FINAL EVALUATION REPORT

GRANDfamilies Kinship Navigation Evaluation

Children's Service Society of Utah

SOCIAL RESEARCH INSTITUTE
SEPTEMBER 2025

Social Research Institute
College of Social Work
THE UNIVERSITY OF UTAH

GRANDfamilies Kinship Navigation Evaluation: Final Evaluation Report

September 2025

Submitted to:

Utah Department of Health and Human Services
Division of Child and Family Services
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Salt Lake City, Utah 84116

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Funding for this research was provided by the Utah Department of Health and Human Services, Division of Child and Family Services, with federal grant funds from the United States Department of Health and Human Services, Administration for Children and Families, Family First Transition Act, and Kinship Navigator Grants under Title IV-B Subpart 2 of the Social Security Act. Data was provided by the Utah Department of Health and Human Services, Division of Child and Family Services, Children's Service Society of Utah, and GRANDfamilies Kinship Navigation program.

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Introduction

When parents are unable to care for their children, a biological relative or close family friend may step in. This form of care, known as kinship care, has been a growing focus of the U.S. child welfare system for over four decades (Berrick & Barth, 1994). The first federal law explicitly stating a preference for kinship care was the Indian Child Welfare Act (ICWA) of 1978, followed by the Adoption Assistance and Child Welfare Act in 1980 (Denby, 2015). Through these and subsequent statutes, government efforts have increasingly encouraged kinship care as a placement option for children involved with the child welfare system (The Annie E. Casey Foundation, 2024). As a result of these efforts, the use of kinship care has expanded over time, rising from 25% of foster care placements in 2000 to 35%, or approximately 133,873 children, in 2021 (The Annie E. Casey Foundation, 2024; U.S. Department of Health and Human Services, 2025).

An expanding body of research supports the shift toward kinship care, linking it to more favorable mental health, behavioral health, and academic outcomes for children, and improved permanency with regard to reentry rates and placement stability (Bell & Romano, 2017; Berrick, 1997; Cuddeback, 2004; Winokur et al., 2018; Xu & Bright, 2018). The Campbell Collaborative's systematic review, which included 102 quasi-experimental studies, concluded that children in kinship placements experience fewer behavioral problems, fewer mental health disorders, increased placement stability, and improved well-being (Winokur et al., 2014, 2018). Kinship care is also a valued approach among Black/African American, Indigenous, and other communities to encourage stronger preservation of cultural identity and familial bonds (Barrio & Hughes, 2000; Danzy & Jackson, 1997; Mooradian et al., 2007; Wu et al., 2024).

Some studies reveal a more complex view of outcomes from kinship placements and may indicate that some findings may be context-specific or that more research is needed (Bell & Romano, 2017; Herring et al., 2009; Koh & Testa, 2008). For instance, several studies have indicated mixed findings related to permanency where children in kinship placements are more likely to result in guardianship, but less likely to result in adoption compared to non-kin foster care placements (Bell & Romano, 2017; Cuddeback, 2004; Winokur et al., 2018). The Winoker et al. (2014) review found no difference in reunification outcomes by placement type, while the Bell & Romano (2017) review found reunification was less likely for kinship care placements. Bell & Romano (2017) further found diminishing differences over time between foster care and kinship care arrangements, as well as mixed findings related to safety outcomes such as recurrence of maltreatment. These inconsistencies, along with noted methodological limitations in the existing literature, indicate a continued need

for broader, more in-depth, and more rigorous studies on the outcomes of kinship care to better understand the barriers to and factors that lead to success (Bell & Romano, 2017; Cuddeback, 2004; Winokur et al., 2018).

A primary barrier for kinship placement success is that these families tend to get less support, training, and services compared to non-relative foster families, despite having higher socioeconomic and other service needs (Cuddeback, 2004; E. Lee et al., 2020; Sakai et al., 2011). This gap in service access has led to a call to expand service options for kinship caregivers (The Annie E. Casey Foundation, 2024). Kinship caregiver programs aim to improve outcomes for kinship families by connecting them to the information, education, services, and support they need (Casey Family Programs, 2023a). Service types with promising outcomes include kinship navigation, parent training/education, peer-to-peer/support services, group interventions, counseling, and direct financial assistance (Lin, 2014; Ott et al., 2024; Rabassa & Fuentes-Peláez, 2023; Wu et al., 2020). The current evidence base for kinship care services is limited but expanding, particularly for kinship navigator programs (Lin, 2014; Ott et al., 2024), which were the focus of the current study. The Family First Prevention Services Act (FFPSA) of 2018 provides an avenue for federal reimbursement of evidence-based kinship navigator programs to prevent foster care entry and has incentivized research on this service type (Family First Prevention Services Act, 2018).

Kinship navigator programs have demonstrated a promising ability to enhance permanency outcomes, placement stability, placement with kin, child safety, and caregiver well-being (Lin, 2014; Ott et al., 2024). For example, in Washington, an enhanced Kinship Navigator program reported increased caregiver emotional and economic well-being, increased service utilization, improved placement stability for children, and reduced emergency room use (Day et al., 2024; Fowler et al., 2024). The ProtectOHIO evaluation similarly found that their kinship support program improved placement stability and reduced the time children spent in out-of-home care (Wheeler et al., 2020). A randomized controlled (RCT) trial of Colorado's Kinnected program demonstrated improved permanency outcomes, where children in kinship care were more likely to reunify with their parents, and after six months were less likely to enter foster or congregate care compared to those receiving treatment as usual (Forehand et al., 2024). Another study found similarly promising results for the Second Chance, Inc. (ASCI) kinship navigator program in improving family-centered permanency and reducing racial disparities (D. Lee et al., 2021). The Children's Home Network kinship navigator program was found to improve placement stability with relatives and reduce the likelihood of substantiated child abuse or neglect (Littlewood et al., 2020). These examples highlight these programs' potential to strengthen kinship care and improve outcomes for children and families.

While evidence continues to emerge in favor of kinship navigator programs, systematic reviews note research on kinship services is limited and recommend that existing findings be interpreted cautiously due to a lack of rigor in some studies (e.g., no randomization or comparison group), heterogeneity between programs and study outcomes, and concerns of study bias (Lin, 2014; Ott et al., 2024). One challenge contributing to limitations in kinship care studies on a broad level is the complexities of studying kinship caregiver populations. Kinship populations are notably difficult to study, at least partially because of a high occurrence of informal child kinship placement outside of formal child welfare involvement, which makes these arrangements less standardized and untrackable in agency administrative data compared to formal foster care arrangements (Cuddeback, 2004; Strozier & Krisman, 2007; Winokur et al., 2018). Kinship caregiver policies and practices also vary widely between jurisdictions (Geen, 2004), limiting the ability to generalize study conclusions. Additionally, kinship navigation services are often highly customizable based on the diverse needs of kinship caregivers, making them difficult to standardize and manualize and more challenging to study (Rushovich et al., 2021). These limitations speak to a pressing need for more robust and context-specific evidence via randomized controlled trials or strong quasi-experimental designs studying kinship navigator programs.

We aimed to build on kinship navigator research through a rigorous, quasi-experimental observational Mahalanobis distance matching (MDM) design examining the outcomes of a kinship navigator program implemented in the state of Utah. The Utah Department of Health and Human Services Division of Child and Family Services (DCFS) contracted with the University of Utah Social Research Institute in 2023 to conduct an independent evaluation of the state's primary kinship navigation program, GRANDfamilies, provided through Children's Service Society of Utah. GRANDfamilies works with families with formal kinship placement through DCFS and families with informal kinship care arrangements.

Our study aimed to compare DCFS-involved kinship families who participated in GRANDfamilies services with DCFS-involved kinship families who received treatment-as-usual. We examined the following research questions:

1. Does participation in GRANDfamilies services during a Child Protective Services (CPS) case reduce the odds of subsequent child removal to out-of-home services?
2. Does participation in GRANDfamilies services during an in-home services case reduce the odds of subsequent child removal to out-of-home services?
3. Does participation in GRANDfamilies services during a Child Protective Services (CPS) case reduce the odds of subsequent reported maltreatment and subsequent substantiated maltreatment?
4. Does participation in GRANDfamilies services during an in-home services case reduce the odds of subsequent reported maltreatment and subsequent substantiated maltreatment?

Methods

Program Description

The GRANDfamilies Kinship Care Program at Children's Service Society of Utah is a kinship navigator program designed to help relative caregivers provide children with safe, stable, and, when appropriate, permanent homes. Established in 2002, the program was created to deliver comprehensive, wraparound services for kinship families and to complement the support already offered through DCFS. GRANDfamilies delivers four primary areas of service: ongoing case management, Friend2Friend gatherings (which connect kinship families), psychoeducational classes, and clinical services.

GRANDfamilies uniquely offers structured, curriculum-based psychoeducation alongside counseling, advocacy, crisis response, case management, caregiver and child support groups, court-related assistance, and help with financial or medical benefits (e.g., Specified Relative Grant, Medicaid, Children's Health Insurance Program, and guardianship). Services are open to all kinship caregivers regardless of licensure status or involvement with the child welfare system. Unlike programs with set timelines or discharge points, GRANDfamilies emphasizes building a community of support, allowing families to engage in services and kinship-centered events consistently, no matter when they begin participation.

Design & Setting

For this evaluation, we utilized a quasi-experimental design using de-identified, retrospective administrative data collected from DCFS for kin-involved families receiving child welfare services. We defined kin-involved families as families with documented involvement from at least one kin family member (grandparent, aunt, or uncle) on a DCFS case. GRANDfamilies clients were provided with a consent form to voluntarily release their information for the purposes of this evaluation. GRANDfamilies provided client records for those who consented to release their information, and DCFS administrators linked GRANDfamilies' data to DCFS records through common identifiers. This process was necessary for DCFS to identify which kin-involved DCFS clients were also involved with GRANDfamilies services. We obtained Institutional Review Board approval for all study procedures.

The GRANDfamilies data spanned May 2013 to October 2023, while the linked DCFS data spanned a broader window from April 1980 to April 2025 to provide historical information, such as prior case involvement for DCFS clients, and a follow-up period. The DCFS data included person and case information for children, caregivers, and other relevant persons who received child protective, in-home, or out-of-home services. While GRANDfamilies clients received services at a limited number of locations across the state of Utah, clients across the state regions could receive services in-person or virtually, with some traveling from other counties to receive services. Therefore, the study included data for all five DCFS regions: Northern, Western, Salt Lake Valley, Eastern, and Southwest.

Study Population

The study population included children in kin-involved DCFS cases between May 2013 and October 2024, allowing for up to 6 months and 12 months of follow-up time. The intervention group consisted of DCFS cases with an identified kin-child or kin-adult (grandparent, aunt, uncle) and a GRANDfamilies service start date during the DCFS case. The comparison population consisted of DCFS cases with an identified kin-child or kin-adult (grandparent, aunt, uncle) with no GRANDfamilies service involvement. We considered the comparison population as receiving treatment-as-usual (TAU) from DCFS. Due to limitations in the DCFS data, the kinship placement status of children was unknown. Therefore, kin-involved CPS and in-home services cases may have included formal (DCFS-involved placement), informal kin-caregiver placement, or other unspecified kin-caregiver involvement. The final study sample for analysis was limited to kin-involved children under 18 with DCFS involvement between May 2013 and October 2024.

Overall, 273 children associated with GRANDfamilies had some level of DCFS involvement, with 56 experiencing concurrent involvement. Of those with concurrent involvement, 66.1% (n = 37) of children were associated with a CPS case, 26.8% (n = 15) were associated with an in-home services case, and 7.1% (n = 4) were associated with an out-of-home services case. Due to the low numbers of GRANDfamilies' children who received out-of-home services, we excluded out-of-home services cases from the study. A total of 60,619 kin-involved DCFS children across 88,864 cases were eligible for the comparison population. Of these, 98.8% (n = 59,893) kin-involved children were involved with a CPS case, and 5.9% (n = 3,583) were involved with an in-home service case.

Due to the non-random assignment of DCFS clients to GRANDfamilies services, we utilized MDM to match kin-involved children and cases in the intervention group to a comparable population of kin-involved children and cases in the TAU comparison group. To minimize the risk of bias from carryover effects, we excluded children or family members from inclusion in the comparison population who had involvement with GRANDfamilies services at any time. Because the GRANDfamilies services do not have a formal discharge or end date, families in the study may have continued to benefit from ongoing support after DCFS case closure, which may influence subsequent DCFS cases. This narrowing ensured that families were only represented once in the study and that carryover effects did not affect comparisons between the intervention and TAU groups.

Measures

Outcome Measures

We examined two primary outcomes of interest, subsequent maltreatment and subsequent removal, with two follow-up periods, 6 months and 12 months after the end of a CPS or in-home services DCFS case. Both subsequent removal and subsequent maltreatment are common outcome measures in child welfare research and practice (Millett, 2019; Ringel et al., 2018; *Child and Family Services Review*, 2024). Moreover, both outcomes align with the FFPSA's aim to reform the child welfare system by shifting focus to the prevention of out-of-home placement (e.g., foster care; Family First Prevention Services Act, 2018).

For this study, we defined subsequent removal as the subsequent placement of a child into out-of-home services after a CPS or in-home services case. In addition, we examined subsequent maltreatment as both subsequent reported maltreatment and subsequent substantiated maltreatment, as both are relevant predictors of child maltreatment outcomes (Drake et al., 2003). We defined subsequent reported maltreatment as a new CPS investigation for an allegation of child abuse or neglect, regardless of substantiation, after a DCFS case. We defined subsequent substantiated maltreatment as a DCFS-supported or court substantiated maltreatment finding. DCFS defines a supported finding as when a caseworker determines there is sufficient information to reasonably conclude that abuse, neglect, or dependency occurred based on state law and policy. In contrast, a substantiated finding reflects both a DCFS caseworker's supported determination and a judicial confirmation of maltreatment (Utah Code Section 80-1-102, 2025). For the remainder of this report, we will refer to subsequent reported maltreatment as *reported maltreatment*, subsequent substantiated maltreatment as *substantiated maltreatment*, and subsequent removal as *removal*. We also refer to *subsequent maltreatment* as encompassing both reported maltreatment and substantiated maltreatment.

Measuring the outcomes within multiple follow-up periods allowed for a longitudinal look to test for early outcomes and long-term outcomes after the DCFS case ended. Child welfare research literature commonly reports outcomes within 6-24 months (Casey Family Programs, 2023b; Children's Bureau, 2018), with several prior studies focusing on 6 and 12-month periods of follow-up (Brewsaugh et al., 2022; D'andrade et al., 2008; van der Put et al., 2022). Moreover, the FFPSA Clearinghouse criteria for evidence-based research look for outcomes measured 0-6, 6-12, or 12+ months beyond treatment or intervention (Wilson et al., 2024). As such, outcomes of subsequent maltreatment and removal were measured on a timeframe of (a) 6 months from the DCFS case end date to indicate early outcomes, and (b) 12 months (1 year) from the DCFS case end date to indicate long-term outcomes. The 6-month timeframe was calculated using 182 days, while the 12-month timeframe was calculated using 365 days.

Covariates

DCFS and GRANDfamilies administrative data included many potential covariates such as DCFS client characteristics (e.g., age, race and ethnicity, gender, DCFS region, economic status), case characteristics (e.g., case type, case start and end dates, case closure status), prior DCFS history (prior cases), maltreatment allegations and substantiated status, Utah Family and Children Engagement Tool (UFACET) needs assessment information (e.g., child, family, and household-level needs identified during an ongoing case; for the purposes of ongoing case planning), and foster placement status (i.e., whether a child was placed into out-of-home services). See Table 1 for more details.

Case start and end dates were used to determine case length. DCFS collected information regarding the gender of persons involved with DCFS (male, female, or other/unknown), the combined race and ethnicity of persons involved with DCFS, as well as the economic level of persons and families involved with DCFS under the following categories: poverty, public assistance, working/lower middle class, middle class, and upper class. The information determining how a person or family is categorized into one of these categories was not provided by DCFS. Within DCFS administrative data, an allegation refers to an accepted referral that claims child abuse, neglect, or dependency (*Utah Office of Administrative Rules*, 2023). A single maltreatment report or investigation can include more than one type of allegation, with DCFS having over 47 allegation types categorizing maltreatment. We condensed the type of allegations to the most

commonly reported allegations among the GRANDfamilies population to aid in the matching process, including Child Endangerment, Sexual Abuse, Neglect, Other Abuse, and Other (all other forms of maltreatment). Because a DCFS case can have multiple associated allegations, the total number of prior reported and substantiated allegations across all historical cases was calculated. This differs from case history, which was calculated by counting the number of unique CPS, in-home services, and out-of-home services cases a DCFS-involved person has been associated with, leading up to the current case. The number of prior substantiated CPS cases was also calculated, focusing on the number of unique prior DCFS CPS cases with at least one substantiated allegation of child maltreatment.

Lastly, the UFACET contained four main modules for assessing child, family, and household-level needs: Child Functioning, Parent/Guardian/Other, Family Together, and Household. Each module contained a set of items in which a caseworker assesses potential needs. For example, the Child Functioning module contained 18 items related to a child's health and development, education, behavioral and emotional well-being, social and relational functioning, as well as their systemic and environmental supports. The Parent/Guardian/Other module contained 12 items related to a caregiver's health and well-being, emotional and relational capacity, caregiving and parenting practices, as well as their investment in interventions. The Family Together and Household modules had a combined 13 items related to a family or household's support systems, functioning and relationships, stability, and access to resources. For the purposes of this evaluation, we calculated the total number of UFACET needs identified for a child and family across the four main modules for matching and adjustment in modeling.

Table 1. Data Collected for Analysis

Measure Type	Measure	
Demographics	Age	*(in years)*
	Gender	*Female*
		Male
		Other or Unknown
	Race and Ethnicity	*White Non-Hispanic*
		White Hispanic
		White Unknown
		Multiracial Non-Hispanic
		Unknown Non-Hispanic
		Other
	DCFS Region	*Eastern*
		Northern
		Salt Lake Valley
		Southwestern
		Western
	Economic Level	*Poverty*
		Public Assistance
		Working/Lower Middle Class
		Middle Class
		Upper Class
Case characteristics	Case Type	*CPS*
		In-Home Services
		Out-of-Home Services (Foster)
	Case History	*Number of Prior CPS Cases*
		Number of Prior Substantiated CPS Cases
		Number of Prior In-Home Cases
		Number of Prior Foster Cases
	Case Start and End Date	*(day, month, year)*
	Case Duration	*(in days)*
	Persons Involved in Case	*Caregivers, Kin-Caregivers, Siblings, Perpetrators, Other*
	Foster Placement Status	*Placed into Out-of-Home Services or Not*
Allegations	Allegation Types	*Child Endangerment*
		Sexual Abuse
		Other Abuse
		Neglect
		Other
	Allegation History	*Number of Prior Allegations*
		Number of Substantiated Prior Allegations
UFACET	Number of Family Together Module Items with a Status of Need	
	Household Module Items with a Status of Need	
	Parent/Guardian/Other Module Items with a Status of Need	
	Child Functioning Module Items with a Status of Need	

Data Analysis and Procedures

We utilized descriptive statistics to describe person- and case-level characteristics, such as average age, gender distribution, and the frequency of the outcomes of interest (see Appendix A). Effect sizes were calculated to assess baseline equivalence across all covariates (Appendix B, Table B1 and B2). Multicollinearity among covariates was assessed before and after matching using Pearson correlations and Variance Inflation Factors (VIF), with correlation values above 0.80 and VIF values above 5 indicating multicollinearity (Kim, 2019). Multicollinear covariates provide overlapping information, where the pattern of one variable can largely predict the other, which can bias estimates and make it difficult to determine the independent effect of each covariate in the models (Kim, 2019). For each pair of multicollinear variables, the variable associated with the lowest Akaike Information Criterion (AIC) score was retained (Portet, 2020). During the matching process, two sets of variables were found to be multicollinear: (1) prior CPS investigations and prior substantiated CPS investigations, and (2) prior allegations and prior substantiated allegations. During the matching process, prior substantiated CPS investigations and prior substantiated allegations provided a better model fit and were retained for the purposes of matching (later considered during analysis). After matching, prior substantiated allegations and prior substantiated CPS cases were multicollinear in some matched populations, with the lowest AIC variable selected varying across models (see Appendix C Tables C1-C6). We used R statistical software (R version 4.4.2) for data analysis.

To select comparison groups, we applied a matching technique via nearest neighbor matching using Mahalanobis distance, commonly referred to as Mahalanobis distance matching (MDM), across covariates to match intervention children and cases to similar TAU children and cases. Nearest neighbor matching with Mahalanobis distances is one of the longest-standing matching methods and has been shown to improve balance and efficiency compared to other matching methods, such as propensity score matching (King & Nielsen, 2019). To mitigate the risk of multiple testing, which increases the likelihood of false positive results, we selected multiple comparison groups for different outcome models for different outcomes and follow-up periods. As such, the intervention group remained the same for each model, but we had six uniquely matched populations across ten outcome models (see Table 2 for more information). Reported maltreatment and substantiated maltreatment shared the same comparison group for each follow-up period. This approach allowed us to maintain baseline equivalency across groups while examining two related outcomes. However, because substantiated reported maltreatment is a subset of reported maltreatment, we accounted for multiple testing when interpreting the regression results of these models (Feise, 2002).

For in-home cases, the outcomes of reported maltreatment, substantiated maltreatment, and removal shared the same comparison population across all follow-up times due to the difficulty of achieving adequate, unique matches for the in-home intervention group. For instance, each in-home intervention group case had only one comparable match, compared to CPS intervention cases that had multiple potential matches, likely due to a larger CPS comparison population. To increase the number of matches and establish baseline equivalency for the in-home data, we collapsed some of the categorical covariates into fewer categories. For example, race and ethnicity indicators were combined into two categories: 1) White Non-Hispanic and 2) Black, Indigenous, and People of Color (BIPOC). Similarly, the total prior foster and in-home services cases covariates were combined into a single measure of the number of prior ongoing cases.

NEAREST NEIGHBOR MATCHING

We matched every intervention group child to a similar TAU child using one-to-one nearest neighbor MDM without replacement, implemented with the MatchIt package in R. Covariates for inclusion in the matching model can be found in Table 1, and were selected based upon domain expertise and the Boruta algorithm, a random forest-based feature selection algorithm used to determine which covariates are important for predicting an outcome (Kursa & Rudnicki, 2010).

The region of common support and covariate balance was evaluated for each model (Austin, 2009), matching every intervention child to a similar TAU child across all outcome models. We used calipers to improve the matching process across models. A caliper is a value, either a fixed number or a standard deviation, that defines the maximum allowable difference between matched cases on certain covariates (Austin, 2011). For CPS outcomes with six months of follow-up, we applied a 25-day caliper on case length to increase the number of matches and ensure baseline equivalency. For CPS outcomes with twelve months of follow-up, we applied a 30-day caliper on case length and a 3-year caliper on case start year. For in-home outcomes, we applied a 200-day caliper on case duration. These wide calipers were necessary to achieve baseline equivalency across covariates, given the variation in case characteristics.

INTERVENTION AND COMPARISON POPULATIONS

After matching, we had six different comparison groups paired with one of two intervention groups. For clarity, we refer to the different comparison groups as Comparison Group A, Comparison Group B, Comparison Group C, Comparison Group D, Comparison Group E, and Comparison Group F throughout the report. Table 2 displays each comparison group by its associated case type, outcome, and follow-up time period. Comparisons of the GRANDfamilies and DCFS-involved cases with the DCFS-only cases, both before and after MDM, are shown in Appendix A.

Table 2: Comparison Groups by Case Type, Outcome, and Follow-up Time

Comparison Group	Case Type	Outcome	Follow-up Time
Comparison Group A	CPS	Reports of maltreatment & substantiated maltreatment	6 months
Comparison Group B	CPS	Reports of maltreatment & substantiated maltreatment	12 months
Comparison Group C	CPS	Removal	6 months
Comparison Group D	CPS	Removal	12 months
Comparison Group E	In-home	Reports of maltreatment, substantiated maltreatment, & removal	6 months
Comparison Group F	In-home	Reports of maltreatment, substantiated maltreatment, & removal	12 months

BASELINE EQUIVALENCE

The primary goal of matching in observational studies is to reduce covariate imbalance and improve baseline equivalence between intervention and comparison groups (King & Nielsen, 2019). To evaluate baseline equivalence in our matched samples, we calculated effect sizes for each covariate used in matching, applying Hedges' g for continuous variables and Cox's Index d for categorical variables (Wilson et al., 2024). We interpreted effect sizes using three thresholds: values less than 0.05 were considered equivalent, values between 0.05 and 0.25 indicated that statistical adjustments were required, and values greater than 0.25 reflected non-equivalence (Wilson et al., 2024). See Tables B1 and B2 in Appendix B for baseline equivalence findings for each outcome model.

All measures of DCFS region, ethnicity, and household composition (number of siblings involved in the DCFS case) were in the satisfactory range of baseline equivalence (effect sizes below 0.05; see Appendix B, Table B1, B2). None of the covariates used in matching fell into the unsatisfactory range (Hedges' g or Cox's Index d > 0.25). Covariates with an effect size above 0.05 and below 0.25 were controlled for in the final regression models to satisfy the baseline equivalence requirement (Wilson et al., 2024), as unbalanced covariates can bias estimates if not accounted for (King & Nielsen, 2019). The covariates included in each model are listed in the Results section below.

OUTCOME MODEL

For the final models, we conducted multivariate Bayesian logistic regression on the matched samples, comparing kin-involved intervention children with similar TAU children. Across the past few decades, Bayesian regression has become more common in social science research because it incorporates background information and effectively handles small sample sizes and non-normally distributed parameters (van de Schoot et al., 2014). We ran 10 outcome models, including reported maltreatment from CPS, substantiated maltreatment from CPS, reported maltreatment from in-home services, substantiated maltreatment from in-home services, removal into out-of-home services from CPS, and removal into out-of-home services from in-home services. We analyzed each outcome with a follow-up period of 6 months and 12 months of DCFS case closure. We could not analyze removal from in-home services as none of the intervention children, nor the TAU children, were removed from in-home services during the six-month or one-year follow-up periods.

In two outcome models, removal from CPS at 6 months and 12 months, we observed that the treatment group had no variation in removal, but comparison groups C and D did (See Appendix A, Table A3 and A4). This condition, where one binary outcome category is absent for a subgroup, is known as quasi-complete separation. Quasi-complete separation

can cause issues with estimation in standard logistic regression, particularly in studies with small sample sizes (Albert & Anderson, 1984; Heinze & Schemper, 2002; Lesaffre & Albert, 1989). Bayesian methods address this problem by incorporating prior information to stabilize estimates (Gelman et al., 2008). In our models, we used weakly informative Gaussian priors with a mean of 0 and a standard deviation of 2.5 for each coefficient, a commonly used weakly informative prior within Bayesian modeling (van de Schoot et al., 2014).

Results

All model results are shown in Appendix C for each case type, outcome, comparison group, and follow-up timeframe. GRANDfamilies involvement was statistically significant in two of the outcome models: (1) reported maltreatment for CPS cases with 6 months of follow-up (comparison group A), and (2) removal into out-of-home services from CPS cases with 12 months of follow-up (comparison group D). Involvement with GRANDfamilies was not statistically significant in the remaining outcome analyses.

Population Descriptives

The six comparison groups were largely similar in their distributions of gender, DCFS region, and economic levels, and had comparable averages for the number of siblings, number of perpetrators, and case start year. While there were some differences among the comparison groups, these likely reflect underlying distinctions between case types. On average, Comparison Groups A, B, C, and D included children that were about a year younger than those in Groups E and F. Additionally, Comparison Groups E and F tended to have longer case durations due to the nature of in-home services, a higher average number of prior ongoing and substantiated CPS cases, and a greater proportion of BIPOC children compared to Groups A, B, C, and D.

INTERVENTION GROUP

Our study included two intervention groups, one for outcomes from CPS and the other for outcomes from in-home services. The intervention group for outcomes from CPS contained 37 children with a corresponding CPS case, with approximately 67.6% involving female children and an average age of 5.7 years. The most frequently represented DCFS regions were Northern (48.6%), Salt Lake Valley (24.3%), and Southwestern (21.6%). The three most common racial and ethnic backgrounds in this group were White Non-Hispanic (73%), White Hispanic (16.2%), and Multiracial Non-Hispanic (5.4%). Nearly 46% of cases were classified as working/lower middle class economic level, followed by middle class (37.8%), public assistance (13.5%), and poverty (2.7%). There were no upper-class economic levels reported. On average, these CPS cases began in 2019, with 1.6 siblings and 1.5 perpetrators. Cases spanned an average of 44.8 days, with 1.5 substantiated allegations and 0.8 prior substantiated allegations on the selected CPS case on average. This group averaged 0.4 prior in-home services cases, 0.2 prior foster cases, and 0.5 prior substantiated CPS cases. Lastly, approximately 64.9% of cases had a child endangerment allegation, 37.8% had a neglect allegation, 29.7% had another abuse allegation, and 2.7% involved a sexual abuse allegation (Appendix A, Table A1).

The intervention group for outcomes from in-home services contained 15 children with a corresponding in-home services case, with approximately 53.3% involving female children and an average age of 6.5 years. The most frequently represented DCFS regions were Northern (53.3%), Salt Lake Valley (20%), and Southwestern (20%). The majority of cases involved BIPOC children (66.7%), and 33.3% of cases involved White Non-Hispanic children. Nearly 67% of cases were classified as working/lower middle class economic level, followed by public assistance (26.7%) and middle class (6.7%). There were no upper-class economic levels reported. On average, these in-home service cases began in 2019, with 1.7 siblings, 1.5 perpetrators, and 3.6 UFACET action needed items. Cases spanned an average of 32.2 days, with an average of 2.6 prior ongoing cases and 1.5 prior substantiated CPS cases (Appendix A, Table A5).

COMPARISON GROUP A

Comparison Group A contained 37 TAU children with a corresponding CPS case, with approximately 67.6% involving female children and an average age of 5.4 years. The most frequently represented DCFS regions were Northern (48.6%), Salt Lake Valley (24.3%), and Southwestern (21.6%). The three most common racial and ethnic backgrounds in this group were White Non-Hispanic (73%), White Hispanic (16.2%), and Multiracial Non-Hispanic (5.4%). Nearly 46% of cases were classified as working/lower middle class economic level, followed by middle class (37.8%), public assistance (13.5%), and poverty (2.7%). On average, these CPS cases began in 2019, with 1.4 siblings and 1.4 perpetrators. Cases spanned an average of 39.7 days, with 1.5 substantiated allegations and 0.6 prior substantiated allegations on the selected CPS case

on average. This group averaged 0.2 prior in-home cases, 0.2 prior out-of-home services cases, and 0.4 prior substantiated CPS cases. Lastly, approximately 64.9% of cases involved a child endangerment allegation, 35.1% had a neglect allegation, 29.7% had another abuse allegation, and 2.7% involved a sexual abuse allegation (Appendix A, Table A1).

COMPARISON GROUP B

Comparison Group B contained 37 TAU children with a corresponding CPS case, with approximately 67.6% involving female children and an average age of 6.1 years. The most frequently represented DCFS regions were Northern (48.6%), Salt Lake Valley (24.3%), and Southwestern (21.6%). The three most common racial and ethnic backgrounds in this group were White Non-Hispanic (73%), White Hispanic (16.2%), and Multiracial Non-Hispanic (5.4%). Nearly 46% of cases were classified as working/lower middle class economic level, followed by middle class (35.1%), public assistance (16.2%), and poverty (2.7%). On average, these CPS cases began in 2019, with 1.4 siblings and 1.4 perpetrators. Cases spanned an average of 41 days, with 1.4 substantiated allegations and 0.9 prior substantiated allegations on the selected CPS case on average. This group averaged 0.3 prior in-home services cases, 0.2 prior foster cases, and 0.6 prior substantiated CPS cases. Lastly, approximately 59.5% of cases involved a child endangerment allegation, 35.1% had a neglect allegation, 29.7% had another abuse allegation, and 2.7% involved a sexual abuse allegation (Appendix A, Table A2).

COMPARISON GROUP C

Comparison Group C contained 37 TAU children with a corresponding CPS case, with approximately 67.6% involving female children and an average child age of 5.8 years. The most frequently represented DCFS regions were Northern (48.6%), Salt Lake Valley (24.3%), and Southwestern (21.6%). The three most common racial and ethnic backgrounds in this group were White Non-Hispanic (73%), White Hispanic (16.2%), and Multiracial Non-Hispanic (5.4%). Nearly 46% of cases were classified as working/lower middle class economic level, followed by middle class (37.8%), public assistance (13.5%), and poverty (2.7%). On average, these CPS cases began in 2019, with 1.4 siblings and 1.4 perpetrators. Cases spanned an average of 39.6 days, with 1.5 substantiated allegations and 0.9 prior substantiated allegations on the selected CPS case on average. This group averaged 0.4 prior in-home services cases, 0.2 prior foster cases, and 0.5 prior substantiated CPS cases. Lastly, approximately 62.2% of cases involved a child endangerment allegation, 37.8% had a neglect allegation, 29.7% had another abuse allegation, and 2.7% involved a sexual abuse allegation (Appendix A, Table A3).

COMPARISON GROUP D

Comparison Group D contained 37 TAU children with a corresponding CPS case, with approximately 67.6% involving female children and an average child age of 5.5 years. The most frequently represented DCFS regions were Northern (48.6%), Salt Lake Valley (24.3%), and Southwestern (21.6%). The three most common racial and ethnic backgrounds in this group were White Non-Hispanic (73%), White Hispanic (16.2%), and Multiracial Non-Hispanic (5.4%). Nearly 46% of cases were classified as working/lower middle class economic level, followed by middle class (37.8%), public assistance (13.5%), and poverty (2.7%). On average, these CPS cases began in 2019, with 1.2 siblings and 1.4 perpetrators. Cases spanned an average of 39.5 days, with 1.5 substantiated allegations and 0.9 prior substantiated allegations on the selected CPS case on average. This group averaged 0.3 prior in-home services cases, 0.2 prior foster cases, and 0.5 prior substantiated CPS cases. Lastly, approximately 62.2% of cases involved a child endangerment allegation, 37.8% had a neglect allegation, 29.7% had another abuse allegation, and 2.7% involved a sexual abuse allegation (Appendix A, Table A4).

COMPARISON GROUP E

Comparison Group E contained 15 TAU children with a corresponding in-home services case, with approximately 53.3% involving female children and an average age of 6.1 years. The most frequently represented DCFS regions were Northern (53.3%), Salt Lake Valley (20%), and Southwestern (20%). The majority of cases involved BIPOC children (66.7%), and 33.3% of cases involved White Non-Hispanic children. Nearly 67% of cases were classified as working/lower middle class economic level, followed by public assistance (26.7%) and middle class (6.7%). On average, these in-home service cases began in 2019, with 1.6 siblings, 1.5 perpetrators, and 4.2 UFACET action needed items on average. Cases spanned an average of 302.1 days, with an average of 2.6 prior ongoing cases and 1.5 prior substantiated CPS cases (Appendix A, Table A5).

COMPARISON GROUP F

Comparison Group F contained 15 TAU children with a corresponding in-home services case, with approximately 53.3% involving female children and an average age of 7.7 years. The most frequently represented DCFS regions were Northern (53.3%), Salt Lake Valley (20%), and Southwestern (20%). The majority of cases involved BIPOC children (66.7%), and 33.3% of cases involved White Non-Hispanic children. Nearly 67% of cases were classified as working/lower middle class economic level, followed by public assistance (26.7%) and middle class (6.7%). On average, these in-home service cases began in 2019, with 1.7 siblings, 1.5 perpetrators, and 7.3 UFACET action needed items. Cases spanned an average of 426.5 days, with an average of 2.6 prior ongoing cases and 1.5 prior substantiated CPS cases (Appendix A, Table A6).

Subsequent Maltreatment After CPS Case

The distribution of reported maltreatment following a CPS case for Groups A and B is shown in Table 3, comparing intervention children to TAU children. Among intervention children in Group A, 15 (40.5%) had reported maltreatment within 6 months, while 4 children (10.8%) in Comparison Group A had reported maltreatment within 6 months (Table 3). In Group B, 17 intervention children (46.0%) and 16 TAU children (43.2%) had reported maltreatment within 12 months (Table 3).

Table 3: Distribution of Reported Maltreatment after CPS for Intervention and TAU Children

Study Group	Group A: Reported Maltreatment within Six Months of CPS	Group B: Reported Maltreatment within 12 Months of CPS
Intervention	15 (40.5%, n = 37)	17 (46.0%, n = 37)
TAU	4 (10.8%, n = 37)	16 (43.2%, n = 37)

The distribution of substantiated maltreatment following a CPS case for Groups A and B is shown in Table 4, comparing intervention children to TAU children. Among intervention children in Group A, three (8.1%) had substantiated maltreatment within six months, while two TAU children (5.4%) in Group A had substantiated maltreatment within six months (Table 4). In Group B, five intervention children (13.5%) and eight TAU children (21.6%) with DCFS-only involvement had substantiated maltreatment within 12 months (Table 4).

Table 4: Distribution of Substantiated Maltreatment after CPS for Intervention and TAU Children

Study Group	Group A: Substantiated Maltreatment within Six Months of CPS	Group B: Substantiated Maltreatment within 12 Months of CPS
Intervention	3 (8.1%, n = 37)	5 (13.5%, n = 37)
TAU	2 (5.4%, n = 37)	8 (21.6%, n = 37)

GROUP A: REPORTED MALTREATMENT AND SUBSTANTIATED MALTREATMENT AFTER CPS INVESTIGATION WITHIN SIX MONTHS

▶ Baseline Equivalence

Intervention children shared the same distribution of gender, race, ethnicity, DCFS region, economic level, child endangerment, sexual abuse, and other abuse allegations, as well as the same average case start year, number of prior foster cases, and number of substantiated allegations as Comparison Group A (Appendix A, Table A1). On average, intervention children were 0.3 years younger and had CPS cases that were 5.1 days longer than those in Comparison Group A. Additionally, intervention children had a 2.7% higher rate of neglect allegations, and, on average, 0.2 more

prior in-home services cases, 0.1 more prior substantiated CPS cases, 0.2 more prior substantiated allegations, 0.1 more perpetrators, and 0.2 more siblings than Comparison Group A (Appendix A, Table A1).

After matching, 12 covariates had equivalence measures (Cox's Index d and Hedges' g) within the range of statistical adjustment in the models, indicating their need for inclusion as covariates in the outcome model. These covariates included the case start year and month, case duration, child gender, number of siblings, prior in-home, prior foster, prior substantiated CPS cases, prior substantiated allegations, indicators for economic status, and child endangerment allegation type (Appendix B, Table B1, B2). The remaining case and child covariates were within the acceptable range of baseline equivalency or determined unnecessary for model inclusion.

▶ Outcome Model

Overall, involvement with GRANDfamilies was significantly associated with higher odds of reported maltreatment within six months following a CPS case. Specifically, intervention children had four times greater odds of reported maltreatment within six months compared to TAU children (OR: 4.12; 95% CI [1.16,14.63]; p = 0.018; Appendix C, Table C1). However, we found no statistically significant differences in the odds of substantiated maltreatment within six months of CPS services between intervention children and TAU children (p = 0.605; Appendix C, Table C3).

GROUP B: REPORTED MALTREATMENT AND SUBSTANTIATED MALTREATMENT AFTER CPS INVESTIGATION WITHIN 12 MONTHS

▶ Baseline Equivalence

Intervention children shared the same distribution of gender, race, ethnicity, DCFS region, poverty, and working/lower middle class economic levels, sexual abuse and other abuse allegations, as well as the same average case start year and number of prior foster cases as Comparison Group B (Appendix A, Table A2). Children in Comparison Group B had a 2.7% higher rate of public assistance economic level than intervention children. On average, intervention children were 0.4 years younger and had CPS cases that were 3.8 days longer than those in Comparison Group B. Additionally, intervention children had a 5.4% higher rate of child endangerment allegations, 2.7% higher rate of neglect allegations, and 2.7% higher rate of middle-class economic level. The intervention children had, on average, 0.1 more substantiated allegations, 0.1 more prior in-home services, 0.1 more prior substantiated CPS cases, 0.1 more prior substantiated allegations, 0.1 more perpetrators, and 0.2 more siblings than Comparison Group B (Appendix A, Table A2).

After matching, 12 covariates had equivalence measures (Cox's Index d and Hedges' g) within the range of statistical adjustment in the models, indicating their need for inclusion as covariates in the outcome model. These covariates included the case start year and month, case duration, child age, number of siblings, perpetrators, prior in-home, prior foster, prior substantiated CPS cases, prior substantiated allegations, and indicators for child endangerment and neglect allegation types (Appendix B, Tables B1 and B2). In addition, we determined that indicators of economic level and child gender were necessary for model inclusion as those variables improved the model fit.

▶ Outcome Model

Overall, involvement with GRANDfamilies was not statistically significant in the analysis results. We found no statistically significant difference in the odds of reported maltreatment within 12 months of CPS services between intervention children and similar TAU children (p = 0.338; Appendix C, Table C2). Three covariates had statistically significant results: case start month, allegations of neglect, and number of perpetrators on the case. For each additional case start month, the odds of reported maltreatment within 12 months decreased by 30% (p = 0.018; Appendix C, Table C2). Additionally, an allegation of neglect on the case was associated with a 90% decrease in the odds of reported maltreatment within 12 months (p = 0.020; Appendix C, Table C2), and the odds of reported maltreatment within 12 months increased by a factor of 12 for each additional perpetrator on the case (p < 0.001; Appendix C, Table C2).

In addition, we found no statistically significant difference in the odds of substantiated maltreatment within 12 months of CPS services between intervention children compared to similar TAU children (p = 0.112; Appendix C, Table C4).

Removal After CPS Case

The distribution of removal into out-of-home services following a CPS case for Groups C and D is shown in Table 5, comparing intervention children to TAU children. Among intervention children in Group C, no children were removed into out-of-home services within six months, while five TAU children (13.5%) in Group C were removed into out-of-home services within six months (Table 5). In Group D, no intervention children and four TAU children (10.8%) were removed into out-of-home services within 12 months (Table 5).

Table 5: Distribution of Removal after CPS for Intervention and TAU Children

Study Group	Group C: Removal within Six Months of CPS	Group D: Removal within 12 Months of CPS
Intervention	0 (0%, n = 37)	0 (0%, n = 37)
TAU	5 (13.5%, n = 37)	4 (10.8%, n = 37)

GROUP C: REMOVAL INTO OUT-OF-HOME SERVICES WITHIN SIX MONTHS OF CPS

▶ Baseline Equivalence

Intervention children shared the same distribution of gender, race, ethnicity, DCFS region, economic level, sexual abuse, other abuse, and neglect allegations, as well as the same average case start year, number of prior in-home, prior foster, prior substantiated CPS cases, and substantiated allegations as Comparison Group C (Appendix A, Table A3). On average, intervention children were 0.1 years younger and had CPS cases that were 5.2 days longer than those in Comparison Group C. Additionally, these children had a 2.7% higher rate of child endangerment allegations, and, on average, 0.1 fewer prior substantiated allegations, 0.1 more perpetrators, and 0.2 more siblings than Comparison Group C (Appendix A, Table A3).

After matching, seven covariates had equivalence measures (Cox's Index d and Hedges' g) within the range of statistical adjustment in the models, indicating their need for inclusion as covariates in the outcome model. These covariates included the month the CPS case starts, case duration, an indicator for a child endangerment allegation, and the number of siblings, prior substantiated allegations, perpetrators, prior foster cases, and prior substantiated CPS cases (Appendix B, Table B1, B2). The remaining case and child covariates were within the acceptable range of baseline equivalency or determined unnecessary for model inclusion.

▶ Outcome Model

Overall, involvement with GRANDfamilies was not statistically significant in the analysis results. We found no statistically significant difference in the odds of removal into out-of-home services within six months of CPS services between intervention and TAU children ($p = 0.078$; Appendix C, Table C5).

GROUP D: REMOVAL INTO OUT-OF-HOME SERVICES WITHIN 12 MONTHS OF CPS

▶ Baseline Equivalence

Intervention children shared the same distribution of gender, race, ethnicity, DCFS region, economic level, sexual abuse, other abuse, and neglect allegations, as well as the same average case start year, number of prior foster, prior substantiated CPS cases, and substantiated allegations as Comparison Group D (Appendix A, Table A4). On average, intervention children in Group D were 0.2 years younger and had CPS cases that were 5.3 days longer than those in Comparison Group D. Additionally, these children had a 2.7% higher rate of child endangerment allegations and, on average, 0.1 less prior substantiated allegations, 0.1 more prior in-home services cases, 0.1 more perpetrators, and 0.4 more siblings than Comparison Group D (Appendix A, Table A4).

After matching, eight covariates had equivalence measures (Cox's Index d and Hedges' g) within the range of statistical adjustment in the models, indicating their need for inclusion as covariates in the outcome model. These covariates included the year and month the CPS case started, case duration, number of siblings, an indicator for child endangerment allegations, the number of prior substantiated allegations, perpetrators, prior in-home services cases, and prior substantiated CPS cases (Appendix B, Table B1, B2).

▶ Outcome Model

Overall, involvement with GRANDfamilies was significantly associated with lower odds of removal into out-of-home services within 12 months following a CPS case. Specifically, intervention children were 94% less likely to be removed compared to similar TAU children (OR: 0.06; 95% CI [<0.01, 0.83]; p = 0.020; Appendix C, Table C6).

Subsequent Maltreatment After In-home Services

The distribution of reported maltreatment following an in-home services case for Groups E and F is shown in Table 6, comparing intervention children with similar TAU children. Among intervention children in Group E, 2 (13.3%) had reported maltreatment within six months, while 1 TAU child (6.7%) in Group E had reported maltreatment within six months (Table 6). In Group F, 4 intervention children (26.7%) and 1 TAU child (6.7%) had reported maltreatment within 12 months (Table 6).

Table 6: Distribution of Reported Maltreatment after In-Home Services for Intervention and TAU Children

Study Group	Group E: Reported Maltreatment within Six Months of In-Home Services	Group F: Reported Maltreatment within 12 Months of In-Home Services
Intervention	2 (13.3%, n = 15)	4 (26.7%, n = 15)
TAU	1 (6.7%, n = 15)	1 (6.7%, n = 15)

The distribution of substantiated maltreatment following an in-home services case for Groups E and F is shown in Table 7, comparing intervention children to similar TAU children. Among intervention children in Group E, none had substantiated maltreatment within six months, while one TAU child (6.7%) in Group E had substantiated maltreatment within six months (Table 7). In Group F, three intervention children (20.0%) and one TAU child (6.7%) had substantiated maltreatment within 12 months (Table 7).

Table 7: Distribution of Substantiated Maltreatment after In-Home Services for Intervention and TAU Children

Study Group	Group E: Substantiated Maltreatment within Six Months of In-Home Services	Group F: Substantiated Maltreatment within 12 Months of In-Home Services
Intervention	0 (0%, n = 15)	3 (20.0%, n = 15)
TAU	1 (6.7%, n = 15)	1 (6.7%, n = 15)

GROUP E: REPORTED MALTREATMENT AND SUBSTANTIATED MALTREATMENT WITHIN SIX MONTHS OF IN-HOME

▶ Baseline Equivalence

Intervention children shared the same distribution of gender, DCFS region, and economic level, as well as the same average number of prior ongoing and prior substantiated CPS cases as Comparison Group E (Appendix A, Table A5). On average, intervention children were 0.4 years older and had in-home services cases that were 27.1 days longer than those

in Comparison Group E. Additionally, these children had a 5.4% higher rate of BIPOC, and, on average, 0.6 more UFACET action needed items, and 0.1 more siblings than Comparison Group E (Appendix A, Table A5).

After matching, five covariates had equivalence measures (Cox's Index d and Hedges' g) within the range of statistical adjustment in the models, indicating their need for inclusion as covariates in the outcome model. These covariates included child age, child race and ethnicity, case duration, number of siblings, and number of UFACET action needed items (Appendix B, Table B1, B2).

▶ Outcome Model

Overall, involvement with GRANDfamilies was not statistically significant in the analysis results. We found no statistically significant difference in the odds of reported maltreatment within six months of in-home services between intervention children and similar TAU children ($p = 0.460$; Appendix C, Table C7). In addition, we found no statistically significant difference in the odds of substantiated maltreatment within six months of in-home services between intervention children and similar TAU children ($p = 0.831$; Appendix C, Table C9).

GROUP F: REPORTED MALTREATMENT AND SUBSTANTIATED MALTREATMENT WITHIN 12 MONTHS OF IN-HOME

▶ Baseline Equivalence

Intervention children shared the same distribution of DCFS region and economic level, as well as the same average number of siblings, prior ongoing, and prior substantiated CPS cases as Comparison Group F (Appendix A, Table A6). On average, intervention children were 1.2 years older and had in-home services cases that were 97.3 days longer than Comparison Group F. Additionally, these children had a 5.4% higher rate of females and BIPOC, with, on average, 3.7 more UFACET action needed items than Comparison Group F (Appendix A, Table A6).

Five covariates had equivalence measures (Cox's Index d and Hedges' g) within the range of statistical adjustment in the models, indicating their need for inclusion as covariates in the outcome model. These covariates included child age, child race and ethnicity, case duration, number of siblings, and number of UFACET action needed items (Appendix B, Table B1, B2).

▶ Outcome Model

Overall, involvement with GRANDfamilies was not statistically significant in the analysis results. We found no statistically significant difference in the odds of reported maltreatment within 12 months of in-home services between intervention children and similar TAU children ($p = 0.077$; Appendix C; Table C8). However, race and ethnicity were statistically significant in this analysis, where BIPOC children were 97% less likely to have reported maltreatment within 12 months than White Non-Hispanic children ($p = 0.022$; Appendix C, Table C8).

Additionally, we found no statistically significant difference in the odds of substantiated maltreatment within twelve months of in-home services between intervention children and similar TAU children ($p = 0.123$; Appendix C, Table C10). However, race and ethnicity were statistically significant in this analysis, where BIPOC children were 97% less likely to have substantiated maltreatment within 12 months than White Non-Hispanic children ($p = 0.018$; Appendix C, Table C10).

Discussion

Overall, the analyses yielded mixed results for removal and subsequent maltreatment for GRANDfamilies clients concurrently involved with DCFS services during a CPS or in-home services case. While the groups we examined at the early timeframe of six months did not have a significant difference for removal, we found that children in the intervention group, with concurrent DCFS and GRANDfamilies involvement, were significantly less likely to be removed at the longer-term timeframe within 12 months after a CPS case compared to the TAU group. We interpreted this as indicating that GRANDfamilies' services had a positive impact on preventing child removal into out-of-home services.

The differences in removal between six months and 12 months may be attributed to several factors. First, there may be unaccounted-for differences in the two comparison groups examined at the two time frames. The use of retrospective administrative data for this study limited the study to data points already collected, leaving some important details unmeasured, such as the level of kinship caregiver involvement and more expansive safety and risk information. This important missing information would be useful in future studies to further explain the impact of GRANDfamilies' services on removal. Second, the effect of the treatment may have become more detectable after a longer period. This may indicate that other factors related to the outcome had a more or less significant impact on the outcome at different time periods. In particular, many covariates in the model represented individual or contextual risk factors that may change over time, potentially changing their relative contribution to an outcome (Penning de Vries & Groenwold, 2022). As such, differences in the timing or strength of these time-varying influences could lessen or amplify treatment effects at different follow-up periods and should be further assessed. Third, no children in the treatment group experienced removal at either timeframe, indicating that treatment completely prevented the outcome. While this can be interpreted in favor of the GRANDfamilies services, this is indicative of a quasi-complete separation of the data. Our use of Bayesian regression methods allowed for estimation in this case, though our estimates for removal from CPS reflected limited data and thus should be interpreted with caution (Gelman et al., 2008). Future GRANDfamilies research may benefit from obtaining a larger sample size to decrease the chance of quasi-complete separation when looking at removal as an outcome.

For the finding of reported maltreatment, we saw similarly mixed results, but with the opposite trend; a significant finding at six months from CPS case end compared to a non-significant finding at the 12-month follow-up timeframe. In this case, the intervention group experienced significantly higher odds of reported maltreatment at six months compared to the TAU group. Descriptively, in the intervention group 15 (40.5%) children experienced reported maltreatment, and only 2 more children experienced a report of maltreatment by 12 months (n = 17, 45.9%). The comparison group examined at six months (Comparison Group A) only had four children who experienced a report of maltreatment at six months, while the comparison group at 12 months (Comparison Group B) had 16 (43.2%), a rate very similar to the treatment group.

Our observed trend of higher rates of detection at 6 months for the treatment group, with more balanced results at 12 months, may indicate that GRANDfamilies' involvement had the effect of increased early detection of maltreatment or increased detection overall due to contact with mandated reporters. It's plausible that intervention group families would have continued with services after DCFS case closure, considering the ongoing nature of the GRANDfamilies model, and as such, families may have been in front of service providers who may have uncovered new or previously unreported maltreatment. This phenomenon is commonly referred to as surveillance bias, which is a known contributor to increased rates of reported maltreatment during service provision (Chaffin & Bard, 2006; Drake et al., 2006; Holland et al., 2024). However, due to the absence of a referral source and the GRANDfamilies service length in our data, we could not directly estimate the potential for surveillance bias in our study. Another potential explanation for our mixed findings related to maltreatment recurrence could be unmeasured differences between the treatment and between the two comparison groups (A and B) at the different timeframes, such as differences in the nature of kin-involvement in a case and other risk factors not present in our dataset. As such, there may be other factors contributing to these findings that we could not account for in the matching or modeling process. These mixed findings also reflect the literature more broadly, which also demonstrates mixed findings related to the impact of kinship services on the recurrence of child maltreatment across studies (Bell & Romano, 2017; Winokur et al., 2014). Future kinship navigator studies should consider factors such as surveillance bias and comprehensive risk factors as potential contributors to the recurrence of maltreatment.

To further examine subsequent maltreatment, we also examined substantiated maltreatment, with no significant differences between the treatment and comparison groups within either 6 months or 12 months of follow-up time. Since substantiation indicates there is evidentiary support for maltreatment after investigation, this finding helps rule out the possibility that GRANDfamilies' services directly contributed to increased actual maltreatment. Due to the lack of differences with 12 months of follow-up and the lack of differences in substantiation, we do not believe the initial increase in maltreatment reports indicates a risk of harm from GRANDfamilies' services. However, due to the inconsistencies in these findings, future research, with larger sample sizes and more details on the nature of kin-caregiver involvement, risk and safety factors, and the extent of services after DCFS involvement, should be conducted to better understand trends in subsequent maltreatment.

No analyses examining the impact of GRANDfamilies services found a significant difference between the treatment and TAU comparison groups. These analyses were largely impacted by low sample size, with only 15 GRANDfamilies clients with concurrent DCFS involvement and few children experiencing the outcome of reported maltreatment in both groups (10.8% or less), and no children in either group experiencing removal at either timeframe. This limited our ability to examine the outcome of removal altogether and yielded non-significant findings for reported maltreatment. Another consideration may be that GRANDfamilies' services are more impactful at early-intervention DCFS stages, such as CPS involvement, and/or that DCFS TAU in-home services are more robust and make up some of the differences seen at the time of CPS. However, it is difficult to draw any certain conclusion due to the smaller sample size in the in-home services groups compared to the CPS groups in this study. Future studies should be conducted with a larger sample size to better understand the impact of GRANDfamilies services provided with concurrent in-home DCFS services.

Limitations

Both reported maltreatment and removal showed different outcomes at the different follow-up time periods. One explanation for this was the lack of several important measures in our data. For instance, we had no metric to determine the nature of kin-involvement – whether the children were placed in a kin-caregiver home or how much involvement the kin caregivers had compared to their original caregivers in the lives of the children. Similarly, risk and safety assessment data were unavailable for this study. While some of our metrics measure risk factors such as prior DCFS history, allegation type, allegation substantiation, and economic factors, we could not account for all the relevant risk factors accounted for in DCFS risk and safety assessments, such as the role of caregiver mental health and substance abuse issues, both significant predictors of maltreatment, child welfare involvement, and removal (Berger et al., 2010; Gyamfi et al., 2012; Milani et al., 2022; Murphy et al., 1991). Without complete risk and safety information, we were limited in our ability to directly measure safety and risk of maltreatment, and thus, the treatment and various comparison groups may have differed in ways we were unable to account for in matching and analysis, potentially contributing to the mixed findings from different comparison groups in this study.

Conclusion

This quasi-experimental evaluation of Utah's GRANDfamilies Kinship Navigation program found encouraging but mixed findings. The intervention group consisted of DCFS kin-involved children with an overlapping GRANDfamilies service initiation date, while the comparison groups consisted of similar DCFS kin-involved children with no GRANDfamilies involvement. Outcomes focused on reported maltreatment, substantiated maltreatment, and removal at 6 and 12 months post-DCFS case for both CPS and in-home services. Among DCFS CPS cases, the intervention group was associated with significantly lower odds of removal to out-of-home services within 12 months of CPS case closure, suggesting a protective effect on placement stability and permanency. In contrast, the odds of reported maltreatment were higher for the intervention group at 6 months but not at 12 months, with no significant differences in the odds of substantiated maltreatment at either time point. These findings are consistent with enhanced early detection or surveillance among families engaged with services, with no evidence of increased harm or maltreatment among those receiving GRANDfamilies. Moreover, these findings suggest that GRANDfamilies is associated with the longer-term prevention of removal. Analyses of in-home services yielded no detectable effects, likely due to small sample sizes and low prevalence of the outcomes studied. These findings support the promise of kinship navigation programs as part of a prevention-focused child welfare strategy. Future research should seek to collect larger samples of data, identify kinship placement status, track service intensity and duration, and address potential surveillance bias.

Appendix A. Population-Level Descriptives

Table A1. Distribution of CPS Case and Person Characteristics for the Outcomes of Reported and Substantiated Maltreatment within Six Months: Comparing GRANDfamilies intervention with Comparison Group A

Measure		GRANDfamilies & DCFS (n = 37)	TAU (DCFS-Only) Before Matching (n = 88,864)	TAU (DCFS-Only) After Matching (n = 37)
Child Age	*(Mean)*	5.7 years	7.6 years	5.4 years
Gender	*Female*	67.6%	52.7%	67.6%
	Male	32.4%	47.3%	32.4%
Race and Ethnicity	*White Non-Hispanic*	73.0%	65.6%	73.0%
	White Hispanic	16.2%	20.5%	16.2%
	White Unknown	2.7%	0.4%	2.7%
	Multiracial Non-Hispanic	5.4%	3.3%	5.4%
	Unknown Non-Hispanic	2.7%	0.3%	2.7%
	Other	0%	9.9%	0%
Region	*Eastern*	0%	5.6%	0%
	Northern	48.6%	28.9%	48.6%
	Salt Lake Valley	24.3%	40.0%	24.3%
	Southwestern	21.6%	9.0%	21.6%
	Western	5.4%	16.5%	5.4%
Case Duration	*(Mean)*	44.8 days	37.0 days	39.7 days
Number of Substantiated Allegations	*(Mean)*	1.5	1.4	1.5
Allegation Type	*Child Endangerment*	64.9%	40.3%	64.9%
	Sexual Abuse	2.7%	15.4%	2.7%
	Other Abuse	29.7%	41.8%	29.7%
	Neglect	37.8%	31.7%	35.1%
	Other	0%	0.6%	0%
Number of Prior In-Home Services Cases	*(Mean)*	0.4	0.3	0.2
Number of Prior Foster Cases	*(Mean)*	0.2	0.1	0.2
Number of Prior Substantiated CPS Cases	*(Mean)*	0.5	0.4	0.4
Number of Substantiated Prior Allegations	*(Mean)*	0.8	0.9	0.6
Number of Perpetrators	*(Mean)*	1.5	1.5	1.4
Number of Siblings	*(Mean)*	1.6	1.2	1.4
Year Case Start	*(Mean)*	2019	2017	2019
Month Case Start	*(Mean)*	July	June	June
Economic Level	*Poverty*	2.7%	10.9%	2.7%
	Public Assistance	13.5%	16.3%	13.5%
	Working/Lower Middle Class	45.9%	53.7%	45.9%
	Middle Class	37.8%	18.4%	37.8%
	Upper Class	0%	0.7%	0%
	Null	0%	0.1%	0%
Reported Maltreatment		40.1%	28.4%	10.8%
Substantiated Maltreatment		8.1%	12.3%	5.4%

Table A2. Distribution of CPS Case and Person Characteristics for the Outcomes of Reported and Substantiated Maltreatment within 12 Months: Comparing GRANDfamilies intervention with Comparison Group B

Measure		GRANDfamilies & DCFS (n = 37)	TAU (DCFS-Only)	
			Before Matching (n = 86,092)	After Matching (n = 37)
Child Age	*(Mean)*	5.7 years	7.6 years	6.1 years
Gender	*Female*	67.6%	52.7%	67.6%
	Male	32.4%	47.3%	32.4%
Race and Ethnicity	*White Non-Hispanic*	73.0%	65.9%	73.0%
	White Hispanic	16.2%	20.3%	16.2%
	White Unknown	2.7%	0.4%	2.7%
	Multiracial Non-Hispanic	5.4%	3.3%	5.4%
	Unknown Non-Hispanic	2.7%	0.3%	2.7%
	Other	0%	9.8%	0%
Region	*Eastern*	0%	5.6%	0%
	Northern	48.6%	28.8%	48.6%
	Salt Lake Valley	24.3%	40.1%	24.3%
	Southwestern	21.6%	9.0%	21.6%
	Western	5.4%	16.5%	5.4%
Case Duration	*(Mean)*	44.8 days	36.9 days	41.0 days
Number of Substantiated Allegations	*(Mean)*	1.5	1.4	1.4
Allegation Type	*Child Endangerment*	64.9%	40.6%	59.5%
	Sexual Abuse	2.7%	15.3%	2.7%
	Other Abuse	29.7%	41.6%	29.7%
	Neglect	37.8%	31.7%	35.1%
	Other	0%	0.6%	0%
Number of Prior In-Home Services Cases	*(Mean)*	0.4	0.3	0.3
Number of Prior Foster Cases	*(Mean)*	0.2	0.1	0.2
Number of Prior Substantiated CPS Cases	*(Mean)*	0.5	0.4	0.6
Number of Substantiated Prior Allegations	*(Mean)*	0.8	0.9	0.9
Number of Perpetrators	*(Mean)*	1.5	1.5	1.4
Number of Siblings	*(Mean)*	1.6	1.2	1.4
Year Case Start	*(Mean)*	2019	2016	2019
Month Case Start	*(Mean)*	July	June	June
Economic Level	*Poverty*	2.7%	10.8%	2.7%
	Public Assistance	13.5%	16.5%	16.2%
	Working/Lower Middle Class	45.9%	53.5%	45.9%
	Middle Class	37.8%	18.4%	35.1%
	Upper Class	0%	0.6%	0%
	Null	0%	0.1%	0%
Reported Maltreatment		45.9%	28.5%	43.2%
Substantiated Maltreatment		13.5%	12.5%	21.6%

Table A3. Distribution of CPS Case and Person Characteristics for the Outcome of Removal into Out-of-Home Services within Six Months: Comparing GRANDfamilies intervention with Comparison Group C

Measure		GRANDfamilies & DCFS (n = 37)	TAU (DCFS-Only)	
			Before Matching (n = 88,864)	After Matching (n = 37)
Child Age	*(Mean)*	5.7 years	7.6 years	5.8 years
Gender	*Female*	67.6%	52.7%	67.6%
	Male	32.4%	47.3%	32.4%
Race and Ethnicity	*White Non-Hispanic*	73.0%	65.6%	73.0%
	White Hispanic	16.2%	20.5%	16.2%
	White Unknown	2.7%	0.4%	2.7%
	Multiracial Non-Hispanic	5.4%	3.3%	5.4%
	Unknown Non-Hispanic	2.7%	0.3%	2.7%
	Other	0%	9.9%	0%
Region	*Eastern*	0%	5.6%	0%
	Northern	48.6%	28.9%	48.6%
	Salt Lake Valley	24.3%	40.0%	24.3%
	Southwestern	21.6%	9.0%	21.6%
	Western	5.4%	16.5%	5.4%
Case Duration	*(Mean)*	44.8 days	37.0 days	39.6 days
Number of Substantiated Allegations	*(Mean)*	1.5	1.4	1.5
Allegation Type	*Child Endangerment*	64.9%	40.3%	62.2%
	Sexual Abuse	2.7%	15.4%	2.7%
	Other Abuse	29.7%	41.8%	29.7%
	Neglect	37.8%	31.7%	37.8%
	Other	0%	0.6%	0%
Number of Prior In-Home Services Cases	*(Mean)*	0.4	0.3	0.4
Number of Prior Foster Cases	*(Mean)*	0.2	0.1	0.2
Number of Prior Substantiated CPS Cases	*(Mean)*	0.5	0.4	0.5
Number of Substantiated Prior Allegations	*(Mean)*	0.8	0.9	0.9
Number of Perpetrators	*(Mean)*	1.5	1.5	1.4
Number of Siblings	*(Mean)*	1.6	1.2	1.4
Year Case Start	*(Mean)*	2019	2017	2019
Month Case Start	*(Mean)*	July	June	June
Economic Level	*Poverty*	2.7%	10.9%	2.7%
	Public Assistance	13.5%	16.3%	13.5%
	Working/Lower Middle Class	45.9%	53.7%	45.9%
	Middle Class	37.8%	18.4%	37.8%
	Upper Class	0%	0.7%	0%
	Null	0%	0.1%	0%
Removal		0%	3.5%	8.1%

Table A4. Distribution of CPS Case and Person Characteristics for the Outcome of Removal into Out-of-Home Services within 12 Months: Comparing GRANDfamilies intervention with Comparison Group D

Measure		GRANDfamilies & DCFS (n = 37)	TAU (DCFS-Only)	
			Before Matching (n = 86,092)	After Matching (n = 37)
Child Age	*(Mean)*	5.7 years	7.6 years	5.5 years
Gender	*Female*	67.6%	52.7%	67.6%
	Male	32.4%	47.3%	32.4%
Race and Ethnicity	*White Non-Hispanic*	73.0%	65.9%	73.0%
	White Hispanic	16.2%	20.3%	16.2%
	White Unknown	2.7%	0.4%	2.7%
	Multiracial Non-Hispanic	5.4%	3.3%	5.4%
	Unknown Non-Hispanic	2.7%	0.3%	2.7%
	Other	0%	9.8%	0%
Region	*Eastern*	0%	5.6%	16.5%
	Northern	48.6%	28.8%	0%
	Salt Lake Valley	24.3%	40.1%	48.6%
	Southwestern	21.6%	24.3%	21.6%
	Western	5.4%	9.0%	5.4%
Case Duration	*(Mean)*	44.8 days	36.9 days	39.5 days
Number of Substantiated Allegations	*(Mean)*	1.5	1.4	1.5
Allegation Type	*Child Endangerment*	64.9%	40.6%	62.2%
	Sexual Abuse	2.7%	15.3%	2.7%
	Other Abuse	29.7%	41.6%	29.7%
	Neglect	37.8%	31.7%	37.8%
	Other	0%	0.6%	0%
Number of Prior In-Home Services Cases	*(Mean)*	0.4	0.3	0.3
Number of Prior Foster Cases	*(Mean)*	0.2	0.1	0.2
Number of Prior Substantiated CPS Cases	*(Mean)*	0.5	0.4	0.5
Number of Substantiated Prior Allegations	*(Mean)*	0.8	0.9	0.9
Number of Perpetrators	*(Mean)*	1.5	1.5	1.4
Number of Siblings	*(Mean)*	1.6	1.2	1.2
Year Case Start	*(Mean)*	2019	2016	2019
Month Case Start	*(Mean)*	July	June	June
Economic Level	*Poverty*	2.7%	10.8%	2.7%
	Public Assistance	13.5%	16.5%	13.5%
	Working/Lower Middle Class	45.9%	53.5%	45.9%
	Middle Class	37.8%	18.4%	37.8%
	Upper Class	0%	0.6%	0%
	Null	0%	0.1%	0%
Removal		0%	5.5%	10.8%

Table A5. Distribution of In-Home Services Case and Person Characteristics for the Outcomes of Reported Maltreatment, Substantiated Maltreatment, and Removal into Out-of-Home Services within Six Months: Comparing GRANDfamilies intervention with Comparison Group E

Measure		GRANDfamilies & DCFS (n = 15)	TAU (DCFS-Only)	
			Before Matching (n = 4,101)	After Matching (n = 15)
Child Age	*(Mean)*	6.5 years	7.2 years	6.1 years
Gender	*Female*	53.3%	48.9%	53.3%
	Male	46.7%	51.1%	46.7%
Race and Ethnicity	*BIPOC*	73.3%	34.9%	66.7%
	White Non-Hispanic	26.7%	65.1%	33.3%
Region	*Eastern*	0%	10.8%	18.3%
	Northern	53.3%	29.9%	0%
	Salt Lake Valley	20.0%	11.0%	53.3%
	Southwestern	20.0%	20.0%	20.0%
	Western	6.7%	29.9%	6.7%
Case Duration	*(Mean)*	329.2 days	245.2 days	302.1 days
Number of Prior Ongoing Cases	*(Mean)*	2.6	1.2	2.6
Number of Prior Substantiated CPS Cases	*(Mean)*	1.5	1.4	1.5
Number of UFACET Action Needed Items	*(Mean)*	3.6	4.7	4.2
Number of Perpetrators	*(Mean)*	1.5	1.5	1.5
Number of Siblings	*(Mean)*	1.7	1.4	1.6
Year Case Start	*(Mean)*	2019	2016	2019
Month Case Start	*(Mean)*	June	June	June
Economic Level	*Poverty*	0%	17.7%	0%
	Public Assistance	26.7%	18.5%	26.7%
	Working/Lower Middle Class	66.7%	49.1%	66.7%
	Middle Class	6.7%	13.9%	6.7%
	Upper Class	0%	0.4%	0%
	Null	0%	0.4%	0%
Reported Maltreatment		13.3%	12.9%	6.7%
Substantiated Maltreatment		0%	5.4%	6.7%
Removal		0%	12.9%	0%

Table A6. Distribution of In-Home Services Case and Person Characteristics for the Outcomes of Reported Maltreatment, Substantiated Maltreatment, and Removal into Out-of-Home Services within 12 Months: Comparing GRANDfamilies intervention with Comparison Group F

Measure		GRANDfamilies & DCFS (n = 15)	TAU (DCFS-Only)	
			Before Matching (n = 3,965)	After Matching (n = 15)
Child Age	*(Mean)*	6.5 years	7.2 years	7.7 years
Gender	*Female*	53.3%	48.8%	46.7%
	Male	46.7%	51.2%	53.3%
Race and Ethnicity	*BIPOC*	73.3%	34.3%	66.7%
	White Non-Hispanic	26.7%	65.7%	33.3%
Region	*Eastern*	0%	11.0%	0%
	Northern	53.3%	30.0%	53.3%
	Salt Lake Valley	20.0%	11.1%	20.0%
	Southwestern	20.0%	29.9%	20.0%
	Western	6.7%	18.1%	6.7%
Case Duration	*(Mean)*	329.2 days	244.2 days	426.5 days
Number of Prior Ongoing Cases	*(Mean)*	2.6	1.2	2.6
Number of Prior Substantiated CPS Cases	*(Mean)*	1.5	1.4	1.5
Number of UFACET Action Needed Items	*(Mean)*	3.6	4.7	7.3
Number of Perpetrators	*(Mean)*	1.5	1.5	1.5
Number of Siblings	*(Mean)*	1.7	1.4	1.7
Year Case Start	*(Mean)*	2019	2016	2019
Month Case Start	*(Mean)*	June	June	June
Economic Level	*Poverty*	0%	17.6%	0%
	Public Assistance	26.7%	18.4%	26.7%
	Working/Lower Middle Class	66.7%	49.0%	66.7%
	Middle Class	6.7%	14.1%	6.7%
	Upper Class	0%	0.5%	0%
	Null	0%	0.4%	0%
Reported Maltreatment		26.7%	22.3%	6.7%
Substantiated Maltreatment		20.0%	9.7%	6.7%
Removal		0%	14.8%	0%

Appendix B. Baseline Equivalence

Table B1. Baseline Equivalence for All Groups using Hedges' G for Continuous Covariates

	Hedges' G					
Measure	**Group A**	**Group B**	**Group C**	**Group D**	**Group E**	**Group F**
Child Age (in years)	-0.020	-0.103	-0.039	0.034	0.128	0.128
Case Duration (in days)	0.196	0.166	0.216	0.226	-0.204	-0.204
Number of Substantiated Allegations	-0.039	-0.039	-0.039	-0.039	-	-
Number of Prior Substantiated Allegations	-0.106	0.133	-0.086	-0.086	-	-
Number of Prior In-Home Services Cases	0.077	0.077	0.036	0.077	-	-
Number of Prior Foster Cases	-0.058	-0.058	0.058	0	-	-
Number of Prior Ongoing Cases	-	-	-	-	0	0
Number of Prior Substantiated CPS Cases	-0.063	-0.121	-0.092	-0.065	0	0
Number of UFACET Action Needed Items	-	-	-	-	-0.204	-0.204
Number of Perpetrators	0.032	0.070	0.064	0.100	0	0
Number of Siblings	0.202	0.158	0.139	0.241	0.160	0.160
Year of Case Start	0.165	0.216	0.037	0.221	0	0
Month of Case Start	0.136	0.088	0.103	0.141	0	0

Table B2. Baseline Equivalence for All Groups using Cox's Index d for Categorical Covariates and Indicators

Measure		Cox's Index d					
		Group A	Group B	Group C	Group D	Group E	Group F
Gender	*Male*	0.073	0	0	0	0	0
CPS Race and Ethnicity*	*White Non-Hispanic*	0	0	0	0	-	-
	White Hispanic	0	0	0	0	-	-
	White Unknown	0	0	0	0	-	-
	Multiracial Non-Hispanic	0	0	0	0	-	-
	Unknown Non-Hispanic	0	0	0	0	-	-
In-home Race and Ethnicity	*White Non-Hispanic versus BIPOC*	-	-	-	-	0.193	0.193
Region*	*Eastern*	0	0	0	0	0	0
	Northern	0	0	0	0	0	0
	Salt Lake Valley	0	0	0	0	0	0
	Southwestern	0	0	0	0	0	0
	Western	0	0	0	0	0	0
Allegation Type	*Child Endangerment*	0.071	0.139	0.071	0.071	-	-
	Sexual Abuse	0	0	0	0	-	-
	Other Abuse	0	0	0	0	-	-
	Neglect	0	0.071	0	0	-	-
	Other	0	0	0	0	-	-
Economic Level*	*Poverty*	0	0	0	0	0	0
	Public Assistance	0.130	0	0	0	0	0
	Working/Lower Middle Class	0.071	0	0	0	0	0
	Middle Class	0	0	0	0	0	0

*Each category was treated as an indicator for calculating the Cox's Index d.

Appendix C. Outcome Models

Table C1. Outcome Estimates for CPS Cases with Six Months of Follow-Up for the Outcome of Reported Maltreatment

Measure	OR	[95% CI]	z-value	p-value
Intercept	<0.01	[<0.01, 7.02]	-0.63	0.535
GRANDfamilies	4.12	[1.16, 14.63]	2.19	0.018
Case Start (Year)	1.09	[0.83, 1.44]	0.63	0.540
Case Start (Month)	0.98	[0.80, 1.20]	-0.18	0.858
Child Endangerment Allegation	2.26	[0.44, 11.71]	-0.97	0.330
Gender (Male)	0.49	[0.12, 2.00]	-1.00	0.308
Prior In-Home Services Cases	0.87	[0.19, 3.92]	-0.19	0.856
Prior Foster Cases	0.33	[0.04, 2.71]	-1.04	0.304
Prior Substantiated CPS Cases	1.27	[0.50, 3.25]	0.50	0.612
CPS Case Length	0.99	[0.95, 1.03]	-0.57	0.573
Number of Siblings	0.83	[0.45, 1.53]	-0.61	0.541
Economic Level*				
Poverty	0.41	[0.01, 23.26]	-0.44	0.672
Public Assistance	1.69	[0.20, 14.53]	0.48	0.619
Working/Lower Middle Class	4.70	[0.99, 22.35]	1.94	0.043
Middle Class	-	-	-	-

CI = Confidence Interval; OR = Odds Ratio.
*Compared to the Middle Class Economic Level.
The significance of the p-value is considered to be at $\alpha = 0.025$ to account for multiple tests.

Table C2. Outcome Estimates for CPS Cases with 12 Months of Follow-Up for the Outcome of Reported Maltreatment

Measure	OR	[95% CI]	z-value	p-value
Intercept	2.47	[0, 4.38]	1.38	0.158
GRANDfamilies	1.89	[0.51, 7.03]	0.95	0.338
Case Start (Year)	0.81	[0.60, 1.09]	-1.38	0.160
Case Start (Month)	0.70	[0.51, 0.94]	-2.35	0.018
Child Endangerment Allegation	1.02	[0.16, 6.55]	0.02	0.986
Neglect Allegation	0.10	[0.01, 0.71]	-2.31	0.020
Number of Substantiated Allegations	0.40	[0.08, 2.03]	-1.10	0.262
Number of Perpetrators	12.17	[3.27, 45.25]	3.73	<0.001
Gender (Male)	0.80	[0.18, 3.49]	-0.30	0.765
Child Age (in years)	0.96	[0.76, 1.20]	-0.37	0.721
Prior In-Home Services Cases	0.90	[0.19, 4.15]	-0.14	0.869
Prior Foster Cases	1.36	[0.18, 10.17]	0.30	0.746
Prior Substantiated CPS Cases	1.38	[0.50, 3.83]	0.62	0.535
CPS Case Length	0.96	[0.92, 1.01]	-1.62	0.104
Number of Siblings	0.79	[0.37, 1.67]	-0.62	0.551
Economic Level*				
Poverty	2.92	[0.08, 104.12]	0.59	0.537
Public Assistance	0.69	[0.07, 7.24]	-0.31	0.763
Working/Lower Middle Class	5.06	[0.86, 29.81]	1.79	0.061
Middle Class	-	-	-	-

CI = Confidence Interval; OR = Odds Ratio.
*Compared to the Middle Class Economic Level.
The significance of the p-value is considered to be at $\alpha = 0.025$ to account for multiple tests.

Table C3. Outcome Estimates for CPS Cases with Six Months of Follow-Up for the Outcome of Substantiated Maltreatment

Measure	OR	[95% CI]	z-value	p-value
Intercept	9.82	[<0.01, 17.98]	0.26	0.787
GRANDfamilies	1.67	[0.22, 12.57]	0.49	0.605
Case Start (Year)	0.93	[0.55, 1.58]	-0.27	0.776
Case Start (Month)	0.79	[0.54, 1.58]	-1.24	0.194
Child Endangerment Allegation	7.47	[0.48, 116.42]	1.44	0.141
Number of Prior Substantiated Allegations	2.46	[0.37, 16.27]	0.93	0.350
Gender (Male)	3.03	[0.36, 25.49]	1.02	0.299
Prior In-Home Services Cases	1.10	[0.11, 10.89]	0.08	0.910
Prior Foster Cases	0.92	[0.03, 24.5]	-0.05	0.978
Prior Substantiated CPS Cases	0.12	[0.01, 2.41]	-1.38	0.140
CPS Case Length	0.98	[0.92, 1.05]	-0.5	0.624
Number of Siblings	1.75	[0.55, 5.58]	0.94	0.348
Economic Level*				
Poverty	0.21	[<0.01, 13.91]	-0.73	0.467
Public Assistance	0.27	[0.02, 13.29]	-0.66	0.525
Working/Lower Middle Class	1.85	[0.13, 25.78]	0.46	0.660
Middle Class	-	-	-	-

CI = Confidence Interval; OR = Odds Ratio.
*Compared to the Middle Class Economic Level.
Significance of the p-value is considered at $\alpha = 0.05$.

Table C4. Outcome Estimates for CPS Cases with 12 Months of Follow-Up for the Outcome of Substantiated Maltreatment

Measure	OR	[95% CI]	z-value	p-value
Intercept	9.95	[<0.01, 18.21]	1.60	0.098
GRANDfamilies	0.25	[0.04, 1.43]	-1.55	0.112
Case Start (Year)	0.71	[0.47, 1.08]	-1.61	0.096
Case Start (Month)	0.72	[0.49, 1.06]	-1.65	0.098
Child Endangerment Allegation	67.08	[4.37, 1028.86]	3.02	0.032
Neglect Allegation	0.91	[0.06, 14.86]	-0.06	0.952
Number of Substantiated Allegations	1.50	[0.17, 13.31]	0.37	0.715
Number of Prior Substantiated Allegations	4.78	[0.79, 29.06]	1.70	0.084
Number of Perpetrators	2.16	[0.40, 11.68]	0.90	0.367
Gender (Male)	2.99	[0.39, 22.61]	1.06	0.280
Child Age (in years)	1.13	[0.84, 1.51]	0.82	0.412
Prior In-Home Services Cases	1.79	[0.16, 19.99]	0.48	0.632
Prior Foster Cases	1.46	[0.07, 28.45]	0.25	0.789
Prior Substantiated CPS Cases	0.20	[0.02, 1.91]	-1.40	0.150
CPS Case Length	1.01	[0.94, 1.08]	0.15	0.882
Number of Siblings	2.86	[0.89, 9.15]	1.77	0.072
Economic Level*				
Poverty	1.23	[0.03, 57.74]	0.10	0.928
Public Assistance	0.75	[0.03, 17.57]	-0.18	0.858
Working/Lower Middle Class	0.99	[0.07, 14.74]	-0.01	0.997
Middle Class	-	-	-	-

CI = Confidence Interval; OR = Odds Ratio.
*Compared to the Middle Class Economic Level.
The significance of the p-value is considered to be at $\alpha = 0.05$.

Table C5. Outcome Estimates for CPS Cases with Six Months of Follow-Up for the Outcome of Removal into Out-of-Home Services

Measure	OR	[95% CI]	z-value	p-value
Intercept	0.20	[<0.01, 30.98]	-0.63	0.532
GRANDfamilies	0.11	[0.01, 1.49]	-1.67	0.078
Case Start (Month)	0.60	[0.34, 1.07]	-1.74	0.067
Child Endangerment Allegation	1.88	[0.08, 44.98]	0.39	0.694
Number of Prior Substantiated Allegations	0.48	[0.10, 2.36]	-0.90	0.362
Number of Perpetrators	1.26	[0.19, 8.40]	0.24	0.787
Prior Foster Cases	0.57	[0.02, 20.79]	-0.31	0.784
CPS Case Length	1.00	[0.93, 1.07]	-0.09	0.936
Number of Siblings	1.51	[0.51, 4.44]	0.75	0.452

CI = Confidence Interval; OR = Odds Ratio.
The significance of the p-value is considered to be at $\alpha = 0.05$.

Table C6. Outcome Estimates for CPS Cases with Twelve Months of Follow-Up for the Outcome of Removal into Out-of-Home Services

Measure	OR	[95% CI]	z-value	p-value
Intercept	<0.01	[<0.01, 2.01]	-1.01	0.303
GRANDfamilies	0.06	[<0.01, 0.83]	-2.09	0.020
Case Start (Year)	1.37	[0.75, 2.51]	1.01	0.303
Case Start (Month)	0.56	[0.32, 0.96]	-2.11	0.024
Child Endangerment Allegation	3.67	[0.17, 79.14]	0.83	0.400
Number of Prior Substantiated Allegations	1.36	[0.35, 5.35]	0.44	0.621
Number of Perpetrators	1.29	[0.15, 11.21]	0.23	0.798
Prior In-Home Services Cases	0.30	[0.02, 4.35]	-0.88	0.384
CPS Case Length	1.00	[0.93, 1.08]	-0.06	0.986
Number of Siblings	1.17	[0.37, 3.75]	0.27	0.783

CI = Confidence Interval; OR = Odds Ratio.
The significance of the p-value is considered to be at $\alpha = 0.05$.

Table C7. Outcome Estimates for In-Home Services Cases with Six Months of Follow-Up for the Outcome of Reported Maltreatment

Measure	OR	[95% CI]	z-value	p-value
Intercept	<0.01	[<0.01, 1.75]	-1.82	0.049
GRANDfamilies	2.86	[0.17, 48.18]	0.73	0.460
Child Age	1.24	[0.87, 1.76]	1.19	0.214
BIPOC*	0.10	[<0.01, 2.31]	-1.44	0.144
Number of UFACET Action Needed Items	1.32	[0.73, 2.38]	0.91	0.358
Number of Siblings	1.61	[0.23, 11.02]	0.48	0.626
Case Length	1.01	[0.99, 1.02]	0.56	0.581

CI = Confidence Interval; OR = Odds Ratio.
*Compared to the White Non-Hispanic.
The significance of the p-value is considered to be at α = 0.025 to account for multiple tests.

Table C8. Outcome Estimates for In-Home Services Cases with 12 Months of Follow-Up for the Outcome of Reported Maltreatment

Measure	OR	[95% CI]	z-value	p-value
Intercept	< 0.01	[<0.01, 1.04]	-1.95	0.042
GRANDfamilies	13.24	[0.73, 239.95]	1.75	0.077
Child Age	1.38	[0.98, 1.94]	1.85	0.046
BIPOC*	0.03	[<0.01, 0.73]	-2.16	0.022
Number of UFACET Action Needed Items	0.98	[0.51, 1.90]	0.05	0.999
Number of Siblings	3.51	[0.45, 27.35]	1.20	0.230
Case Length	1.00	[0.99, 1.02]	0.58	0.582

CI = Confidence Interval; OR = Odds Ratio.
*Compared to the White Non-Hispanic.
The significance of the p-value is considered to be at α = 0.025 to account for multiple tests.

Table C9. Outcome Estimates for In-Home Services Cases with Six Months of Follow-Up for the Outcome of Substantiated Maltreatment

Measure	OR	[95% CI]	z-value	p-value
Intercept	0.02	[<0.01, 261.31]	-0.80	0.414
GRANDfamilies	0.69	[0.02, 22.55]	-0.21	0.831
Child Age	1.69	[0.91, 3.14]	1.65	0.076
BIPOC*	0.30	[0.01, 13.47]	-0.62	0.541
Number of UFACET Action Needed Items	1.20	[0.52, 2.75]	0.42	0.649
Number of Siblings	0.86	[0.05, 15.26]	-0.10	0.903
Case Length	0.98	[0.96, 1.01]	-1.39	0.158

CI = Confidence Interval; OR = Odds Ratio.
*Compared to the White Non-Hispanic.
The significance of the p-value is considered to be at α = 0.025 to account for multiple tests.

Table C10. Outcome Estimates for In-Home Services Cases with 12 Months of Follow-Up for the Outcome of Substantiated Maltreatment

Measure	OR	[95% CI]	z-value	p-value
Intercept	0.04	[<0.01, 255.71]	-0.72	0.451
GRANDfamilies	9.24	[0.52, 164.53]	1.51	0.123
Child Age	1.29	[0.86, 1.93]	1.24	0.202
BIPOC*	0.03	[<0.01, 0.64]	-2.24	0.018
Number of UFACET Action Needed Items	0.61	[0.25, 1.52]	-1.06	0.280
Number of Siblings	4.08	[0.34, 49.54]	1.10	0.278
Case Length	0.99	[0.98, 1.01]	-0.57	0.552

CI = Confidence Interval; OR = Odds Ratio.
*Compared to the White Non-Hispanic.
The significance of the p-value is considered to be at α = 0.025 to account for multiple tests.

References

Albert, A., & Anderson, J. A. (1984). On the existence of maximum likelihood estimates in logistic regression models. *Biometrika, 71*(1), 1–10. https://doi.org/10.2307/2336390

Austin, P. C. (2009). Balance diagnostics for comparing the distribution of baseline covariates between treatment groups in propensity-score matched samples. *Statistics in Medicine, 28*(25), 3083–3107. https://doi.org/10.1002/sim.3697

Austin, P. C. (2011). Optimal caliper widths for propensity-score matching when estimating differences in means and differences in proportions in observational studies. *Pharmaceutical Statistics, 10*(2), 150–161. https://doi.org/10.1002/pst.433

Barrio, C., & Hughes, M. J. (2000). Kinship care: A cultural resource of African American and Latino families coping with parental substance abuse. *Journal of Family Social Work, 4*(4), 15–31. https://doi.org/10.1300/J039v04n04_03

Bell, T., & Romano, E. (2017). Permanency and safety among children in foster family and kinship care: A scoping review. Tra*uma, Violence & Abuse, 18*(3), 268–286.

Berger, L. M., Slack, K. S., Waldfogel, J., & Bruch, S. K. (2010). Caseworker-perceived caregiver substance abuse and child protective services outcomes. *Child Maltreatment, 15*(3), 199–210. https://doi.org/10.1177/1077559510368305

Berrick, J. D. (1997). Assessing quality of care in kinship and foster family care. *Family Relations, 46*(3), 273–280. https://doi.org/10.2307/585125

Berrick, J. D., & Barth, R. P. (1994). Research on kinship foster care: What do we know? Where do we go from here? *Children and Youth Services Review, 16*(1), 1–5. https://doi.org/10.1016/0190-7409(94)90013-2

Brewsaugh, K., Holmes, A. K., Richardson, A., Barnard, S., Weaver, C., O'Brien, K., Parker, E., Pecora, P. J., DuMont, K., Munson, S., & Smith, J. (2022). Research and knowledge gaps in child welfare in the United States: A national survey of agency staff, allied disciplines, tribal leaders, and people who have experienced child welfare. *Children and Youth Services Review, 138,* Article 106496. https://doi.org/10.1016/j.childyouth.2022.106496

Casey Family Programs. (2023a). *What are kinship navigator programs?* https://www.casey.org/what-are-kinship-navigators/

Casey Family Programs. (2023b, May 12). *Placement stability impacts.* https://www.casey.org/placement-stability-impacts/

Chaffin, M., & Bard, D. (2006). Impact of intervention surveillance bias on analyses of child welfare report outcomes. *Child Maltreatment, 11*(4), 301–312. https://doi.org/10.1177/1077559506291261

Children's Bureau. (2018). *Child Welfare Outcomes 2018 report to Congress.* U.S. Department of Health and Human Services. https://acf.gov/sites/default/files/documents/cb/cwo2018.pdf

Cuddeback, G. S. (2004). Kinship family foster care: A methodological and substantive synthesis of research. *Children and Youth Services Review, 26*(7), 623–639. https://doi.org/10.1016/j.childyouth.2004.01.014

D'Andrade, A., Osterling, K. L., & Austin, M. J. (2008). Understanding and measuring child welfare outcomes. *Journal of Evidence-Based Social Work, 5*(1–2), 135–156. https://doi.org/10.1300/J394v05n01_06

Danzy, J., & Jackson, S. M. (1997). Family preservation and support services: A missed opportunity for kinship care. *Child Welfare, 76*(1), 31–44.

Day, A., Fowler, J., Wollen, S., Perlmutter, D., Delaplane, G., Alber, R., & Krotke-Crandall, A. (2024). Kinship navigator: An assessment of service utilization, satisfaction and caregiver wellbeing in Washington State. *Clinical Social Work Journal, 52*(2), 117–135. https://doi.org/10.1007/s10615-023-00916-9

Denby, R. W. (2015). *Kinship care: Increasing child well-being through practice, policy, and research.* Springer Publishing Company.

Drake, B., Jonson-Reid, M., & Sapokaite, L. (2006). Re-reporting of child maltreatment: Does participation in other public sector services moderate the likelihood of a second maltreatment report? *Child Abuse & Neglect, 30*(11), 1201–1226. https://doi.org/10.1016/j.chiabu.2006.05.008

Drake, B., Jonson-Reid, M., Way, I., & Chung, S. (2003). Substantiation and recidivism. *Child Maltreatment, 8*(4), 248–260. https://doi.org/10.1177/1077559503258930

Family First Prevention Services Act, 132 Stat. 64 Pub. L. No. 115-123 § 50711 (2018).

Feise, R. J. (2002). Do multiple outcome measures require p-value adjustment? *BMC Medical Research Methodology, 2*(1), Article 8. https://doi.org/10.1186/1471-2288-2-8

Forehand, G., Winokur, M., Alessi, L., Butler, S., & Berzinskas, J. (2024). Kinnecting caregivers to services, resources, and supports: Findings from an RCT of Colorado's Kinship Navigator Program. *Societies, 14*(9), Article 181. https://doi.org/10.3390/soc14090181

Fowler, J., Day, A., Wollenhall, S., & Vanderwill, L. (2024). *Washington State Kinship Navigator Pilot evaluation results: Six months post.* Washington State Department of Children, Youth and Families.

Geen, R. (2004). The evolution of kinship care policy and practice. *The Future of Children, 14*(1), 130–150.

Gelman, A., Jakulin, A., Pittau, M. G., & Su, Y.-S. (2008). A weakly informative default prior distribution for logistic and other regression models. *The Annals of Applied Statistics, 2*(4), 1360–1383. https://doi.org/10.1214/08-AOAS191

Gyamfi, P., Lichtenstein, C., Fluke, J., Xu, Y., Lee, S., & Fisher, S. (2012). The relationship between child welfare involvement and mental health outcomes of young children and their caregivers receiving services in system of care communities. *Journal of Emotional and Behavioral Disorders, 20*(4), 211–225. https://doi.org/10.1177/1063426610385119

Heinze, G., & Schemper, M. (2002). A solution to the problem of separation in logistic regression. *Statistics in Medicine, 21*(16), 2409–2419. https://doi.org/10.1002/sim.1047

Herring, D., Shook, J., Goodkind, S., & Kim, K. (2009). Evolutionary theory and kinship foster care: An initial test of two hypotheses. *Capital University Law Review, 38*, 291–324.

Holland, M. L., Esserman, D., Taylor, R. M., Flaherty, S., & Leventhal, J. M. (2024). Estimating surveillance bias in child maltreatment reporting during home visiting program involvement. *Child Maltreatment, 29*(1), 82–95. https://doi.org/10.1177/10775595221118606

Kim, J. H. (2019). Multicollinearity and misleading statistical results. *Korean Journal of Anesthesiology, 72*(6), 558–569. https://doi.org/10.4097/kja.19087

King, G., & Nielsen, R. (2019). Why propensity scores should not be used for matching. *Political Analysis, 27*(4), 435–454. https://doi.org/10.1017/pan.2019.11

Koh, E., & Testa, M. F. (2008). Propensity score matching of children in kinship and nonkinship foster care: Do permanency outcomes still differ? *Social Work Research, 32*(2), 105–117.

Kursa, M. B., & Rudnicki, W. R. (2010). Feature selection with the Boruta package. *Journal of Statistical Software, 36*(11). https://doi.org/10.18637/jss.v036.i11

Lee, D., Huerta, C., & Farmer, E. (2021). Kinship navigation: Facilitating permanency and equity for youth in child welfare. *Children and Youth Services Review, 131,* Article 106251. https://doi.org/10.1016/j.childyouth.2021.106251

Lee, E., Kramer, C., Choi, M. J., Pestine-Stevens, A., & Huang, Y. (2020). The cumulative effect of prior maltreatment on emotional and physical health of children in informal kinship care. *Journal of Developmental & Behavioral Pediatrics, 41*(4), 299–308. https://doi.org/10.1097/DBP.0000000000000769

Lesaffre, E., & Albert, A. (1989). Partial separation in logistic discrimination. *Journal of the Royal Statistical Society: Series B (Methodological), 51*(1), 109–116. https://doi.org/10.1111/j.2517-6161.1989.tb01752.x

Lin, C.-H. (2014). Evaluating services for kinship care families: A systematic review. *Children and Youth Services Review, 36,* 32–41. https://doi.org/10.1016/j.childyouth.2013.10.026

Littlewood, K., Cooper, L., & Pandey, A. (2020). Safety and placement stability for the Children's Home Network kinship navigator program. *Child Abuse & Neglect, 106,* Article 104506. https://doi.org/10.1016/j.chiabu.2020.104506

Milani, L., Grumi, S., Camisasca, E., Miragoli, S., Cattani, M., & Blasio, P. D. (2022). The CPS workers' child removal decision in cases of domestic and witnessed violence. *Journal of Interpersonal Violence, 38*(9–10). https://doi.org/10.1177/08862605221137710

Millett, L. S. (2019). Outcomes from early child maltreatment prevention program in child protective services. *Children and Youth Services Review, 101,* 329–340. https://doi.org/10.1016/j.childyouth.2019.04.009

Mooradian, J. K., Cross, S. L., & Stutzky, G. R. (2007). Across generations: Culture, history, and policy in the social ecology of American Indian grandparents parenting their grandchildren. *Journal of Family Social Work, 10*(4), 81–101. https://doi.org/10.1300/J039v10n04_04

Murphy, J. M., Jellinek, M., Quinn, D., Smith, G., Poitrast, F. G., & Goshko, M. (1991). Substance abuse and serious child mistreatment: Prevalence, risk, and outcome in a court sample. *Child Abuse & Neglect, 15*(3), 197–211. https://doi.org/10.1016/0145-2134(91)90065-L

Ott, E., Hall, A., Thompson, I., Young, K., Winokur, M., Mann, G., Wills, E., Verdugo, P., & Shlonsky, A. (2024). *What interventions improve outcomes for kinship carers and the children in their care: Systematic review* [Report]. Foundations: What Works Centre for Children & Families; Department of Education. https://anrows.intersearch.com.au/anrowsjspui/handle/1/22850

Penning de Vries, B. B. L., & Groenwold, R. H. H. (2022). Bias of time-varying exposure effects due to time-varying covariate measurement strategies. *Pharmacoepidemiology and Drug Safety, 31*(1), 22–27. https://doi.org/10.1002/pds.5328

Portet, S. (2020). A primer on model selection using the Akaike information criterion. *Infectious Disease Modelling, 5,* 111–128. https://doi.org/10.1016/j.idm.2019.12.010

Rabassa, J., & Fuentes-Peláez, N. (2023). Effectiveness of group intervention in improving kinship care families' outcomes: A systematic review of group interventions aimed at kinship caregivers and youth in kinship care. *Children and Youth Services Review, 150,* Article 107002. https://doi.org/10.1016/j.childyouth.2023.107002

Ringel, J. S., Schultz, D., Mendelsohn, J., Holliday, S. B., Sieck, K., Edochie, I., & Davis, L. (2018). Improving child welfare outcomes. *RAND Health Quarterly, 7*(4), Article 4.

Rushovich, B., McKlindon, A., & Vandivere, S. (2021). *Strategies to build evidence for kinship navigator programs under the Family First Act.* Child Trends. https://www.childtrends.org/publications/strategies-to-build-evidence-for-kinship-navigator-programs-under-the-family-first-act

Sakai, C., Lin, H., & Flores, G. (2011). Health outcomes and family services in kinship care: Analysis of a national sample of children in the child welfare system. *Archives of Pediatrics & Adolescent Medicine, 165*(2), 159–165. https://doi.org/10.1001/archpediatrics.2010.277

Strozier, A. L., & Krisman, K. (2007). Capturing caregiver data: An examination of kinship care custodial arrangements. *Children and Youth Services Review, 29*(2), 226–246. https://doi.org/10.1016/j.childyouth.2006.07.006

The Annie E. Casey Foundation. (2024). *Family ties: Analysis from a state-by-state survey of kinship care policies.*https://www.aecf.org/resources/family-ties

Understanding the Federal Expectations for Rating Cases. (2024, June 30). *Children's Bureau.*https://acf.gov/sites/default/files/documents/cb/cfsr-reviewer-brief-fed-expectations-case-ratings.pdf

U.S. Department of Health and Human Services. (2025). *Adoption and Foster Care Analysis and Reporting System (AFCARS) report #29*. Administration for Children and Families, Children's Bureau. https://www.acf.hhs.gov/sites/default/files/documents/cb/afcars-report-29.pdf

Utah Code § 80-1-102. (2025, September 1). https://le.utah.gov/xcode/Title80/Chapter1/80-1-S102.html

Utah Office of Administrative Rules. (2023). *R512-200.* https://adminrules.utah.gov/public/rule/R512-200/Current%20Rules

van de Schoot, R., Kaplan, D., Denissen, J., Asendorpf, J. B., Neyer, F. J., & van Aken, M. A. (2014). A gentle introduction to Bayesian analysis: Applications to developmental research. *Child Development, 85*(3), 842–860. https://doi.org/10.1111/cdev.12169

van der Put, C., Assink, M., Schmitz, D., de Jager, A., Stams, G. J., & van Dam, L. (2022). Early assessment of the risk of child welfare involvement for preventive purposes. *Children and Youth Services Review, 142,* Article 106654. https://doi.org/10.1016/j.childyouth.2022.106654

Wheeler, C. B., Newton-Curtis, L., Forehand, Oliver, S., Mendoza, G., & Hervey, K. (2020). *ProtectOHIO final evaluation report: Ohio's Title IV-E waiver demonstration project*. Human Services Research Institute.

Wilson, S. J., Brown, S. R., Kerns, S. E. U., Dastrup, S. R., Hedberg, E., Schachtner, R., Jackson, C., Norvell, J., Campbell, W., & Wall, A. (2024). *Title IV-E Prevention Services Clearinghouse handbook of standards and procedures*(Version 2.0; OPRE Report #2024-127). Office of Planning, Research, and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services.

Winokur, M., Holtan, A., & Batchelder, K. (2014). Kinship care for the safety, permanency, and well-being of children removed from the home for maltreatment: A systematic review. *Campbell Systematic Reviews, 10*(1), 1–292. https://doi.org/10.4073/csr.2014.2

Winokur, M., Holtan, A., & Batchelder, K. (2018). Systematic review of kinship care effects on safety, permanency, and well-being outcomes. *Research on Social Work Practice, 28*(1), 19–32. https://doi.org/10.1177/1049731515620843

Wu, Q., Zhu, Y., Brevard, K., Wu, S., & Krysik, J. (2024). Risk and protective factors for African American kinship caregiving: A scoping review. *Children and Youth Services Review, 156,* Article 107279. https://doi.org/10.1016/j.childyouth.2023.107279

Wu, Q., Zhu, Y., Ogbonnaya, I., Zhang, S., & Wu, S. (2020). Parenting intervention outcomes for kinship caregivers and child: A systematic review. *Child Abuse & Neglect, 106,* Article 104524. https://doi.org/10.1016/j.chiabu.2020.104524

Xu, Y., & Bright, C. L. (2018). Children's mental health and its predictors in kinship and non-kinship foster care: A systematic review. *Children and Youth Services Review, 89,* 243–262. https://doi.org/10.1016/j.childyouth.2018.05.001