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Preventing child maltreatment: Examination of an established statewide home-visiting program

Barbara H. Chaiyachati[a,b,*], Julie R. Gaither[a], Marcia Hughes[c], Karen Foley-Schain[d], John M. Leventhal[a]

[a] Department of Pediatrics, Yale School of Medicine, United States
[b] Children's Hospital of Philadelphia, University of Pennsylvania, United States
[c] Center for Social Research, University of Hartford, United States
[d] Karen Foley-Schain, MA, MEd, LLC

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ABSTRACT

Although home visiting has been used in many populations in prevention efforts, the impact of scaled-up home-visiting programs on abuse and neglect remains unclear. The objective of this study was to assess the impact of voluntary participation in an established statewide home-visiting program for socially high-risk families on child maltreatment as identified by Child Protective Services (CPS). Propensity score matching was used to compare socially high-risk families with a child born between January 1, 2008 and December 31, 2011 who participated in Connecticut's home-visiting program for first-time mothers and a comparison cohort of families who were eligible for the home-visiting program but did not participate. The main outcomes were child maltreatment investigations, substantiations, and out-of-home placements by CPS between January 1, 2008 and December 31, 2013. In the unmatched sample, families who participated in home-visiting had significantly higher median risk scores ($P < .001$). After matching families on measured confounders, the percentages of families with CPS investigations (21.1% vs. 20.9%, $P = .86$) were similar between the two groups. However, there was a 22% decreased likelihood of CPS substantiations (hazard ratio [HR] 0.78, 95% confidence interval [CI] 0.64–0.95) for families receiving home visiting. First substantiations also occurred later in the child's life among home-visited families. There was a trend toward decreased out-of-home placement (HR 0.73, 95% CI 0.53–1.02, $P = .06$). These results from a scaled-up statewide program highlight the potential of home visiting as an important approach to preventing child abuse and neglect.

1. Introduction

Major efforts to improve child well-being and ameliorate the impact of child maltreatment have relied on home-visiting interventions. In the U.S., more than 145,000 families with young children currently receive federally funded home visiting; when state and locally funded initiatives are included, the population served is estimated to be greater than 2 million families (Lanier, Maguire-Jack, & Welch, 2015; U.S. Department of Health & Human Services, 2016).

Home visiting is an evidence-based strategy in which families are engaged in their homes or communities by trained personnel (Duffee et al., 2017). Programs vary in target and scope though often focus on socially high-risk pregnant women or families with

* Corresponding author at: 3401 Civic Center Blvd, 9NW55, Philadelphia, PA 19104, United States.
E-mail address: chaiyachab@email.chop.edu (B.H. Chaiyachati).

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young children. Major expansions of home visiting have occurred over the last decade, particularly with the federal establishment of the Maternal, Infant and Early Childhood Home Visiting Program (MIECHV), allowing a greater number of high-risk families to be served in their communities across the U.S. The potential benefits of home visiting have been demonstrated by positive effects on the developmental, health, and educational outcomes of young children (Avellar & Supplee, 2013; Filene, Kaminski, Valle, & Cachat, 2013).

The effectiveness of home visiting on the prevention of child maltreatment, however, remains less clear. For instance, data from randomized controlled trials have shown a significant impact of home visiting on the occurrence of child maltreatment, including fewer reports and substantiations to Child Protective Services (CPS) in home-visited groups compared to controls (Olds et al., 1997; Zielinski, Eckenrode, & Olds, 2009). Similarly, a large quasi-experimental study assessing Kentucky's statewide home-visiting program found a significant impact on substantiated child maltreatment within the first year of life (Williams et al., 2017). In contrast, several other programs that have been scaled-up to provide home visiting to families in large geographic regions in the U.S. and New Zealand have not shown a signficant effect on the occurrence of child maltreatment (Duggan et al., 2004, 2007; Vaithianathan, Wilson, Maloney, & Baird, 2016).

The discrepant impacts upon child maltreatment by home visiting programs may be due to a number of factors. For example, as interventions with strong support from randomized control trials are broadened to larger populations, challenges from rapid program expansion and population heterogeneity may erode program effects. Additionally, a recent meta-analysis showed programs' implementation factors, including training, supervision, and monitoring of fidelity, had a significant effect on child maltreatment outcomes (Casillas, Fauchier, Derkash, & Garrido, 2016).

Because home visiting continues to be viewed as an important service to prevent child maltreatment, clarifying the effectiveness of scaled-up programs on its occurrence is needed. Therefore, we sought to examine the effects of a scaled-up, statewide home-visiting program using a novel approach that linked data from the home-visiting program to that from the state's CPS agency. We compared CPS reports, substantiations and out-of-home placements in home-visited families who were sociodemographically similar to families who did not receive home-visiting services. This study represents one of the largest U.S. studies conducted to date to investigate the impact of home visiting on child maltreatment.

2. Methods

2.1. Study overview

We examined a longitudinal cohort of socially high-risk families in Connecticut who participated in a statewide home-visiting program for first-time mothers and a comparison cohort of families who were eligible for the home-visiting program but did not participate. Screening and enrollment data were linked to the state's CPS records. Demographics and reported risk factors were used to match intervention and comparison groups.

Three CPS-related outcomes were ascertained: 1) investigated reports of maltreatment, 2) substantiated reports of maltreatment, and 3) out-of-home placements.

This study was approved by the Institutional Review Boards of the Yale School of Medicine, the University of Hartford, and the State of Connecticut's Department of Children and Families.

2.2. Intervention

The Nurturing Families Network (NFN) home-visiting program provides voluntary services to optimize parenting and help address vulnerabilities throughout early childhood development. The program has gradually increased the breadth of services offered since it began in 1995 (Foley-Schain, Finholm, & Leventhal, 2011). During the study period, NFN sought to screen every first-time mother in the state either prenatally or in the early postnatal period to identify socially high-risk families. Screening was conducted by NFN intake coordinators at obstetricians' offices, community partner sites, and birthing hospitals.

Families were able to receive home visiting until the child reached five years of age. Visits were conducted in English or Spanish. On average, families received two home visits per month according to program standards. During the study period, retention in the home visiting program ranged between 60 and 70% at six months and between 40 and 50% at one year (Joslyn & Hughes, 2012).

Home visits followed the Parents as Teachers (PAT) curriculum (Winter & McDonald, 1999), which is approved as an evidence-based model of home visitng by the Department of Health and Human Services (Avellar & Supplee, 2013). Home visitors had a minimum of a high school education and were supervised by social workers with a master's degree. Each program was evaluated annually to determine whether established quality benchmarks had been met, which included: number of families recruited, retention rates, and number of visits received per family.

2.3. Study sample

The study sample was comprised of socially high-risk families who had a child with a birthdate between January 1, 2008 and December 31, 2011. Socially high-risk births were identified by the Revised Early Identification (REID) screening instrument, which was adapted from the Early Identification instrument (Duggan et al., 2000). The REID assesses 17 factors known to increase the risk of maltreatment, including teen motherhood, single motherhood, social isolation, and housing instability (Duggan et al., 2000). A family was determined to be high-risk if there was endorsement of any three of 17 risk factors or endorsement of a history of