

Georgia State University

ScholarWorks @ Georgia State University

Public Health Theses

School of Public Health

Spring 5-13-2016

Utilizing Out-of-Home Placement Child Welfare Data to Compare an Evidence-Based Child Maltreatment Program to Services As Usual

Angela Guinn

Follow this and additional works at: https://scholarworks.gsu.edu/iph_theses

Recommended Citation

Guinn, Angela, "Utilizing Out-of-Home Placement Child Welfare Data to Compare an Evidence-Based Child Maltreatment Program to Services As Usual." Thesis, Georgia State University, 2016.
doi: <https://doi.org/10.57709/8552916>

This Thesis is brought to you for free and open access by the School of Public Health at ScholarWorks @ Georgia State University. It has been accepted for inclusion in Public Health Theses by an authorized administrator of ScholarWorks @ Georgia State University. For more information, please contact scholarworks@gsu.edu.

**Utilizing Out-of-Home Placement Child Welfare Data to
Compare an Evidence-Based Child Maltreatment Program
to Services As Usual**

By

Angie S. Guinn

Bachelors of Science,

THE UNIVERSITY OF TENNESSEE

A Thesis Submitted to the Graduate Faculty
of Georgia State University in Partial Fulfillment
of the Requirements for the Degree

MASTER OF PUBLIC HEALTH

ATLANTA, GEORGIA
30302-3395

Utilizing Out-of-Home Placement Child Welfare Data to Compare an Evidence-Based Child Maltreatment Program to Services As Usual

By

Angie S. Guinn

INTRODUCTION: The burden of child maltreatment is substantial, highlighting the importance of identifying effective prevention programs in reducing occurrence and costs. The SafeCare® model was developed as a home-based service for high-risk parents in child protective services for child maltreatment. Although limited, studies that evaluate interventions for child maltreatment through a public health strategy can be achieved through administrative data and have a positive impact on population level reduction of abuse and neglect.

AIM: This current secondary analysis examines the effect of the statewide implementation of SafeCare compared to services as usual on the likelihood of out-of-home placement. The research question is “are there differences in out-of-home placement among families referred to SafeCare compared to families who received services as usual?”

METHOD: The original study was a cluster-randomized research design was implemented to evaluate SafeCare verses services as usual at the agency/region level including two urban and four rural child protective services administrative regions of Oklahoma. The secondary analysis sample included 2,175 families, prioritizing the primary caregiver for intervention. The Cox proportional-hazards regression model was used to estimate the relative risk for an out-of-home placement and participants were categorized according to intervention type group.

RESULTS: By the end of the 2.9-year follow-up, there were 283 first time occurrences of out-of-home placement. Families randomized to receive services as usual had no effect compared to families receiving SafeCare on the likelihood of out-of-home placement after adjusting for baseline family covariates.

DISCUSSION: These findings suggest that many chronic cases in the child welfare system may show limited change with services and may suggest a different service approach for reducing recidivism in out-of-home placement outcomes. Although limited, evaluating interventions for child maltreatment by using administrative data can be achieved through administrative data and have a positive impact on establishing effective prevention programs in reducing occurrence of abuse and neglect on a population level.

**Utilizing Out-of-Home Placement Child Welfare Data to
Compare an Evidence-Based Child Maltreatment Program
to Services As Usual**

by

Angie S. Guinn

Approved:

John R. Lutzker, Ph.D
Committee Chair

Brian Barger, Ph.D
Committee Member

Betty Lai, Ph.D
Committee Member

April 18, 2016

Author's Statement Page

In presenting this thesis as a partial fulfillment of the requirements for an advanced degree from Georgia State University, I agree that the Library of the University shall make it available for inspection and circulation in accordance with its regulations governing materials of this type. I agree that permission to quote from, to copy from, or to publish this thesis may be granted by the author or, in his/her absence, by the professor under whose direction it was written, or in his/her absence, by the Associate Dean, School of Public Health. Such quoting, copying, or publishing must be solely for scholarly purposes and will not involve potential financial gain. It is understood that any copying from or publication of this dissertation which involves potential financial gain will not be allowed without written permission of the author.

Angie S. Guinn

X_____

TABLE OF CONTENTS

ACKNOWLEDGMENTS	6
LIST OF TABLES.....	7
INTRODUCTION.....	8
1.1 Background.....	8
1.2 Evidence-Based Practices.....	9
1.3 Research Questions.....	13
METHODS AND PROCEDURES.....	13
3.1 Design and Participants.....	14
3.2 Intervention Type.....	14
3.3 Data Collection.....	15
3.4 Measures.....	15
3.5 Data Analysis.....	17
RESULTS.....	18
4.1 Demographics of Sample.....	20
4.2 Out-of-Home Placement.....	21
4.3 Associations of Model	22
DISCUSSION AND CONCLUSION.....	23
5.2 Discussion of Research Question.....	23
5.3 Implications of Findings	25
5.4 Study Strengths and Limitations.....	25
5.5 Recommendations and Prevention Strategies.....	26
5.7 Conclusions.....	27
REFERENCES.....	28

Acknowledgments

I want to acknowledge and deeply thank the University of Oklahoma Health Sciences Center and Dr. David Bard for access to the randomized control trial data and administrative child welfare service records and continued support, as without it none of this work would be possible. I am deeply appreciative of the contributions of Dr. John R. Lutzker, Dr. Brian Barger, Dr. Betty Lai, Dr. Derek Ford and Dr. Katie Ports for their continuous support, input, and guidance throughout this project. I also want to recognize the late Dr. Mark Chaffin on his initial provision of this project and his commitment to my education.

List of Tables

Table 1: Cox Proportional Hazard Model Covariates

Table 2: Participant Characteristics by Intervention type Model Condition

Table 3: First Time Out-of-Home Placement by Child Maltreatment Type

Table 4: Hazard Ratios from the Cox Proportional-Hazards Regression Model for
Out-of-Home Placement

INTRODUCTION

The burden of child maltreatment is substantial, highlighting the importance of identifying effective prevention programs in reducing occurrence and costs. Child maltreatment continues to be a major public health problem as approximately 2 million children experience abuse or neglect every year, with an estimated 702,000 substantiated victims of child maltreatment investigated by child protective service agencies. (U.S. Department of Health and Human Services, Administration for Children and Families, Administration on Children, Youth, and Families, Children's Bureau, 2014; Sedlak et al., 2010). Across the United States, Child Protective Service agencies provide services to families to remedy maltreatment conditions and prevent future incidences. Based on data from 48 states, approximately 1.3 million children received services for suspected abuse or neglect from a Child Protective Service agency in 2014 (U.S. Department of Health and Human Services, Administration for Children and Families, Administration on Children, Youth, and Families, Children's Bureau, 2014). Although the ultimate cost of child maltreatment is debatable, Fang et al. 2012 estimated the average lifetime cost per victim of nonfatal child maltreatment to be \$210,012. Additionally, each individual child involvement with child welfare services is estimated to be \$7,728, attributing to foster parent support and caseworker costs (Fang, Brown, Florence & Mercy, 2012).

Although primary prevention remains a focus of reducing child maltreatment, studies suggest successful tertiary prevention may provide significant long-term benefits for maltreated children (Jonson-Reid, Kohl & Drake,

2012). Home visiting family support programs deliver a broad range of services to families with young children and are increasingly utilized to prevent first-time or subsequent child maltreatment (Casillas, Fauchier, Derkash, & Garrido, 2015). Home Visiting consists of parent educators, registered nurses, social workers, and caseworkers that deliver a range of services such as health check-ups, referrals, parenting advice, and guidance (Fernandes-Alcantara, 2015). The Patient Protection and Affordable Care Act expanded the availability of home visiting programs via the federal Maternal, Infant, and Early Childhood Home Visiting Program (MIECHV) [42 U.S.C. § 711(a)]. By providing \$1.5 billion in funding, the federal government provided evidence-based cost-effective home visiting services to communities nationwide (Fernandes-Alcantara, 2015). A recent meta-analysis of nine different home visitation programs found that implementation factors such as training, fidelity monitoring and supervision had significant effects on program outcomes (Casillas, Fauchier, Derkash, & Garrido, 2015).

Though many home visiting programs are being implemented, few current home visiting models specifically target the highest risk child maltreatment populations (Silovsky, Bard & Chaffin, 2011). The SafeCare® model is a home-based program developed for high-risk parents in child protective services for child maltreatment or parents at high risk for child maltreatment. SafeCare is a structured behavioral skills training model addressing parent and child interactions (Morales, Lutzker, Shanley & Guastafarro, 2015), basic parenting routines (Lutzker & Chaffin, 2012), home safety (Jabaley, Lutzker, Whitaker, & Self-Brown, 2011), and child health (Strong et al. 2014) in order to prevent and reduce child maltreatment

(Chaffin, Hecht, Bard, Silovsky, & Beasley, 2012). SafeCare provides skills training to families that are at high risk for child abuse and neglect for children 0 to 5-years-old, referred by agencies or organizations that include Child Protective Services, drug courts, and prevention agencies (Guastafarro et al., 2012).

State child protective service records are widely available and provide a direct source of information about child abuse and neglect (Jutte, Roos & Brownell, 2013). Green et al. 2015 highlight several arguments for utilizing administrative data for research on child maltreatment. First, state child welfare reports prevent social desirability bias by excluding self-reports of potential abuse and neglectful parental behaviors. Also, state records provide information on outcomes such as out-of-home placement and duration in foster care that can be used for cost analysis and future utilization of cost-effective child maltreatment interventions.

Additionally, service agency data are collected through individual reports, allowing for longitudinal research without common limitations such as loss to follow-up and attrition. Because many home visiting programs are implemented within Child Protective Services agencies, extant administrative data are available and can be used as an important resource and cost-effective strategy for research and evaluation (Green et al., 2015). Multiple large-scale longitudinal studies indicate that scaled-up evidenced-based home visiting interventions, with careful focus on implementation, are mostly associated with positive outcomes (Casillas, Fauchier, Derkash, & Garrido, 2015; Paulsell, Del Grosso, & Supplee, 2014). Though randomized control trials (RCT) are considered by many a gold standard for evaluating home visiting programs, data collection is time consuming, difficult to

organize, and expensive. Some have suggested that using administrative data from state agencies could help bypass the difficulties of conducting randomized controlled trials (Jutte, Roos & Brownell, 2013; Green et al., 2015; “Using big,” 2015).

By utilizing child welfare services datasets, researchers can analyze the impact of home visiting programs targeted for child maltreatment on preservation outcomes. As child neglect is the most prevalent type of child maltreatment (U.S. DHHS, ACF,ACYF, CB, 2014), it is also the primary type of recurrent maltreatment following reunification (Connell et al., 2009). Permanent out-of-home placement with biological parents (henceforth family reunification) is a critical goal for maltreated children as research indicates its association with healthy caregiver attachment (U.S. Department of Health and Human Services, 2005). Considering the importance of preservation, home-visiting programs effective in positive preservation outcomes could help prevent recurrent out-of-home placements and should be included in evaluating program interventions (Aguiniga, Madden, & Hawley, 2015).

Although limited, studies that evaluate interventions for child maltreatment through a public health strategy can be achieved through administrative data and have a positive impact on population level reduction of abuse and neglect. Prinz et al (2009) measured child out-of-home placement as an outcome along with substantiated child maltreatment cases and injuries. They conducted a population trial targeting outcome rates for a geographic region that implemented the evidence-based Positive Parenting Program (Triple P) (Prinz et al., 2009).

Preservation rate was significantly increased compared to pre-intervention rate of out-of-home placement along with the two other population indicators (Prinz et al., 2009). Franks and Mata (2013) conducted a study evaluating the effects of a behavioral parent-training model, Tools of Choice, a revised version of Tools for Positive Behavior Change curriculum (Stoutimore, Williams, Neff & Foster, 2008) on child out-of-home placement outcomes for biological parents who were referred to services. The quasi-experimental study showed increased preservation outcomes for parents receiving intervention compared to parents in the control group. However, the researchers used pre-existing groups for group assignment limiting the study of a true effect of the training curriculum. Because of traditional practices of randomized control trials, the utilization of administrative data has been limited within the literature.

Chaffin and colleagues examined recidivism in the SafeCare model within a state child welfare services system, using administrative data throughout the 2.9-year follow-up. There was a significant post-intervention reduction of child welfare services reports in this statewide cluster randomized trial (Chaffin, Hecht, Bard, Silovsky, & Beasley, 2012; Silovsky, Bard & Chaffin, 2011). These findings are notable as the study was the largest RCT using a structured behavioral model that decreased recidivism while being feasible, deliverable and effective at scale. However, data on families with children placed out of the home after intervention were not analyzed.

Although previous research has mostly implemented RCTs for analyzing interventions, utilizing administrative data to study intervention effects have been

limited. This current secondary analysis study examined the effect of the statewide implementation of SafeCare compared to services as usual on the likelihood of out-of-home placement and highlights the usefulness of administrative data in evaluating program effectiveness. Because history of previous child welfare referrals and age of youngest child in the home have been associated with out-of-home placement outcomes (Horwitz et al., 2011), these variables were controlled for as well as history of previous out-of-home placement and baseline county out-of-home placement rate. The research question was “are there differences in preservation among families referred to SafeCare compared to families who received services as usual?”

METHOD

Design and Participants

The original study used a cluster randomized research design to evaluate SafeCare verses services as usual (SAU) at the agency/region level including two urban and four rural child protective services administrative regions of Oklahoma. Eligible participants included parents or caregivers who were nonsexual abusers referred by child welfare services and enrolled in home-based services provided by community agencies. The analysis sample (N=2,175) included one maltreating parent per household, prioritizing the primary caregiver for intervention. The original randomized control trial set inclusion criteria for study participants to have had at least one previous child welfare referral. A full description of recruitment and participant demographics has been previously published (Chaffin, Hecht, Bard,

Silovsky, & Beasley, 2012). The same data sample from the original study was used in this secondary analysis, but did not account for clustering of home visiting teams nor for coaching conditions.

Intervention Type

SafeCare and SAU were similar with regard to home-based structures, caseload sizes, service durations, visit frequencies (at least weekly), service goals, minimum workforce qualifications, case management practices, reporting requirements, administrative definitions, assessment tools, and funding (Chaffin, Hecht, Bard, Silovsky, & Beasley, 2012). With the exception of SafeCare, recipients received customary caseworker services such as care coordination, advocacy, and assessments. SAU addressed comparable goals from Safecare, but in a less structured and more discussion-oriented manner.

SafeCare inclusion criteria customarily targets children 0 to 5-years-old in the home; however, because the study was conducted in an inclusive service system, families with children up to 12-years-old received services with no SafeCare model modifications for children over 5-years-old. Of the study sample, 55% (n=1191) met SafeCare inclusion criteria.

Data Collection

Oklahoma Child Protective Services reports were obtained from a statewide database matching for perpetrator as the study participant within the reports. Out-of-home placement information was available from an extract of child welfare

services reports taken in December 2007. A total of 8,095 unduplicated past and future reports were acquired from administrative data, with 76% for child neglect. A recidivism event was defined as any report occurring after study enrollment, with the average follow-up time ~2.9 years. Independent research assistants collected demographic information using audio-assisted computerized interviews. All procedures involving data collection, management, and permissions for secondary analysis were obtained by the original study investigators and approved by the Oklahoma Health Sciences Center Institutional Review Board. All data were de-identified before analysis.

Measures

Out-of-Home Placement

Oklahoma child welfare services provided substantiated foster care start and end dates and type of abuse allegations (physical, sexual, and neglect) for out-of-home placements. An out-of-home placement was defined by accounting for at least one child removal from the home between the initial date of the study until the end of the 2.9-year follow-up after intervention type. A first out-of-home placement to child protective services is inherently time-dependent and a binary variable in the sense that a child's status may change from "no out-of-home placement into child protective services" (0) to "out-of-home placement into child protective services" (1) between the time that child becomes at risk of out-of-home placement (on the day of subsequent referral) and the time at which the child experiences the event of interest (out-of-home placement) or is censored (no out-of-home

placement or end of the study follow-up). To obtain an unbiased estimate of the effect of intervention type as a protective factor for the likelihood of an out-of-home placement, it was necessary to make adjustments to the window in which an out-of-home placement might occur following a referral. Therefore, the outcome variable out-of-home placement was coded to represent only first time out-of-home placements, excluding potential multiple out-of-home placements throughout the follow-up.

Covariates

Age of the youngest child in home whose family was enrolled in the study was collected at baseline as a continuous variable increasing by age in months. Family history of a previous out-of-home placement into child protective services and prior child welfare referrals were extracted from the state child welfare services database as continuous variables matching for study participant as the perpetrator counting for one report per unit. Baseline county out-of-home placement rate was an estimated covariate for recidivism risk for each study family based on pre-study patterns and trends and used as a continuous variable (Chaffin, Hecht, Bard, Silovsky, & Beasley, 2012). This variable included program evaluation data from previous child welfare services cases seen in the same agencies and services prior to implementing SafeCare in 2003. Intervention type was coded as a binary categorical variable identifying SafeCare and SAU cases.

TABLE 1:
Cox Proportional Hazard Model Covariates

Variable	Type	Definition
Time Until Out-of-Home Placement	Continuous	Time until subsequent child welfare services referral that led to an out-of-home placement for each family
Age of Youngest Child in Home	Continuous	Age of the youngest child in the home at baseline
Previous Out-of-Home Placement	Continuous	Previous out-of-home placement into child welfare services before study enrollment
Prior Child Welfare Referrals	Continuous	Previous child welfare referrals reported as an aggregated variable for unduplicated prior reports before study enrollment
Baseline County Out-of-Home Placement Rate	Continuous	Estimated covariate for recidivism risk for each study family based on pre-study patterns and trends of child welfare agencies
Intervention Type	Categorical	(0) SAU (1) SafeCare

Data Analysis

A Cox proportional-hazards regression model was used to estimate the relative risk for an out-of-home placement; participants were categorized according to intervention type group. Observations for each child were censored if the out-of-home placement did not occur during the study follow-up. The first out-of-home placement into child welfare services was entered into the analysis as a time-to-event outcome; other covariates were modeled as time-invariant. Time until out-of-home placement is coded as a continuous variable that utilizes the referral date of the associated first out-of-home placement (following study enrollment) minus the date of random assignment. If an out-of-home placement did not occur, the full study follow-up time was assigned. The effect of covariates on any observed

associations between intervention type and out-of-home placements were analyzed with stepwise Cox proportional-hazards models. The usual likelihood-based test of the coefficient associated with the binary intervention type variable was performed with the Cox proportional-hazards regression model with intervention type as a categorical variable and all other variables as continuous; services as usual served as the reference group (Kleinbaum & Klein, 2012). In this analysis, comparisons were made after adjusting for baseline covariates into the final multivariate model to describe how the covariates jointly impact survival. The original cluster design was not used in the analysis, accounting for only intervention type. Results are reported as hazard ratios (HRs) with 95% confidence intervals (CI). Model assumptions were satisfied and hazards were proportional (Kleinbaum & Klein, 2012). All analyses were performed with SAS 9.2 (SAS Institute, Inc, Cary, NC).

Adjusted model:

$$h(t) = h_0(t) \exp[B1 \text{ out-of-home placement} + B2 \text{ age of youngest child in home} + B3 \text{ previous out-of-home placement} + B4 \text{ prior child welfare referrals} + B5 \text{ baseline county out-of-home placement rate} + B6 \text{ intervention type}]$$

where: out-of-home placement = 0: if no out-of-home placement

1: if out-of-home placement occurred by time t

RESULTS

Descriptive Statistics

The study population included 2,175 families, including 1985 (91%) female parent participants. The mean age was 29 (23-34) years. Sixty-seven percent were white, 16% American Indian and 10% African-American. Only 31% of participants reported being married and had an average of 2.8 (2-4) children. Income was assessed according to monthly earnings, where 82% were below the poverty line. Seventy-three percent had only a high school education or below. With the exception of having a higher percentage of pre-school aged children, intervention type and control group were comparable in demographics and child welfare history outlined in [Table 2](#).

TABLE 2: Participant Characteristics by Intervention type Model Condition

Participant Characteristics	SafeCare N=1144 N (%)	SAU N=1031 N (%)	Total N=2175 N (%)
Sex			
Male	87 (4)	102 (5)	189 (9)
Female	1056 (48)	929 (43)	1985 (91)
Race			
White, non-Hispanic	726 (33)	719 (33)	1445 (67)
African American	121 (6)	82 (4)	203 (10)
American Indian	215 (10)	140 (6)	355 (16)
Hispanic	46 (2)	56 (3)	102 (5)
Other	29 (1)	29 (1)	58 (2)
Married	346 (16)	330 (15)	676 (31)
Education			
Less than 9 th	81 (4)	82 (4)	163 (8)
Less than 12 th	380 (17)	327 (15)	707 (32)
High school or equivalent	377 (17)	356 (16)	733 (33)
Some beyond high school	252 (11)	219 (10)	471 (22)
College graduate	52 (2)	45 (2)	97 (5)
Age, years			
Median (IQR)	29 (23-34)	29 (24-34)	29 (23-34)
Number of Children			
Median (IQR)	2.8 (2-4)	2.8 (2-4)	2.8 (2-4)
Previous Child Welfare Referral			
Median (IQR)	2.8 (1-4)	2.9 (1-4)	2.9 (1-4)
Monthly Income			
Median (IQR)	1193 (545-1500)	1166 (540-1445)	1180 (542-1500)
Below Poverty Line			
	858 (43)	762 (39)	1620 (82)
Preschool-aged Child			
	721 (41)	612 (35)	1333 (76)
Parent Ever Removed as Child			
	238 (11)	234 (11)	472 (22)
Children Ever Removed			
	631 (29)	551 (25)	1182 (54)
Children Currently Removed			
	239 (11)	185 (8)	424 (19)

IQR: Interquartile Range

The average number of previous child welfare services referrals for both groups was 2.9 (1-4) reports. About 87% of all prior referrals were for child neglect.

Fifty-four percent had previously had a child placed in foster care and 19% had a least one child currently removed from the home when services began. By the end of follow-up, there were 283 first-time occurrences of out-of-home placement. The type of child maltreatment associated with these out-of-home placements is outlined in [Table 3](#). Seventy-four percent of total out-of-home placements were reported as neglect maltreatment, reflecting national estimates of child neglect prevalence (U.S. Department of Health and Human Services, Administration for Children and Families, Administration on Children, Youth, and Families, Children's Bureau, 2014).

TABLE 3: First Time Out-of-home Placement Categorized by Child Maltreatment Type

Maltreatment Type	SafeCare N=147 N (%)	SAU N=136 N (%)	Total N=283 N (%)
Neglect	113 (75)	98 (73)	211 (74)
Physical Abuse	9 (6)	10 (7)	19 (7)
Sexual Abuse	1 (1)	2 (1)	3 (1)
Mixed	24 (18)	26 (19)	50 (18)

Analysis

[Table 4](#) reports the hazard ratios (HR) and 95% confidence intervals (CI) for each covariate in relation to overall survival. The dependent variable was time to an out-of-home placement and includes intervention type model condition as the independent variable adjusting for age of youngest child in home, previous out-of-

home placement, prior child welfare referrals, and baseline county out-of-home placement rate. Families randomized to receive SAU experienced no significant timing of out-of-home placement differences compared to families receiving SafeCare, after adjusting for covariates. Prior child welfare reports and having a younger child in the home were significantly associated with the risk of out-of-home placement. With every monthly increase in age of the youngest child, the instantaneous risk of out-of-home placement significantly decreases by 8%. In addition, with every child welfare referral, the instantaneous risk of out-of-home placement significantly increases by 17%. Having a previous out-of-home placement and baseline risk of county out-of-home placement rate were not significant predictors of out-of-home placement.

TABLE 4: Multivariate Cox Proportional Hazard Model on Out-of-home Placement

Variable	HR	[95% CI]
Age of Youngest Child in Home	0.92	[0.88- 0.97]
Previous Out-of-home Placement	0.97	[0.74-1.31]
Prior Child Welfare Referrals	1.13	[1.10-1.17]
Baseline County Out-of-home Placement Rate (x100)*	1.06	[0.74-1.52]
SafeCare	1.00	[0.75-1.34]

*nearest in time at enrollment

Note. CI=confidence interval; HR=hazard ratios; $\alpha < 0.05$.

DISCUSSION

This study represents an analysis of four year administrative out-of-home placement data following a home visiting program for high-risk families enrolled in

a randomized control trial within a child welfare service. In the adjusted model, SafeCare was compared to SAU to examine the likelihood of out-of-home placement. The analysis showed no effect differences in out-of-home placement (HR=1.00). Prior child welfare referrals significantly increased the risk of out-of-home placement with each additional referral by 13%. This finding is consistent with prior research highlighting the accumulation of prior maltreatment reports being a strong predictor of future recidivism and negative outcomes in childhood (Marshall & English, 1999; Horwitz et al., 2011; Jonson-Reid, Kohl & Drake, 2012). The risk of out-of-home placement for age of the youngest child in the home was significantly decreased, also consistent with Horwitz's research (2011) examining predictors for child welfare out-of-home placements. These findings provide another strand of evidence for how administrative data can be utilized for intervention evaluation.

There was no difference in the likelihood of out-of-home placement after intervention for families randomized to SafeCare compared to services as usual. Reasons for no significant differences in both groups on the likelihood of out-of-home placement are likely multifaceted. As previously noted, families enrolled into this study had significant risk factors for neglect or abuse of their children, having an average of 2.9 previous child welfare referrals and over half having a child out-of-home placement occur before the study. Risk factors besides previous child welfare encounters, such as drug dependency and mental illness were not analyzed and could be attributed to recidivism of out-of-home placements in both groups. Another possibility of no effect in out-of-home placement, highlighted in previous studies of the study population (Silovsky, Bard, & Chaffin, 2011), could have been

the duration of SafeCare services was not sufficient for substantial and sustained changes in out-of-home placements. Extended service duration or multiple service exposure may be needed for chronic high-risk families for reducing recidivism in out-of-home placement outcomes (Silovsky, Bard, & Chaffin, 2011). Placement in Oklahoma child welfare services was dependent upon a substantiation finding, in which substantiation was not necessarily an appropriate indication of severity and may not be sensitive to change (Drake, Jonson-Reid, Way & Chung, 2003).

Out-of-home placements have rarely been examined for evaluating the effects of evidence-based home visiting programs, focusing more on child welfare services referrals as the outcome of interest (Horwitz et al., 2011). The decision to remove children from their families is complex, as this decision-making process is assessed differently according to agency and the caseworker's discretion (Fluke, Chabot, Fallon, MacLaurin, & Blackstock, 2010). Although efforts have been made to try to develop a standardized framework for assessing maltreatment, state child welfare agencies are entitled to implement their own framework (Dettlaff, Christopher Graham, Holzman, Baumann, & Fluke, 2015). It is also important to note that standard SAU was not a "no-treatment" control group; it was the same duration as family preservation services that were offered to the SafeCare participants, (Chaffin, Hecht, Bard, Silovsky, & Beasley, 2012) and could have contributed to positive outcomes for families receiving these services. Overall, out-of-home placements were few compared to the amount of families enrolled in the study and the length of the follow-up, highlighting potential intervention improvement in prevention out-of-home placements.

Implications of Findings

Families who repeatedly enter child welfare services have experienced multiple service episodes, potentially receiving the same or similar services in the past. Chaffin et al (2012) note that because the current child welfare service model is reactive, as opposed to proactive, these models are more appropriate for acute cases of maltreatment but not suited for chronic cases. They found that limited change occurred among chronic cases in child welfare, however sustained improvement was possible. Emphasis on proactive models may offer better response to services among chronic cases that offer longer-term, stepped care, and monitoring approaches (Chaffin, Bard, Hecht & Silovsky, 2011). However, implementing chronic care approaches into the current framework of child welfare services may be challenging.

Although these findings may suggest the possible need for a tailored service approach for reducing out-of-home placements, it is important to note the very significant differences in recidivism between SafeCare and SAU of child welfare reports from the original study and to take into account the large scope of the study.

Strengths and Limitations

The primary strengths of the dataset include the size and representativeness of the sample along with the 2.9-year follow-up. Using administrative data allowed for further analysis of the impact of home visiting programs targeted for child maltreatment on preservation outcomes. Because of the availability of child welfare

services data, longitudinal research of the study participants was possible with minimal loss to follow-up and attrition.

Limitations of the original experimental design should be noted as cluster designs with a small number of clusters can affect covariate balance and causal effect estimation (Chaffin, Hecht, Bard, Silovsky, & Beasley, 2012). The addition of coaching by the home visitor that was analyzed in the original study was not examined as the primary study involved intervention only. Because the findings are drawn from one state, generalizations should be made cautiously. Although the idea of using administrative datasets seems logical, interpreting and analyzing extant datasets is difficult due to potential under-reporting of child maltreatment occurrences. Out-of-home placement outcomes included events that occurred throughout the study, potentially accounting for out-of-home placements during intervention type. However, due to service duration of both SafeCare and services as usual, out-of-home placements occurring during intervention type were few, if any. Factors attributing to out-of-home placement other than child maltreatment types, such as age of child placed out of the home not customary to SafeCare target ages (children 6-12) and family demographics were not analyzed. Also, due to the nature of the follow-up duration, censoring of some out-of-home placements causes a proportion of the survival times to be unknown (Kleinbaum & Klein, 2012).

Recommendations and Prevention Strategies

Evidence-based home visiting services that target high-risk populations of child maltreatment should consider the chronicity of these populations. As chronic

families continue to come in contact with child welfare services after multiple service episodes, these families within this high-risk population may need additional or longer duration of services. Model modifications for SafeCare for high spectrum cases of neglect could be explored to target this small population. Home visiting services for high-risk families, who often have multiple encounters with child protective services, should minimize the risk for recurrent maltreatment following reunification (Connell, 2009). By understanding what is effective and what is not when dealing with chronic high-risk families, prevention strategies can be created to reduce recidivism not only in substantiated reports, but also for out-of-home placement.

Conclusion

With respect to placement however, these findings suggest that many high problem chronic cases in child welfare show limited change with SafeCare compared to SAU and may suggest a different service approach for preventing out-of-home placements. Although limited, evaluating interventions for child maltreatment through a public health strategy can be achieved through administrative data and have a positive impact on establishing effective prevention programs in reducing occurrence of abuse and neglect on a population level. State child welfare service records are available and should be utilized for evaluating recidivism in chronic maltreatment families for both referrals and out-of-home placement outcomes.

REFERENCES

- Aguiniga, D. M., Madden, E. E., & Hawley, A. (2015). Exploratory analysis of child protection mediation placement outcomes. *Children And Youth Services Review, 50*20-27. doi:10.1016/j.chilyouth.2014.12.021
- Chaffin, M., Bard, D., Hecht, D., & Silovsky, J. (2011). Change Trajectories During Home-Based Services With Chronic Child Welfare Cases. *Child Maltreatment, 16*(2), 114-125 12p. doi:10.1177/1077559511402048
- Chaffin, M., Hecht, D., Bard, D., Silovsky, J. F., & Beasley, W. H. (2012). A Statewide Trial of the SafeCare Home-based Services Model With Parents in Child Protective Services. *Pediatrics, 129*(3), 509-515 7p. doi:10.1542/peds.2011-1840
- Casillas, K. L., Fauchier, A., Derkash, B. T., & Garrido, E. F. (2015). Review: Implementation of evidence-based home visiting programs aimed at reducing child maltreatment: A meta-analytic review. *Child Abuse & Neglect, 33*218-228. doi:10.1016/j.chiabu.2015.10.009
- Connell, C. M., Vanderploeg, J. J., Katz, K. H., Caron, C., Saunders, L., & Tebes, J. K. (2009). Maltreatment following reunification: Predictors of subsequent Child Protective Services contact after children return home. *Child Abuse & Neglect, 33*218-228. doi:10.1016/j.chiabu.2008.07.005
- Dettlaff, A. J., Christopher Graham, J., Holzman, J., Baumann, D. J., & Fluke, J. D. (2015). Research article: Development of an instrument to understand the child protective services decision-making process, with a focus on placement

- decisions. *Child Abuse & Neglect*, 49(Decision-making and judgments in child maltreatment prevention and response), 24-34.
doi:10.1016/j.chiabu.2015.04.007
- Drake, B., Jonson-Reid, M., Way, I., & Chung, S. (2003). Substantiation and recidivism. *Child Maltreatment*, 8(4), 248-260 13p.
- Fang, X., Brown, D. S., Florence, C. S., & Mercy, J. A. (2012). The economic burden of child maltreatment in the United States and implications for prevention. *Child Abuse & Neglect*, 36156-165. doi:10.1016/j.chiabu.2011.10.006
- Fluke, J. D., Chabot, M., Fallon, B., MacLaurin, B., & Blackstock, C. (2010). Placement decisions and disparities among aboriginal groups: An application of the decision making ecology through multi-level analysis. *Child Abuse & Neglect*, 34(Special Issue on the 20th Anniversary of the U.N. Convention on the Rights of the Child (CRC), 1989-2009 (Part 2)), 57-69.
doi:10.1016/j.chiabu.2009.08.009
- Franks, S. B., Mata, F. C., Wofford, E., Briggs, A. M., LeBlanc, L. A., Carr, J. E., & Lazarte, A. A. (2013). The Effects of Behavioral Parent Training on Placement Outcomes of Biological Families in a State Child Welfare System. *Research On Social Work Practice*, 23(4), 377-382.
- Fernandes-Alcantara, A. (2015, March 6). Maternal and Infant Early Childhood Home Visiting (MIECHV) Program: Background and Funding. Retrieved March 31, 2015, from www.crs.gov

- Green, B. L., Ayoub, C., Bartlett, J. D., Furrer, C., Von Ende, A., Chazan-Cohen, R., & Nygren, P. (2015). It's not as simple as it sounds: Problems and solutions in accessing and using administrative child welfare data for evaluating the impact of early childhood interventions. *Children And Youth Services Review, 57*(40-49). doi:10.1016/j.chilyouth.2015.07.015
- Guastafarro, K. M., Lutzker, J. R., Graham, M. L., Shanley, J. R., & Whitaker, D. J. (2012). SafeCare: Historical Perspective and Dynamic Development of an Evidence-Based Scaled-Up Model for the Prevention of Child Maltreatment. *Psychosocial Intervention / Intervencion Psicosocial, 21*(2), 171-180.
- Horwitz, S. M., Hurlburt, M. S., Cohen, S. D., Zhang, J., & Landsverk, J. (2011). Predictors of out-of-home placement for children who initially remained in their homes after an investigation for abuse or neglect. *Child Abuse & Neglect, 35*(3), 188-198. doi:10.1016/j.chiabu.2010.12.002
- Jabaley, J.J., Lutzker, J. R., Whitaker, D.J., & Self-Brown, S. (2011). Using iPhones® to Enhance and Reduce Face-to-Face Home Safety Sessions with SafeCare, an evidence-based child maltreatment prevention program, *Journal of Family Violence 26*, 377-385
- Jonson-Reid, M., Kohl, P. L., & Drake, B. (2012). Child and Adult Outcomes of Chronic Child Maltreatment. *Pediatrics, 129*(5), 839-845 7p. doi:10.1542/peds.2011-2529
- Jonson-Reid, M., Drake, B., Chung, S., & Way, I. (2003). Cross-type recidivism among child maltreatment victims and perpetrators. *Child Abuse & Neglect, 27*, 899-917.

- Jutte, D. P., Roos, L. L., & Brownell, M. D. (2011). Administrative record linkage as a tool for public health research. *Annual Review Of Public Health*, 32, 91-108. 18p.
doi:10.1146/annurev-publhealth-031210-100700
- Kaplan, C., Schene, P., DePanfilis, D., & Gilmore, D. (2009). Shining light on chronic neglect. *Protecting Children*, 24, 1-7.
- Kleinbaum DG, Klein M (2012) *Survival analysis: a self-learning text, 3rd edn.*
Springer, New York
- Lutzker, J.R., & Chaffin, M. (2012). SafeCare®: An evidence-based constantly dynamic model to prevent child Maltreatment. In H. Dubowitz (Ed.) *World perspectives on child abuse.* (10th Ed.) (pp.93-96). Canberra, Australia: *The International Society for the Prevention of Child Abuse and Neglect.*
- Marshall, D., & English, D. (1999). Survival analysis of risk factors for recidivism in child abuse and neglect. *Child Maltreatment*, 4(4), 287-296 10p.
- Morales, Y., Lutzker, J. R., Shanley, J. R., & Guastaferrro, K. M. (2015). Parent-infant interaction training with a Latino mother. *International Journal Of Child Health & Human Development*, 8(2), 135-145 11p.
- Paulsell, D., Del Grosso, P., & Supplee, L. (2014). Supporting Replication and Scale-Up of Evidence-Based Home Visiting Programs: Assessing the Implementation Knowledge Base. *American Journal Of Public Health*, 104(9), 1624-1632 9p.
doi:10.2105/AJPH.2014.301962
- Prinz, R. J., Sanders, M. R., Shapiro, C. J., Whitaker, D. J., & Lutzker, J. R. (2009). Population-based prevention of child maltreatment: the U.S. Triple p system

- population trial. *Prevention Science: The Official Journal Of The Society For Prevention Research*, 10(1), 1-12. doi:10.1007/s11121-009-0123-3
- Sedlak, A.J., Mettenburg, J., Basena, M., Petta, I., McPherson, K., Greene, A., and Li, S. (2010). Fourth National Incidence Study of Child Abuse and Neglect (NIS-4): Report to Congress. Washington, DC: U.S. Department of Health and Human Services, Administration for Children and Families.
- Silovsky JF, Bard D, Chaffin M, et al. Prevention of child maltreatment in high-risk rural families: a randomized clinical trial with child welfare outcomes. *Child Youth Serv Rev*. 2011;33(8):1435-1444
- Stoutimore, M.R., Williams, C. E., Neff, B., & Foster, M. (2008). The Florida child welfare behavior analysis services program. *Research on Social Work Practices*, 18, 367-376.
- Strong, L., Lutzker, J.R., Jabaley, J.J., Shanley, J.R., Self-Brown, S., & Guastafarro, K.M. (2014). Training mothers recovering from substance abuse to identify and treat their children's illnesses. *International Journal of Child Health and Human Development*, 72, 157-166.
- U.S. Department of Health and Human Services. (2005). A report to Congress on adoption and other outcomes for children in foster care: Focus on older children. Washington, DC: Children's Bureau.
- U.S. Department of Health and Human Services, Administration for Children and Families, Administration on Children, Youth, and Families, Children's Bureau (2012). Child maltreatment 2011. Retrieved January 28, 2013 from.

<http://www.acf.hhs.gov/programs/cb/resource/child-maltreatment-2011>

Using big data for evidence based governance in child welfare. (2015). *Children & Youth Services Review*, 58127-136 10p. doi:10.1016/j.chilyouth.2015.09.014