range = 17–61 years Mean = 29.61 years SD = 7.79
Gender		
Female	93.7% (119)	87.2% (138)
Male	6.3% (8)	12.7% (20)
Ethnicity		
Asian	0.0% (0)	0.6% (1)
African-American	48.8% (62)	44.3% (70)
Caucasian	45.7% (58)	51.3% (81)
Hispanic	4.0% (5)	3.1% (5)
Unknown	0.0% (0)	0.6% (1)

\* Caregivers can have more than one infant or young child in out-of-home care.

nursery services” was significant ( $p < 0.000$  level,  $\beta = 0.741$ , S.E. = 0.213, Exp  $\beta = 2.099$ ). The infants and young children that received crisis nursery services were twice as likely to be returned to their homes.

We also analyzed the effect of receiving crisis nursery services on children who remained in foster care at the termination of the study period. The effect of the same independent child variables (type of abuse, gender, age, ethnicity, and “received crisis nursery services or not”) on the dichotomous variable “foster care or not.” This model was also significant at the  $p < 0.000$  level. For this group, receiving crisis nursery services was not significant. The child’s age at report was significant at the  $p < 0.000$  level ( $\beta = 0.741$ ; S.E. = 0.213, Exp  $\beta = 1.330$ ). Older children were more likely to still be in foster care at the end of the study period than younger children.

The type of abuse was also a significant factor in predicting the likelihood of infants and young children in foster care. Having an indicated report of “sexual abuse” was significant at the  $p < 0.028$  level. The infants and young children who experienced sexual abuse were about one-third as likely to remain in foster care at the end of the study period ( $\beta = -0.954$ ; S.E. = 0.434, Exp  $\beta = 0.385$ ) as children placed in out-of-home care for other types of abuse. Having an indicated report of “lack of supervision” was significant at the  $p < 0.019$  level. The infants and young children who were placed in out-of-home care due to “lack of supervision” were about half as likely to remain in foster care at the end of the study period ( $\beta = -0.689$ , S.E. = 0.293, Exp  $\beta = 0.502$ ) when

compared to children placed for other types of abuse. Other variables tested were not significant.

## 5. Discussion

Earlier studies of crisis nursery services reported the results of the perceptions of caregivers of infants and young children that received crisis intervention services. Caregivers in these studies consistently provided positive effects for the crisis intervention services they received (Andrews et al., 1999; Cole et al., 2005; Cole & Hernandez, 2008; Stein, 1985). These earlier studies show that caregivers that receive the immediate support provided by crisis interventions support services can experience decreases in parental stress and the potential for abuse and neglect of the vulnerable infants and young children in their care. Only one previous study looked at the effect of crisis nursery services on child abuse and neglect, but this study did not assess the impact of crisis nursery services on individual service recipients who subsequently entered the child welfare system. The current study followed a specific group of infants and young children over time and compared those who received crisis nursery services and child welfare services with those who received only child welfare services. It controlled for such factors as child gender, ethnicity, and age at placement, as well as type of abuse and county of residence at the time of the report.

The infants and young children whose families received crisis nursery services were twice as likely to be returned to their families when compared with infants and young children with similar characteristics who did not receive crisis nursery services. These positive results seem to show that families who receive crisis nursery services of any dosage have a better chance of having their infants and young children returned to them. This can result in positive outcomes for children and families if they remain with their birth families. It is uncertain why this occurs, but we hypothesize that child welfare service providers may be more confident in returning children to their homes when they reside in counties that have crisis nursery services. Child welfare case managers are aware that these crisis and after-care services can be accessed until the children are school age and that close monitoring of caregiver–child interactions is available through crisis nursery services as well as consistent coaching for positive parenting skills. Child welfare agencies may also view families that sought crisis nursery services prior to the child’s out-of-home placement as more resourceful than other families because they were willing to admit their difficulties and obtained assistance from crisis nurseries. These hypotheses need further study. Subsequent evaluation research of crisis nursery service effects could benefit from direct interviews with county child welfare workers and caregivers who use crisis nursery services.

Unfortunately, having received crisis nursery services was not shown to significantly affect the lengths of stay in out-of-home placements for the infant and young child. The average length of stay in foster care for infants and children who were served by crisis nurseries was not statically different, but slightly longer (379.55 days or 1.03 years) than the average length of stay in out-of-home care for infants and young children served only by child welfare services in the comparison group (368.75 days or 1.01 years). One year is a significant period of time in the life of an infant or young child. If an infant is placed in out-of-home care early in its first year of life the primary attachment relationship is with the out-of-home caregiver during that period. Although visitations with birth family caregivers may provide opportunities for interactions, the primary attachment bond with the infant may be with the foster care provider (Haight, Kagle, & Black, 2003; Scott, O’Neill, & Minge, 2005). When the infant is returned to the birth family or placed in an adoptive home the loss of their substitute out-of-home caregiver can make it difficult to form a positive relationship with the birth family. Although removal from the family is often necessary to ensure the safety of vulnerable infants and

**Table 3**  
Outcome variables.

Variables	IDCFS (N = 198)	CN/IDCFS (N = 198)
1. Mean length of stay in out-of-home care (days)	M = 689.4, SD = 623.31 Range = 0–3007	M = 774.31, SD = 420.70 Range = 0–1900
Foster care	M = 368.75 (SD = 528.56) Range = 0–2851	M = 379.55 (SD = 430.14) (Range = 0–1341)
Kinship care	M = 274.64 (SD = 466.00) Range = 0–3007	349.81 (SD = 395.59) Range = 0–1341
2. Placement at termination of out-of-home placement or June 30, 2009		
Remain in home	31.3% (62)	49.5% (98)
Birth home	30.3% (60)	17.2% (34)
Substitute care (TPR)	0.5% (1)	0.5% (1)
Adoption (TPR)	18.2% (36)	15.2% (30)
Guardianship	19.2% (38)	17.2% (34)
Unable to return (DD)	0% (0)	0.5% (1)
Missing information	0.5% (1)	0% (0)
Unknown		



young children, every effort should be made to place them in a permanent setting as soon as possible. If the plan is to return the child to their birth family, consistent and frequent efforts to support the birth caregiver–infant relationship during out-of-home placement must be made (Lawrence et al., 2006; Kammerman & Kahn, 1995; Bakersmans-Kranenburg, van Ijzendoorn, & Juffer, 2003). This can be accomplished through frequent supervised visitations in which parents are encouraged to use strategies for developing and maintaining secure relationships. Crisis nurseries could support visitations with birth parents by serving as visitation sites for supervised parent–child interactions. In addition, parents could also participate in parent–child interaction groups provided by the nurseries to begin to have a supportive network of other caregivers to practice positive parenting strategies prior to the child's return. The role of crisis nurseries in supporting transitions needs further study.

Another difference between the two groups was the length-of-stay for infants and young children who received kinship care placements as opposed to those who received foster care placements. The length of stay was shorter for infants placed in kinship care when compared to the length of stay for infants and young children placed in foster care. When the two groups of infants placed in foster care were compared, the average length of stay for infants and young children placed in kinship care and received crisis nursery services prior to placement was 322.77 days or about ten months. The average length of stay for infants and young children who received only kinship care was 274.64 days or about nine months. The reason for the shorter length-of-stay is unclear. Often kinship care providers are significantly older than unrelated foster care providers and can be more invested in returning the child to their families, especially if they are not aware of support services such as crisis nurseries that can provide respite care. Crisis nursery services support caregivers of all types—parents, grandparents, aunts, uncles, sisters or brothers—who are experiencing stress in caring for infants and young children. Several of the crisis nurseries in Illinois have seen a rise in kinship caregivers, especially grandparents, accessing their services for respite care (personal communication, Chrystal Chaddock and Laura Swinford). How crisis nursery services support kinship caregivers also needs study. The support kinship caregivers receive from crisis nurseries may decrease their motivation for returning the infants and young children to their birth caregivers while caring for infants without support may increase the motivation to terminate kinship care.

Children who remained in foster care at the end of the study period were more likely to be older and may reflect ongoing difficulties in their birth homes. Children, who had indicated reports of sexual abuse, also were more likely to still be in longer in foster care at the termination of the study. During the study year approximately 92% of the perpetrators of sexual abuse were family members (CANS, 2006). This may account for the continuation of children in foster care. A safe permanent home may not have been identified for the child among family members.

Although the current study of the longitudinal effects of crisis nursery participation on out-of-home placement outcomes moves crisis nursery service research into new areas, the study has a number of limitations. Like most secondary data analyses, this study was constricted by the data available for infants and young children in both the crisis nurseries and the Illinois Department of Children and Family Services databases. Matching was only possible using the variables that were the same in both databases. Other child variables of interest that could expand our understanding of the results such as the prenatal substance exposure of the infant, pre-maturity, substitute care (daycare center or family daycare home), and child development data were not available. Other caregiver variables of interest such as the number of caregivers in the home, caregivers supports beyond the crisis nurseries, relationships among primary caregivers (e.g., domestic violence) caregivers' education levels, caregivers' employment outside the home, caregivers' economic resources, number of caregivers in the home, caregivers' history of psychiatric illness

(e.g., post-partum depression), and caregivers' history of substance use were also not available.

Information on the dosage of crisis nursery services received by families prior to the children's placement in out-of-home care was not available for this analysis. The type of crisis nursery services (crisis care and/or post-crisis care) the families received was not available for these analyses. Both dosage and type of care could affect the length of stay in out-of-home care and the placement at the termination of out-of-home care. These factors await subsequent study of crisis nursery effects.

Another limitation of this study is the identification of the infants and young children in the control group. Propensity score matching was able to identify infants and young children with like-characteristics in the CYCIS database to form a comparison group for the study. The infants and young children in the comparison group were not from families who had sought crisis nursery services. It is uncertain if the families who seek crisis nursery services are different from families with like-characteristics who do not seek those services. It is anxiety provoking and difficult for caregivers to seek crisis nursery services and could account for some of the decrease in stress caregivers report when they have finally accessed crisis nursery services (Cole & Hernandez, 2008). There is always the risk of being judged unfit to care for their children. The families who seek crisis nursery assistance and have their children removed may be different from those who never sought crisis nursery assistance. Study is needed that directly queries caregivers and compares caregivers with like-characteristics who seek and access crisis nursery services with those who do not seek or use crisis nursery services.

## 6. Conclusion

This study adds to the research base of crisis nursery outcome studies by using administrative data from the Illinois crisis nurseries and the Illinois Children and Family Services CANTS and CYSIS databases to compare how the length of stay and placement outcomes for infants and young children is affected when their families receive crisis nursery services prior to out-of-home placement. The greater likelihood of children returning to their families when the families received crisis nursery services prior to placement in out-of-home care shows that the impact of crisis nursery service use can extend beyond immediate use of the service, but further study is needed to identify more discrete factors that explain this phenomenon. Crisis nurseries are part of a continuum of care of child welfare services. When families use crisis nursery services, crisis nurseries can prevent the out-of-home placement of infants and young children by reducing stress and enhancing parenting skills. This study shows that crisis nursery services can have long term effects even for young children who ultimately enter out-of-home care.

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