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Safely Increasing Connection to Community-Based Services: A Study of Multidisciplinary Team Decision Making for Child Welfare Referrals

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Abstract

Initial child welfare screening decisions, traditionally made by an individual worker, determine if a family will receive further intervention by child protective services. A multi-disciplinary team (MDT) decision-making approach for child welfare referrals aims to provide a more thorough assessment of needs and strengths and to connect families to appropriate community-based providers. This study examined 159 child welfare referrals handled by MDTs compared to 331 referrals handled via the traditional screening approach. The study used a pseudo randomization procedure to assign referrals to the study conditions: Referrals logged on 2.5 days of the week were assigned to the treatment group; all others were assigned to the comparison group. Referrals handled by an MDT were more than four times as likely as those not handled by an MDT to be referred to community-based organizations ($OR = 4.32$, $p < .001$). There were no statistically significant differences in families' engagement with community-based organizations or child welfare outcomes. MDTs are a promising step in the initial process of connecting families to services, although they did not affect this study's longer-term outcomes.

Keywords

child welfare, decision making, community services

Families referred to the child welfare system for suspected abuse or neglect have a wide range of needs and varying levels of risk. The child welfare field has long been concerned with how to best handle maltreatment referrals, make decisions about the most appropriate interventions for families, and craft tailored responses that both engage families and direct a suitable amount of resources to their needs. The challenges of assessing risk and need are compounded at the entry point to the child welfare system. Child maltreatment referrals to a child abuse hotline often provide skeletal outlines of information that do not amount to an obvious roadmap for professionals to follow. Some families may require a compulsory child welfare response; others can benefit from voluntary community-based services. A variety of strategies abound to develop authentic partnerships such that public child welfare agencies regularly refer families to community agencies when their own services are not required or in parallel with a child protective services (CPS) response. Once referred, however, some evidence suggests that many families decline to engage in voluntary services (Navarro, 2014).

The current study draws on one method for tailoring child welfare's initial response to individual families: multi-disciplinary teams (MDTs). An MDT approach emphasizes a thorough assessment of needs and strengths, potentially leading to a more comprehensive and tailored response for families. MDTs include members with different types of expertise who discuss and review information from a CPS hotline referral in order to determine the best course of action. Given the nature or severity of the referral characteristics, the team may determine that a traditional CPS response is appropriate, or it may decide that a joint response including the child welfare agency social worker and a community-based agency staff member is suitable. MDTs have been implemented in various jurisdictions in the U.S., and they are used with some regularity in several European countries (Berrick et al., in press).

In this study, MDTs focus on decisions related to child welfare hotline screening and referral to community-based services. The purpose of MDTs in the current study is essentially three-fold: First, the MDTs aim to improve the quality of

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decision-making related to child welfare referrals that are initially determined moderate to low risk. The MDT that reviews the referral is intended to provide more thorough feedback to help guide the screening decision than an individual hotline worker would be able to provide alone. Second, the MDTs aim to identify a larger proportion of child welfare referred families as potentially appropriate for community-based organization (CBO) services and get families connected to CBOs as early as possible in parallel with a traditional CPS investigation. And third, through a joint community-based provider/CPS response, the MDTs aim to engage families in services using an approach that is strengths and needs-based in addition to the traditional investigatory CPS process. By involving community-based partners from the very first decision-point, the MDT model aims to provide a true warm hand-off to service providers soon after the hotline referral is made and is designed to help parents and caretakers feel supported in accessing services that can help meet their needs.

The primary outcomes in this study focus on rates of CBO referral and family engagement in services. The MDTs aim to (1) *provide a more thorough assessment of families' strengths and needs* as a result of the varied expertise within the team and the utilization of a comprehensive Consultation Framework (Sawyer & Lohrbach, 2005) to guide their decision-making, (2) *tailor service referrals* by having CBO staff on the MDTs thus involving them earlier in the process, and (3) *improve family engagement in services* through this tailored referral approach and an early joint response where CPS and CBO staff meet with a family together. Through these pathways, we hypothesize that maltreatment referrals served by MDTs will have higher rates of referral to CBOs, joint responses, and family engagement in services.

This study also examines secondary outcomes related to longer-term child welfare outcomes, including case outcomes and re-referral outcomes. The MDTs are intended to increase connection to CBO services. These services should ostensibly help address the needs that brought the family to the attention of the child welfare system and, subsequently, lead to a reduction of maltreatment referral recurrence. However, the CBO services themselves were not a component of the study intervention, and the type, quality, and quantity of services can vary. Therefore, these secondary outcomes are exploratory. Finally, a qualitative component of this study examines whether MDTs result in additional information available to guide staff.

Background

Child welfare professionals are tasked with making life-changing decisions about when and how to intervene with families who are reported for abuse or neglect. Hotline workers are the first point of contact for reporting suspected maltreatment. Across the nation, child abuse hotlines receive an estimated 4.3 million referrals each year (U.S. Department of Health & Human Services, 2020). Approximately 56% of these referrals are "screened in" and referred for further investigation, and approximately 44% are "screened out." For the referrals that are screened in, child welfare staff visit the families to provide further assessment and attempt to engage families in services. These initial contacts often set the tone for how the family perceives and engages with the child welfare system. If a family feels coerced or stigmatized by their initial interactions with child welfare, they may be unreceptive to services, whereas if they feel supported and that they have autonomy, they may be more likely to engage in services. Many families may be well-served by community-based agencies where staff can deploy a range of material, instrumental, or psychosocial supports. However, determining which families should be referred to these agencies and encouraging engagement in services are ongoing issues.

Multidisciplinary Team Decision Making

MDTs aim to improve the quality of decision-making about initial child welfare referrals. Determining which families will benefit most from access to community-based services can be difficult. Indeed, there is little in the research literature to offer guidance about which families could or should be connected to community services. Currently, child welfare screening decisions in many jurisdictions are made by an individual caseworker in collaboration with a supervisor, and the focus is on risk and safety within the context of state laws defining maltreatment. In the jurisdiction under study, hotline staff who determine that a referral poses a clear or significant risk to the child refer the case to a public child welfare professional who must make contact with the family within 24 hr to assess harm or danger. Screened-in referrals that are deemed moderate to low risk must be investigated within 10 days. All of these referrals are assessed by a CPS worker, and those that might additionally benefit from community services are thereafter referred. Using an MDT decision-making approach could shift the focus to assessing needs and strengths, and lead to a more carefully considered response to a child maltreatment allegation; a response that might include a direct introduction to a CBO service provider.

Team decision-making is gaining attention as a promising practice in the child welfare literature, although many studies have focused on process indicators rather than family outcomes (Bell, 2001; Lewandowski & GlenMaye, 2002; Lietz, 2008; Nouwen et al., 2012). MDTs may improve decision-making about how to best approach families referred for suspected abuse or neglect, as the MDTs contribute multiple perspectives to help thoroughly assess intervention and support options. Indeed, team decision-making has shown some promise in enhancing critical thinking (Lietz, 2008). One study examined an MDT approach where CPS and CBOs worked collaboratively to assess and engage families in community settings as soon as possible after an initial referral to CPS (Marts et al., 2008). Qualitative analyses found that MDT team members emphasized how the team decision-making process allowed for a strengths-based, family-centered approach. The MDT process improved communication and working relationships between CPS and CBOs such that service referrals were facilitated more

often and more easily. However, there are also challenges associated with team decision-making. Team decision-making can involve power imbalances among the disciplines and roles represented, with some members contributing significantly to the discussion and decision-making process and others contributing less (Bell, 2001). The present study aimed to draw out the collective expertise of the MDT and thoroughly explore a family's unique strengths and needs through the utilization of a comprehensive RED Teams Consultation Framework (Sawyer & Lohrbach, 2005), although research on the use of this tool is sparse.

In addition to more thoroughly assessing families' potential needs and strengths, MDTs that involve CBO staff members in decisions related to service referrals may provide a better service-need match for families. Tailoring services to families' unique needs is important for longer-term outcomes, as service-need match appears to be beneficial in reducing future maltreatment reports. In their study of 4,868 families with screened-in child welfare referrals, Fuller and Zhang (2017) found that families who received services that matched their needs at case opening had lower rates of maltreatment re-report and substantiated re-reports.

However, assessing families as appropriate for community-based services and referring them to services that fit their unique needs is only one part of the puzzle. Once families are approached by staff from local agencies, family engagement is crucial in order to realize benefits from the services offered. There is some evidence that team decision-making can improve service engagement, at least initially. For example, Family Group Decision Making, one of the most prominent models of team decision-making, has been found to increase families' engagement in services during the initial case assessment (Weigensberg et al., 2009). Yet fostering ongoing connection and engagement in community-based services can be challenging.

Family Engagement

Engaging parents and caretakers in child welfare services has been the focus of much research. Parental engagement is thought to be critical for impacting child welfare outcomes. Indeed, family engagement in child welfare services has been associated with lower rates of re-report and substantiated re-report (Fuller & Zhang, 2017). Yet "there is surprisingly little empirical evidence to suggest how, when, or why family engagement occurs or how it affects client outcomes in child welfare practice" (Altman, 2008b, p. 42). A few studies have identified key factors related to child welfare professionals' approach to their work that promote parent engagement in services. Caseworker behavior is a primary influence on the likelihood that a parent will engage with services. In their review of the literature on parent engagement, Dawson and Berry (2002) found that the most important behaviors that a caseworker can take to engage a parent include "setting of mutually satisfactory goals, providing services that clients find relevant and helpful, focusing on client skills rather than insights, and spending sufficient time with clients to demonstrate skills and provide necessary resources" (p. 312). Qualitative data from 74 parent-worker dyads in a neighborhood-based child welfare agency indicated that clear, collaborative goal setting and honest, straightforward communication were strongly associated with parent engagement (Altman, 2008a). Similarly, in a study of 1,849 child welfare cases, Hollinshead and colleagues (2017) found that utilization of support services was associated with caregivers' emotional response to their first encounter with a CPS worker, caregivers' ratings of whether the worker listened and understood their needs, and caregivers' satisfaction with the help they received from CPS workers. On the other hand, both parents and workers have identified that power imbalance between child welfare staff and parents can inhibit engagement (Darlington et al., 2010; Dumbrill, 2006). These studies suggest that a warm, direct introduction to a CBO provider during the initial CPS contact may help enhance service engagement.

A key unanswered question is how to best engage families in voluntary services provided by CBOs. Some studies suggest that rates of voluntary engagement with community-based service providers are relatively low, with less than half of families opting in to voluntary services even when service providers are not associated with the public child welfare agency (Conley & Berrick, 2010). Because engagement in services is critical to program effectiveness, more research is necessary to understand the factors that facilitate client engagement with services. Some of the goals of MDT decision-making are to refer more families to community-based services, to enhance CBO staff knowledge about families prior to making contact, and to increase the likelihood of client engagement because of enhanced knowledge about families' needs and strengths and because of a joint response with CPS. These goals align with previous literature showing that mutual goal-setting and decreasing the worker/parent power imbalance are associated with increased parental engagement.

The current study is designed to examine MDTs as a strategy to enhance screening decision-making and safely increase referral to and engagement with community-based services. Specifically, the study is designed to assess whether the use of MDT decision-making for moderate risk child welfare referrals results in (1) more families referred to CBO services and greater likelihood that families will engage in CBO services, (2) improved family outcomes, and (3) more or different information available to staff to guide initial contact with the family.

Study Context

In this study, conducted in collaboration with a public county child welfare agency and local community-based agencies in a Western state, child welfare referrals handled by an MDT (treatment group) were compared to referrals handled via the current treatment-as-usual screening and investigation process (comparison group).

The public agency serves an urban area in a large Western state. They operate all services related to referrals for child protection, including screening, assessment, placement, and

reunification services. The public agency operates a hotline that receives all calls related to suspected child abuse or neglect and decides the course of action for the referral. Typically, a hotline worker receives a call, collects as much information as possible about the child's current safety threats, records all relevant information, and then makes a decision in conjunction with their supervisor regarding whether the referral will be screened in for further investigation or evaluated out. For referrals that are screened in, a decision is made regarding the response priority (24 hr for more severe cases, or 10 days for less severe cases). In this study, the public agency implemented MDTs to handle a portion of the 10-day cases.

The public child welfare agency contracts out their voluntary family support services to CBOs, namely a network of over 25 neighborhood- or population-based family resource centers (FRCs). Child welfare workers may refer families to a central intake provider FRC who assigns the referral to an FRC in the family's neighborhood or one with specific language capacity. If the family chooses to follow up on the referral, the FRC assesses the family for needs and recommends services. FRCs provide a wide range of services such as general case management, mental health services, substance abuse services, domestic violence services, perinatal services, playgroups, parent education, and support groups. Both treatment and comparison group referrals had the opportunity to be referred to these services. While families may be referred to other CBOs or public agencies that provide services and assistance to families, the voluntary FRC services described above are the focus of this study.

Study Design

The study design utilized a systematic allocation procedure based on day of the week to assign referrals to study condition, sometimes referred to as pseudo randomization. Pseudo randomization is defined as using a nonrandom method (e.g., odd/even year of birth, day of the week) to allocate participants to study conditions (NHMRC, 2000; Parker et al., 2012). In this study, participants included all families who were screened in at the hotline following a child maltreatment referral and whose case was assigned to a 10-day response within the study period (mid-January 2018 through December 2018). The CPS hotline supervisors were responsible for assigning referrals to the study conditions as follows: all hotline referrals that were logged any time on Tuesdays, any time on Wednesdays, and Thursdays until 2:00 p.m. and that were deemed a 10-day response were scheduled to be assigned to MDTs; all 10-day referrals that were logged on the remaining 4.5 days of the week were scheduled to be assigned to a conventional investigative response.

Pseudo randomization based on day of the week was utilized in this study rather than true randomization primarily due to feasibility constraints. Although it has the potential to introduce some selection bias, pseudo randomization is a reasonable alternative to minimize bias when true randomization cannot be used (NHMRC, 2000). We explored the possibility of randomizing referrals to treatment condition one-by-one as they were received by the public agency, but ultimately determined that this randomization procedure could not be implemented with fidelity with the agency's existing resources. Additionally, pseudo randomization procedures have been used in previous parenting and child wellbeing studies when real-world feasibility constraints did not allow for a true randomized controlled trial (Ingram et al., 2019; Moyer et al., 2018).

Experimental Condition

The MDTs utilized a team decision-making process wherein a group of 5-10 individuals determined the best course of action for non-emergency hotline referrals. Team members included staff from the public child welfare agency, CBOs, and specialty providers from the fields of domestic violence, mental health, substance abuse treatment, and nursing. The MDTs used a standardized RED Teams Consultation Framework (Sawyer & Lohrbach, 2005) that identified key facts, strengths, and risks for a referral. All members of the team were engaged in completing the Consultation Framework so that they could jointly determine next steps.

The MDTs met twice per week for 1 hr to review the 10-day referrals that were received by the hotline and assigned to the treatment condition during that week. During the team meeting, the MDT members reviewed the information available regarding each referral. At each meeting, one team member presented the known information from the hotline referral, another team member was responsible for taking notes from the team's Consultation Framework discussion on a white board, and another team member took written notes. All team members were responsible for reviewing the referral and providing their professional input on the areas covered by the Consultation Framework. Collaboratively, they determined (1) if the case should be elevated to a 24-hr response; (2) if not, what the family was likely to need in terms of resources or supports; and (3) whether the family was potentially appropriate for CBO services or whether a traditional investigation was warranted and whether this response should be a joint response or CPS-only response. Families that were identified as potentially appropriate for CBO services were referred for a *joint response* where a CPS worker and CBO staff member went together to a family's home. The CPS worker would conduct the investigation and make a safety determination, and the CBO staff member would attempt to engage the family in services. If a joint response was not possible, CBO staff aimed to make contact with the family within 10 days following the CPS worker's initial contact with the family. For treatment families, CPS staff could make a referral to CBO services during or at the conclusion of the investigation.

Comparison Group Condition

Families assigned to the comparison group condition were handled via a traditional, treatment-as-usual investigative response to include a safety determination. For comparison group families, CPS staff could make a referral to CBO

services if a child welfare case was not opened upon the completion of a traditional investigation. Upon receiving a referral, CBO staff reached out to CPS staff to arrange for a *transitional meeting* where the CPS worker could offer a warm hand-off to the CBO staff member. If no transitional meeting was possible, CBO staff were asked to make contact with families within 10 days of receiving the referral.

Public agency staff collected standard administrative data on referrals including whether a referral received a traditional CPS response or joint CPS plus CBO response, any out-of-home placements, services received from CBO partners, and re-referrals for suspected maltreatment.

Research Questions

The study examined the following research questions regarding the effectiveness of the MDT process in engaging families and improving screening decision-making:

CBO Referral and Engagement

1. Are referrals handled by MDTs more likely to be referred for CBO services than referrals in the comparison group condition?
2. Are referrals handled by MDTs more likely to result in a shared meeting with the client?
3. Are referrals handled by MDTs more likely to engage with a CBO provider?

Family Outcomes

4. Do MDT referrals have different CPS substantiation outcomes following investigation?
5. Do MDT referrals have different case outcomes following investigation?
6. Do MDT referrals have different re-referral outcomes?

Hotline Referral Content

7. Do MDTs result in additional information to guide staff's initial contact with the family?

Method

Measurement

Data were derived from three sources:

Public agency data. These include information about the following events: study condition; prior referrals, allegations, investigations, and their dispositions; prior open cases; cases that were open at the time of the study referral; baseline referral information such as: number, age, and gender of alleged perpetrator(s), number, age, and gender of alleged victim(s), number and type(s) of allegation(s); allegation(s) outcome(s) for study referral (substantiated, unfounded, inconclusive); and post-investigation information including: open case within 60 days of referral, in-home or out-of-home services, and type of placement. Public agency data were provided for all events occurring between April 2000 and July 2019. Data from April 2000 to January 2018 were used to establish history of CPS involvement prior to program implementation.

CBO referral data. These data include all CBO referral information including CBO referral date, intake status (intake completed, declined, or no response), type of CBO service (case management or family assistance), and whether a joint response meeting was conducted. CBO data were provided for all referrals received between January 2018 and March 2019, allowing the analysis to capture referrals that occurred up to three months after study enrollment ended.

CBO service data. These data include all CBO service dates, duration of each service, and location where each service was rendered for all services between January 2018 and March 2019.

Analysis

A series of χ^2, t tests, and logistic and ordinary least squares regressions were conducted to answer research questions 1 through 6. For questions 4–6, the family was indicated as having experienced the outcome if one or more children on the referral experienced that outcome (e.g., allegation substantiation, maltreatment re-referral).

To answer question 7, the study included a qualitative analysis of 25 randomly selected referrals from the MDT condition. Using Dedoose qualitative software, we examined de-identified text from the Hotline Narrative and the Consultation Framework for each of the 25 referrals. Comparing the information included in each source, we examined whether new or different information was revealed in the Consultation Framework (the new tool utilized by the MDT) for a referral than what was available in the Hotline Narrative (the standard tool utilized by CPS for hotline screening) for that same referral. Findings from this analysis were coded as "strong," "medium," or "weak" signals, either indicating new and important information obtained through the Consultation Framework (i.e., a strong signal), questions that emerged from the team conversation (i.e., a medium signal), or no new information. We did not include comparison group referrals for this qualitative analysis, as the comparison group referrals did not have a Consultation Framework in their charts and thus we could not compare the information in the Hotline Narrative to the Consultation Framework for the comparison group.

Results

Sample and Descriptive Statistics

A total of 663 10-day referrals were received during the study. In reviewing the study condition assigned to these 663 referrals prior to conducting our analyses, we determined that a portion of referrals were incorrectly assigned to the study condition that was inconsistent with the planned assignment procedures.

Table 1. Descriptive Statistics.

Variable	MDT	Comparison Group
Referrals received during study timeframe	300	363
Final sample after exclusions	159	331
Baseline characteristics of families	*N* (%) or mean (*SD*)	
Prior referral to CPS	110 (69%)	213 (64%)
Prior open case with CPS	29 (18%)	56 (17%)
Mean number of children in family	1.89 (1.06)	1.85 (1.06)
Age of the oldest "victim" child	11.35 (4.55)	9.81 (5.21)
Age of youngest "victim" child	7.88 (4.84)	6.85 (4.97)
Age of oldest "perpetrator" adult	41.62 (11.00)	39.26 (10.51)
Age of youngest "perpetrator" adult	38.51 (9.67)	36.82 (10.29)
Female perpetrator	122 (77%)	252 (77%)
Mean number of allegations[a]	2.53 (1.76)	2.58 (2.23)
Allegations for neglect	103 (65%)	208 (63%)
Outcome variables	*N* (%) or mean (*SD*)	
Referred to CBO	80 (50%)	67 (20%)
Joint response/transitional meeting	49 (61%)	29 (43%)
CBO intake completion	31 (39%)	36 (54%)
Allegation substantiation	13 (8%)	45 (14%)
Number of substantiated allegations	0.18 (0.72)	0.27 (0.96)
Case opening	18 (11%)	39 (12%)
Family maintenance	13 (8%)	22 (7%)
Placement	9 (6%)	21 (6%)
Re-referral	33 (22%)	72 (23%)

[a]The total number of unique allegations on each referral was unduplicated by alleged perpetrator, not by child. If two alleged perpetrators were identified for the same allegation type, this was counted as one allegation, whereas if two children were identified for the same allegation type, this was counted as two allegations.

Our analyses below focus on the sample of referrals that were assigned to the correct study condition according to the planned allocation schedule; referrals that were assigned to the incorrect study condition were excluded. Referrals that included children who had already been assigned to a study condition on a previous referral were also excluded (i.e., the original referral was retained).

Of the 663 referrals, 300 were MDT referrals according to the planned allocation schedule (i.e., they were received on Tuesday, Wednesday, or Thursday before 2:00 p.m.), and 363 were comparison group referrals according to the planned allocation schedule (i.e., they were received on Sunday, Monday, Friday, Saturday, or Thursday after 2:00 p.m.). Among the 300 MDT referrals, 118 were excluded from the final sample because they were not marked as MDT referrals in the CPS case management system and thus did not receive the MDT intervention. An additional 5 families were excluded because they included children who had already been assigned to a study condition on a previous referral. Finally, 18 families were excluded after treatment assignment because they were mistakenly treated as comparison group families by CBOs. Among the 363 comparison group referrals, seven were excluded from the final sample because they were marked as MDT referrals and thus received the MDT intervention. An additional 25 families were excluded because they included children who had already been assigned to a study condition on a previous referral. The final sample of 490 families (159 MDT referrals and 331 comparison group referrals) is described in Table 1.

Chi-square tests of categorical variables and two-sample *t* tests of continuous variables suggested that treatment and comparison groups did not differ significantly on most baseline variables. Sixty-six percent of the sample had a prior CPS referral, 18% had a prior open case, and of those with a history of a case ($n = 86$), 47% had been involved in foster care. The number of children subject to the referral did not differ significantly by condition (1.87). The age of the oldest "victim" child on the referral differed significantly between groups (treatment group age: 11.35; comparison group age: 9.81 ($t = -3.21$, $p = .001$), as did the age of the youngest "victim" (treatment group age: 7.88; comparison group age: 6.85 ($t = -2.17$, $p = .03$). The age of the oldest alleged "perpetrator" also differed by condition. The average age of the treatment group oldest "perpetrator" was 41.62 compared to the comparison group oldest "perpetrator" 39.26 ($t = -2.26$, $p = .02$). A male "perpetrator" was identified in 62% of referrals; a female "perpetrator" was identified on 76% of referrals. The mean number of allegations on each referral was 2.56; 63% of referrals included a general neglect allegation and 33% included a physical abuse allegation.

CBO Referral and Engagement

1. Are referrals handled by MDTs more likely to be referred for CBO services than referrals in the comparison group condition?

MDT referrals were more likely to be referred to CBOs within 60 days compared to comparison group referrals. Of the 159 MDT referrals, 80 (50%) were referred to CBOs. In contrast, 67 of the 331 comparison referrals (20%) were referred to CBOs. This difference was statistically significant in χ^2 testing, χ^2 $(1, N = 490) = 46.25$, $p < .001$. Estimates from the logistic regression model (see Table 2, Model 1) showed that, controlling for prior child welfare involvement and unbalanced baseline variables, the treatment condition was associated with more than four times the odds of referral to a CBO ($OR = 4.32$, $p < .001$).

2. Are referrals handled by MDTs more likely to receive a joint response meeting?

χ^2 tests showed that significantly more MDT referrals received joint response meetings (61%, n = 49) than comparison group referrals received a transitional meeting (43%, n = 29), χ^2 $[1, N = 147] = 4.73$, $p < .05$. These results align with the increased emphasis on providing joint response meetings in the treatment condition, although they show that referrals in the treatment condition still only received a joint

Table 2. CBO Referral and Engagement.

	Referral to CBO (Model 1—Logistic Regression)		Joint Response/Transitional Meetings (Model 2—Logistic Regression)		Number of CBO Visits (Model 3—Ordinary Least Squares Regression)	
Variable	*OR*	95% CI	*OR*	95% CI	*B*	95% CI
Treatment	4.32***	(2.80, 6.65)	1.92	(0.94, 3.90)	1.84	(−0.42, 4.10)
Prior referral	0.70	(0.43, 1.12)	0.80	(0.37, 1.73)	−1.62	(−4.11, 0.87)
Prior case	1.15	(0.56, 2.39)	1.36	(0.42, 4.40)	−3.17	(−7.39, 1.04)
Prior placement	0.56	(0.22, 1.44)	0.60	(0.12, 2.91)	0.22	(−6.15, 6.58)
Youngest victim age	0.96	(0.91, 1.02)	1.03	(0.93, 1.13)	−0.01	(−0.33, 0.31)
Oldest victim age	1.03	(0.98, 1.09)	0.99	(0.90, 1.08)	−0.03	(−0.33, 0.28)
Oldest perpetrator age	0.98	(0.96, 1.01)	1.04	(1.00, 1.08)	0.12*	(0.00, 0.25)
Intercept	0.61	(0.26, 1.44)	0.20*	(0.04, 0.99)	3.10	(−2.28, 8.48)

*$p \leq .05$. **$p \leq .01$. ***$p \leq .001$.

response meeting about two-thirds of the time, which is only moderately higher than comparison group referrals. Estimates from the logistic regression model (see Table 2, Model 2) showed that, controlling for prior child welfare involvement and unbalanced baseline variables, the treatment condition was associated with nearly two times the odds of a joint response/transitional meeting with a CBO provider ($OR = 1.92, p \leq .10$), though this association was not significant at the 5% level.

3. Are referrals handled by MDTs more likely to engage with a CBO provider?

There was no statistically significant difference between the MDT referrals (39%, n = 31) and comparison group referrals (54%, n = 36) in terms of intake completion with a CBO ($\chi^2[3, N = 147] = 4.83, p = .19$). On average, families received about seven visits (mean = 7.20, $SD = 4.63$) from CBO service providers following referral. This includes the number of attempts to engage the family as well as the number of service visits following intake. Estimates from the ordinary least squares regression model (see Table 2, Model 3) showed that, controlling for prior child welfare involvement and unbalanced baseline variables, the treatment condition was associated with a non-significantly greater number of visits than the comparison group ($B = 1.84, p = .11$).

Significantly more treatment families completed intake when they received a joint response meeting than when they did not (58% vs. 20%; $\chi^2[2, N = 70] = 17.46, p \leq .001$); this was not true of transitional meetings for comparison group families however (71% vs. 47%; $\chi^2[2, N = 62] = 3.76$, $p = .15$). Table 3 displays the results of a multinomial logistic regression model that was used to examine whether having a joint response meeting affected each condition's likelihood of declining services (outcome level 2) or completing intake (outcome level 3) as compared to non-response to outreach (outcome level 1). Controlling for prior child welfare involvement and unbalanced baseline variables, comparison group families were no more likely to complete intake if they had a joint response meeting than if they didn't have one (RRR = 2.18, $p = .22$). However, a post-estimation test of the difference between model parameters e and f showed that families in the treatment condition were nearly 12 times as likely to complete intake if they had a joint response meeting than if they did not have one (RRR = 11.89, $p \leq .001$).

Table 3. Effect of Joint Response/Transitional Meeting on Intake Completion.

Variable	RRR	95% CI
Outcome level 2 = Declined services[a]		
(a) Comparison group condition and transitional meeting	0.79	(0.10, 6.13)
(b) Treatment condition and no joint response meeting	0.72	(0.13, 3.94)
(c) Treatment condition and joint response meeting	4.30†	(0.88, 20.95)
Prior referral	1.39	(0.38, 5.18)
Prior case	0.30	(0.03, 2.67)
Prior placement	1.73	(0.14, 21.65)
Youngest victim age	1.10	(0.92, 1.32)
Oldest victim age	0.92	(0.77, 1.10)
Oldest perpetrator age	1.10**	(1.03, 1.19)
Intercept	0.01***	(0.00, 0.16)
Outcome level 3 = Intake completed[a]		
(d) Comparison group condition and transitional meeting	2.18	(0.63, 7.51)
(e) Treatment condition and no joint response meeting	0.23*	(0.06, 0.87)
(f) Treatment condition and joint response meeting	3.01	(0.89, 10.12)
Prior referral	1.17	(0.42, 3.22)
Prior case	0.45	(0.09, 2.15)
Prior placement	0.57	(0.08, 4.18)
Youngest victim age	0.99	(0.86, 1.13)
Oldest victim age	1.00	(0.88, 1.13)
Oldest perpetrator age	1.08*	(1.01, 1.15)
Intercept	0.11*	(0.01, 0.98)

Note. Reference group = comparison group condition and no transitional meeting; postestimation test of (f)–(e) = 11.89 ($p \leq .001$).
[a]Base outcome, Outcome Level 1 = no response to outreach.
*$p \leq .05$. **$p \leq .01$. ***$p \leq .001$.

Table 4. Allegation Substantiation and Maltreatment Rereferral Among Nonplaced Children.

	Allegation Substantiation (Yes/No; Model 1—Logistic Regression)		Maltreatment Rereferral (Yes/No; Model 2—Logistic Regression)	
Variable	*OR*	95% CI	*OR*	95% CI
Treatment	0.60	(0.31, 1.16)	1.04	(0.64, 1.69)
Prior referral	1.23	(0.61, 2.46)	1.99*	(1.15, 3.44)
Prior case	1.41	(0.56, 3.55)	1.61	(0.79, 3.27)
Prior placement	1.70	(0.60, 4.84)	0.43	(0.16, 1.15)
Youngest victim age	1.00	(0.92, 1.09)	0.99	(0.92, 1.05)
Oldest victim age	0.97	(0.90, 1.06)	0.97	(0.91, 1.03)
Oldest perpetrator age	1.01	(0.98, 1.04)	0.99	(0.96, 1.01)
Intercept	0.11***	(0.03, 0.34)	0.46	(0.18, 1.19)

* $p \leq .05$. ** $p \leq .01$. *** $p \leq .001$.

Table 5. Case Openings (In-Home or Placement).

	Case		Family Maintenance		Placement	
Variable	*OR*	95% CI	*OR*	95% CI	*OR*	95% CI
Treatment	1.03	(0.55, 1.90)	1.18	(0.57, 2.46)	1.10	(0.47, 2.57)
Prior referral	1.16	(0.57, 2.37)	2.16	(0.82, 5.68)	0.56	(0.21, 1.48)
Prior case	1.55	(0.61, 3.90)	1.16	(0.39, 3.44)	2.53	(0.67, 9.57)
Prior placement	2.14	(0.78, 5.92)	1.65	(0.48, 5.70)	2.42	(0.64, 9.20)
Youngest victim age	0.97	(0.89, 1.05)	0.94	(0.85, 1.04)	1.00	(0.89, 1.13)
Oldest victim age	0.99	(0.92, 1.08)	1.02	(0.93, 1.12)	0.94	(0.84, 1.06)
Oldest perpetrator age	1.01	(0.98, 1.04)	1.02	(0.98, 1.06)	1.00	(0.96, 1.05)
Intercept	0.08***	(0.02, 0.28)	0.02***	(0.00, 0.09)	0.08***	(0.02, 0.39)

* $p \leq .05$. ** $p \leq .01$. *** $p \leq .001$.

Family Outcomes

4. Do MDT referrals have different CPS substantiation outcomes following investigation?

Following the CPS investigation, 13 MDT referrals (8%) had substantiated allegations compared to 45 comparison group referrals (14%). There were no statistically significant differences by condition in the proportion of referrals that were substantiated by CPS staff when controlling for prior child welfare involvement and unbalanced baseline variables (see Table 4, Model 1). The total number of substantiated allegations per referral (mean=0.25, $SD = 0.04$) also did not differ by condition according to a two-tailed *t*-test ($t = 1.08$, $p = .28$).

5. Do MDT referrals have different case outcomes following investigation?

CPS determined that a case should be opened for 18 MDT referrals (11%) and 39 comparison group referrals (12%). In-home family maintenance services were provided for 13 MDT referrals (8%) and 22 comparison group referrals (7%). There were no statistically significant group differences in CPS case outcomes, as displayed in Table 5.

6. Do MDT referrals have different re-referral outcomes?

We limited our re-referral analysis to only those families who did not have a placement, as is the convention (Eastman et al., 2016; Putnam-Hornstein et al., 2015). Thirty-three MDT referrals (22%) and 72 comparison group referrals (23%) were re-referred for maltreatment allegations between 1-6 months following investigation for the initial referral. A family was considered to have a re-referral if a new referral was made at least 31 days following the original referral. We chose a 6-month follow-up window based on the censor date of the data. Estimates from the logistic regression model (see Table 4, Model 2) indicate no significant differences by condition with respect to the number of families that were re-referred.

Hotline Referral Content

7. Do MDTs result in additional information to guide staff's initial contact with the family?

Based on our qualitative analysis of 25 randomly selected referrals that were subject to an MDT, we found that approximately half of the time (14 out of 25 referrals) questions were raised that might offer additional guidance to staff approaching an individual family—what we refer to as a "medium signal."

Most of the time, these included questions about the family's cultural background and its potential relevance to an engagement strategy or to enlisting informal supports, or team members suggested potential family strengths that were not identified in the Hotline Narrative. In five referrals, questions were raised by team members to suggest potential safety concerns that were not identified in the Hotline Narrative—a "strong" signal that indicated the potential need to elevate the referral to a 24-hr response. In the remaining seven referrals, no new information could be discerned between the Consultation Framework and the Hotline Narrative, suggesting that the MDT discussion did not result in new information or insights.

Limitations

This study aimed to examine the impact of utilizing an MDT compared to treatment-as-usual for child welfare referrals. Ideally, we would have conducted a true randomized controlled trial to assign families to the treatment condition in order to isolate the impact of the intervention. While we aimed to approximate a randomized trial as closely as possible using a pseudo randomization procedure, inconsistencies in the planned treatment assignment procedure—particularly among the families that were supposed to receive MDT but were not marked in the CPS case management system to receive MDT—may have ultimately violated the randomization assumption and introduced potential sources of bias. The potential for unmeasured sources of selection bias limits our ability to draw causal conclusions that the differences found between groups are directly due to the MDT intervention. However, our sample showed a largely balanced set of pretreatment variables, and our analyses controlled for all measured unbalanced variables. Nonetheless, we acknowledge there may still be unmeasured sources of confounding biasing our estimates, particularly regarding why some referrals were not assigned to the correct study condition according to the planned schedule.

Additionally, because there were multiple components to the intervention, we cannot isolate which aspect(s) of the MDT made the biggest difference in increasing rate of referral to CBOs (e.g., team decision-making, Consultation Framework, joint response, availability of earlier referrals to FRCs). A final limitation is that this study was conducted with a single, well-resourced CPS agency in a service-rich urban setting. The findings from this study may not be generalizable to other agencies that differ in geographical location or population served.

Discussion

This study conducted an empirical evaluation of MDT decision-making for moderate risk child welfare referrals and examined whether this approach increased family engagement in community-based services. Referrals handled by MDTs were statistically significantly more likely to be referred to community-based agencies. Treatment, but not comparison group families, were also more likely to complete intake if CPS met with the referred family together with a CBO staff member. While some longer-term outcomes trended in the desired direction, this study sample was not able to establish with confidence that there were any differences between study conditions related to engagement in CBO services or child welfare case outcomes.

The MDTs appear to have increased the number of families referred to CBOs, but they did not impact the proportion of families who engaged in services nor did they impact subsequent family outcomes. These results suggest that the MDTs were effective in making initial connections to CBO service providers. However, in line with previous studies, only about one half of families referred to CBOs ultimately engaged in services regardless of whether their referral was handled by an MDT or not. These findings may indicate that families referred to CBO services have barriers to accessing services that are not addressed through the MDT process, or that families did not perceive the service offerings to be useful to them. It may also be the case that families are reluctant to engage in voluntary CBO services when the referral to these services is made by the child welfare system, which many families and communities have experienced as primarily a system of surveillance (Lee, 2016; Roberts, 2014).

Furthermore, it appears that a joint response meeting increased the likelihood of completing CBO intake only among families whose referrals were handled by MDTs. It may be that families who receive a joint response from an MDT are more likely to complete intake because the team has a better understanding of the family's needs and strengths and is therefore more successful at establishing rapport and/or recommending services. Families handled by MDTs were also referred to CBOs much earlier in the CPS investigation process, suggesting that their joint response meetings also occurred earlier than those of comparison group families. Perhaps a combination of more timely response and more in-depth knowledge of families ultimately improves the likelihood of CBO intake completion. However, it may also be that families feel pressure to participate in CBO services when CPS staff are involved; joint response meetings may thus play a more complicated role in increasing likelihood of intake completion.

The qualitative component of this study found that the Consultation Framework utilized by the MDTs often added additional information or noted areas to explore that would not have been examined in the traditional hotline screening process. These findings suggest that the varied professional backgrounds and expertise present in the MDTs may have led to a more detailed and nuanced exploration of families' strengths and needs. While not a primary focus of the qualitative component of this study, future studies should continue to explore contextual information about the MDT process that have been examined in previous studies, such as processes related to power dynamics and voice. Additionally, future studies could examine whether MDTs seem to have a greater impact for particular types of referrals or allegation types.

MDTs are a promising step in the initial process of connecting families to community-based services, yet they do not appear to impact families' engagement with services or longer-term

child welfare outcomes. Additional work is needed to truly improve how the child welfare system engages families and to effectively serve families in the community.

Authors' Note

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