



## Detecting and reducing post-traumatic stress among children exposed to domestic violence: A multi-agency early intervention program

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### ARTICLE INFO

#### Keywords:

Domestic violence  
Child trauma  
Prevention  
Early intervention  
Post-traumatic stress  
Multi-agency collaboration

### ABSTRACT

Exposure to domestic violence (DV) has serious implications for youth, increasing risk for a range of problems, including post-traumatic stress. The Child Trauma Response Team is a multi-agency collaboration aimed at providing coordinated, immediate, trauma-informed, and interdisciplinary response to children and their impacted family members who are exposed to domestic violence. This mixed-methods study analyzed CTRT administrative data along with qualitative stakeholder interview data to describe the children and families served by CTRT, examine the reach of CTRT services, and articulate the lessons learned in the early stages of CTRT program implementation. Results show the majority of children accessing CTRT services were young and came from racial and/or ethnic minority backgrounds. The vast majority of families engaging with CTRT received safety assessment and planning and child trauma education, with many families receiving at least one other service. Stakeholders identified challenges to implementation as: identification of eligible families; initiating and ensuring program engagement; and collaboration and communication across multiple agencies. Several strategies to overcome these challenges were identified. Findings from this study indicate that, through inter-agency collaboration, reaching and serving children exposed to DV in the days and weeks immediately following a violent event is feasible—even in a large city with complex inter-agency relationships.

### 1. Introduction

In the United States, approximately one in six children have witnessed domestic violence (DV) in their lifetimes, and more than one in five have witnessed other assaults in their families (e.g., a parent assaulting a sibling) (Finkelhor, Turner, Shattuck, & Hamby, 2015; Finkelhor, Turner, Shattuck, Hamby, & Kracke, 2015). Overall, studies estimate that children are present in the home for around half of DV incidents, and in most cases they are directly exposed to the incident (Fantuzzo, Boruch, Beriama, Atkins, & Marcus, 1997; Fantuzzo & Fusco, 2007; Hamby, Finkelhor, Turner, & Ormrod, 2011). This type of violence exposure has serious implications for youth, increasing risk for a range of problems including mental illness, substance use, delinquency, and academic and learning challenges (Dyregrov, 2004; Margolin, Vickerman, Oliver, & Gordis, 2010). If they are not detected and addressed in childhood, violence-related problems – including aggressive and violent behavior – can last well into adulthood (Edwards, Holden, Felitti, & Anda, 2003; Gilbert et al., 2009; Kitzmann, Gaylord, Holt, & Kenny, 2003).

One of the most common psychological responses to violence

exposure is posttraumatic stress disorder (PTSD). PTSD symptoms include re-experiencing the violent event(s) (i.e., “trauma”) through intrusive, distressing thoughts, flashbacks, and nightmares; avoidance of reminders of the trauma, changes in cognitions and mood (e.g., negative thoughts, exaggerated self-blame for the trauma, negative affect) and increased arousal (e.g., problems with sleep and concentration, feeling jumpy and irritable) (Association, 2013). Violence exposure is a strong risk factor for PTSD in youth (Kilpatrick et al., 2003), and as many as one third of violence-exposed youth meet diagnostic criteria for PTSD (Alicic et al., 2014). Without proper treatment, PTSD can be a debilitating problem (Margolin & Vickerman, 2007). Empirically-supported treatments for PTSD in youth do exist and have been shown to be effective in reducing symptoms (Cohen et al., 2009; Cohen & Mannarino, 2008). However, these interventions are often sought out and delivered many months, or even years, after symptoms begin to develop, with many individuals never seeking mental health treatment at all despite significant symptoms (Gavrilovic, Schutzwohl, Fazel, & Priebe, 2005; Merikangas et al., 2011; Roberts, Gilman, Breslau, Breslau, & Koenen, 2011). Most such interventions involve a few months of weekly one-hour sessions, and typically children/youth and

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their caregivers must actively seek out treatment from mental health providers.

Public health approaches to addressing trauma-related mental health problems prioritize prevention (Hosman, Jane-Llopis, & Saxena, 2005; Magruder, Kassam-Adams, Thoresen, & Olf, 2016). As described by Magruder et al. (2016), identifying and engaging with trauma-exposed youth early (i.e., soon after the traumatic event/violence exposure) to provide secondary (or “selective”) prevention programs can have a greater impact on reducing PTSD symptoms population-wide, compared to tertiary prevention or intervention programs that are delivered once symptoms have become more severe to a smaller subset of individuals. There is growing evidence that secondary prevention and early intervention programs can prevent PTSD (Berkowitz, Stover, & Marans, 2011; Brunet, Des Groseilliers, Cordova, & Ruzek, 2013; Hahn, Oransky, Epstein, Stover, & Marans, 2016; Mouthaan et al., 2013; Rothbaum et al., 2012). For example, a randomized controlled trial of the Child and Family Traumatic Stress Intervention (CFTSI) - a brief (5–8 session) program for children ages 7 and up – showed that youth receiving CFTSI were about two thirds less likely than those in the control condition to have PTSD at three-month follow up (Berkowitz et al., 2011). However, in order to intervene early, providers must have a way to identify children and families who have recently been exposed to violence and show early signs of PTSD symptoms.

Unfortunately, youth exposed to DV are often among the least likely to have access to such early intervention/selective prevention programs, despite a high need. Families living in poverty are at higher risk for experiencing violence in their homes, yet have limited access to financial, educational and other resources that could be used to help them safely escape the violence and seek trauma-related services (Kitzmann et al., 2003). Further, compared to other trauma types such as natural disasters and mass violence where a family's geographic location can be used as an initial proxy for exposure to the trauma, there is no similarly simple proxy that enables service providers to swiftly identify highly concentrated areas of children exposed to DV. Police often serve as first responders to domestic violence incidents. As such, they are in a unique position to identify children exposed to trauma and potentially reduce its deleterious effects. Increasingly, cities and municipalities are attempting to incorporate police officers in a more coordinated response to DV, one in which police roles shift from punitive (e.g., investigation and arrest) to advocacy (e.g., assessing victim and family safety and facilitating connection to additional services) (Gamache, 2012). Research suggests that training police to recognize trauma symptoms and involving officers in the detection of children exposed to DV can help with identification of service needs, facilitate stronger community-police relations and even improve police documentation of the domestic incident (Richardson-Foster, Stanley, Miller, & Thomson, 2012; Shields, 2008).

Two programs, the Child Development-Community Policing (CD-CP) model and the Domestic Violence Home Visit Intervention (DVHVI) (Casey et al., 2007; Marans & Berkman, 1997) deploy police officers in collaboration with mental health clinicians to swiftly identify violence-exposed children and connect them with needed services. CD-CP and the DVHVI were joint efforts by the Yale Child Study Center and the New Haven Department of Police Services. The goal of CD-CP is to foster close collaboration between police officers and mental health clinicians and ultimately reduce the psychological burden on children and families exposed to violence (Marans & Berkman, 1997). DVHVI has similar aims and intervention protocols but focuses on reported cases of DV. CD-CP incorporates five main components: (1) training for clinicians and police officers focused on applied child development and trauma; (2) training for clinicians on concepts of community policing, including both classroom-based training and ride-alongs with police officers; (3) weekly meetings with officers and clinicians to review cases and develop joint response plans; (4) separate clinician meetings to focus on clinical assessment and treatment planning; and (5) 24-h consultation services by mental health professionals to police officers

and, in selected cases, delivery of acute clinical services immediately following children's exposure to violence. One study of the CD-CP model examined the characteristics of children and incidents that were associated with engagement in clinical services following exposure to violence (Murphy, Rosenheck, Berkowitz, & Marans, 2005); incidents covered a range of potentially traumatic events and were not limited to exposure to DV. This study found that Hispanic/Latinx youth were more likely to engage in clinical services as compared to their Caucasian counterparts. They also found that participants exposed to more severe violence were more likely to engage in clinical services (Murphy et al., 2005). However, child witnesses to DV were less likely to utilize clinical support in the immediate aftermath of the event compared to those experiencing other forms of trauma. This finding is consistent with research findings that victims of DV and other crimes where the offender is known to the victim are less likely to seek help (Fugate, Landis, Riordan, Naureckas, & Engel, 2005; McCart, Smith, & Sawyer, 2010).

Two published studies of DVHVI have been conducted to-date. The first quasi-experimental pilot study used police report data to examine reported incidents of DV among families who had received the DVHVI (intervention group) and those who had not (comparison group) (Casey et al., 2007). This study found significantly fewer additional police-reported DV incidents among families in the DVHVI group as compared to the comparison group (20% vs. 42%) (Casey et al., 2007). Another quasi-experimental study employing baseline and six- and twelve-month follow up interviews with women receiving DVHVI and a comparison group (standard police services) was conducted (Stover, Berkman, Desai, & Marans, 2010). The study also examined police records for the five years prior to and one year following the domestic incident. Children in the intervention group were significantly more likely to be engaged in mental health services six months post-incident as compared to children in the comparison group. No significant differences were found between intervention and comparison on adult or child mental health symptoms (Stover et al., 2010). Limitations of the study included a relatively low response rate (25%) and significant differences in the demographic characteristics of the study population compared to those who declined to participate.

While research on CD-CP and DVHVI is limited to just a few studies, it is promising (Murphy et al., 2005). These programs are unique from other, more commonly studied interventions, in that they bring services directly to families in need through interagency collaboration. With more research and replication in other settings, these initiatives can help to rapidly identify children exposed to DV and connect them to needed services.

Building on the CD-CP and DVHVI programs and leveraging an existing partnership between police and DV service providers, a group of New York City stakeholders developed a multi-agency secondary prevention program for children exposed to DV. The Child Trauma Response Team (CTRT) is still in the early phases of implementation. It aims to coordinate a rapid response to DV incidents by involving both law enforcement (police and the district attorney) and service providers in order to reduce the negative impact of DV on children. Through multi-agency collaboration, CTRT responds to child safety, helps manage reactions to DV events, and connects children and family members to needed resources such as mental health care. CTRT selected elements of the CD-CP and DVHVI programs and adapted them for New York City's geography and population, which are larger and more diverse than the original New Haven setting where the CD-CP and DVHVI programs were developed. Like CD-CP and DVHVI, CTRT aims to connect children and their caregivers to more intensive trauma-related services (e.g., CFTSI) when needed. In order to reach families quickly and systematically, CTRT coordinates a response to DV by engaging multiple agencies who are involved in DV cases. This requires frequent meetings and collaboration and a substantial investment of time and resources to coordinate among several large agencies across a large city. While multi-agency collaborative models are of great interest to policy

makers and practitioners, studies of such models are limited and there is a dire need for more research (Parker et al., 2018). There is some evidence that well-coordinated collaborations may help connect youth to services more quickly (Cottrell, Lucey, Porter, & Walker, 2000) and potentially lead to better outcomes (Bai, Wells, & Hillemeier, 2009), but there is also a risk that having multiple agencies involved can have a negative effect on the quality of services provided, perhaps due to a diffusion of responsibility (Glisson & Hemmelgarn, 1998).

Of note, New York City's large urban context brings unique challenges to the implementation of a collaborative, multi-agency program—for instance, the city agencies and police precincts involved in CTRT are large, with their own organizational and bureaucratic processes. Further, the size and diversity of the city's population and geography require considerable flexibility and adaptation as the program expands from its early stages of implementation into new precincts within the city. On the other hand, the large city context brings unique opportunities, including the ability to serve a large, diverse population and have a far-reaching impact on high-risk youth and families.

As noted above, there is currently only limited evidence for the CD-CP and DVHVI programs upon which CTRT is based; such interventions are difficult to evaluate in real-world settings. For example, it is challenging to obtain pre-intervention (baseline) data from participants; the families involved are in crisis and managing a range of issues including safety, housing, financial, physical and mental health, legal, and justice related needs—often for multiple family members; and layering a highly-controlled research study on top of a fast-moving, multi-agency intervention is logistically challenging. To understand the implementation and effectiveness of interventions in real-world (as opposed to highly controlled) settings such as in the immediate aftermath of DV, researchers have recommended utilizing mixed methods approaches (Albright, Gechter, & Kempe, 2013). They argue that the integration of qualitative and quantitative approaches allows for a deeper understanding of the implementation of the intervention than could be achieved by either approach alone. Therefore, to advance understanding of early intervention and selective prevention approaches for children exposed to DV, we conducted an exploratory mixed methods study to examine the implementation of the CTRT program and identify opportunities for future research and practice. This study contributes to the currently scant literature on who might be served by and the challenges involved in implementing a multi-agency, early intervention program designed to prevent childhood PTSD. It is also meant to surface important considerations for stakeholders interested in implementing similar multi-agency interventions. In this mixed-methods study we aimed to:

1. Describe the children and families served by CTRT (e.g., gender, race/ethnicity, age)
2. Examine the reach of CTRT in terms of specific CTRT components accessed by families
3. Describe the lessons learned in the early stages of CTRT program implementation, including challenges and how they were addressed or overcome.

## 2. Methods

This mixed methods study supplemented quantitative analysis of CTRT data on client characteristics and service delivery with qualitative interview data from program stakeholders on implementation processes and program adaptations. Interview data provided additional context for quantitative findings and allowed for an exploration of lessons learned in implementation. The study was reviewed and approved by the [BLINDED] Institutional Review Board (IRB).

### 2.1. The Child Trauma Response Team (CTRT) program

As described above, the CTRT coordinates a rapid response to DV

incidents by involving both law enforcement (police and the district attorney) and service providers in order to reduce the negative impact of DV on children. The CTRT responds to child safety, helps manage reactions to DV events, and connects children and family members to needed resources such as mental health care. At the time of this study, CTRT was active in five NYC precincts with plans to continue expanding into additional precincts.

#### 2.1.1. CTRT eligibility

For families to be eligible for CTRT, caregivers must have: (1) had children 17 years of age or younger exposed to domestic violence either directly or indirectly; (2) filed a report of any type of family violence and/or domestic violence; (3) had full or partial custody of the child (ren) who participated in the program; and (4) lived in a New York City police precinct where CTRT was implemented. Caregivers determined to be a perpetrator in the family/domestic violence incident reported were not eligible for services. Initial eligibility determination occurred at the police precinct where crime victim advocates reviewed domestic incident reports (DIRs) filed by police officers after they responded to a DV-related call. DIRs describe the incident in question and also note if there are children present in the home. Families that were found eligible were referred to CTRT by police officers or crime victim advocates located in each CTRT precinct.

#### 2.1.2. CTRT services

CTRT services were provided by CTRT responders who are trained child trauma specialists with master's degrees in a social or human services related field. On average, one responder was assigned to each police precinct participating in CTRT. After receiving a referral from the police or crime victim advocate, CTRT aimed to make initial contact with families within 72 h (3 days) through a joint home visit by the police officer and CTRT responder. As part of initial CTRT outreach, all families were offered safety assessment and planning, psychoeducation, referrals to needed services, crisis management (e.g., assisting families in crisis to pinpoint immediate needs and make a plan to ensure these needs are met), and advocacy (e.g., empower families and support them in obtaining needed services from housing and other public benefits systems). During initial outreach, the caregiver was also offered an assessment of his or her PTSD symptoms. If the caregiver endorsed symptoms of PTSD, the CTRT responder offered the caregiver a referral for further mental health services. CTRT also conducted a brief screening for child PTSD symptoms. Children who screened positive for symptoms were invited to meet with CTRT staff to conduct a more thorough trauma assessment. Children indicating PTSD symptoms were then referred for additional, more intensive services – such as CFTSI (Berkowitz et al., 2011) – to address those symptoms and prevent their worsening.

## 2.2. Study sample

### 2.2.1. Qualitative sample

From December 2017 to July 2018, the study team conducted semi-structured interviews with 30 key stakeholders who were involved in at least one phase of CTRT development and implementation. Interviewees included individuals in administrative positions (n = 17) as well as direct service providers (n = 13) and represented the victims' service agency, police department officers and officials, three district attorney's offices, and individuals from other stakeholder agencies (e.g., program funders and policy makers). Interviewees were drawn from a larger pool of service providers and stakeholders involved in the project and were selected in order to represent a range of experiences. Participants gave verbal consent before engaging in a 45–60-min telephone or in-person interview. The majority of interviews were conducted by telephone to allow the study team to collect data in a cost-effective manner and maximize sample size.

### 2.2.2. Quantitative sample

A sample was created using de-identified CTRT programmatic data, including information on the client's demographic characteristics, CTRT referral source, method of CTRT contact, services received, and child screening/assessment information. Data reflect a 6-month period (January to June 2018) when the program was being implemented in five different police precincts in New York City. Information on whether the child received CFTSI and the number of sessions received was obtained from the CFTSI Site Sustainability and Evaluation System (CS3). CS3 is designed and overseen by the Yale-based CFTSI treatment developers. All data were entered by CTRT staff using information obtained through review of domestic incident reports (DIRs) and interviews with caregivers and children.

For the purposes of this study, families were included in the sample if they had non-missing data across: (a) services received during the study period and (b) demographics. This resulted in seven families being excluded from the data because, although service data were available, other necessary data (i.e., demographics, information about children) were not. The final sample included 240 children from 145 families across the five CTRT precincts.

## 2.3. Measures

### 2.3.1. Qualitative measures

The study team developed a semi-structured interview instrument in which interviewees were asked about their perspective on the following domains: developing CTRT, program implementation, program modifications, and implementation barriers and facilitators. The interview protocol was adapted for each participant based on their role in CTRT.

### 2.3.2. Quantitative measures

The following measures were collected and analyzed.

**2.3.2.1. Demographics.** Demographic variables examined included child age, caregiver age, child gender (male, female, other/unknown), caregiver gender (male/female), caregiver race/ethnicity (white, black, Hispanic, other), primary language of caregiver (English, Spanish, other), and number of children per family.

**2.3.2.2. Criminal justice measures.** Criminal justice variables included crime classification (felony, misdemeanor, other), whether the perpetrator was arrested (yes/no), and the date of the incident. As with all of the CTRT data, this information was entered by CTRT responders (i.e., not extracted from official police records).

**2.3.2.3. Referral and initial outreach.** Referral source (police, crime victims advocate, other) was examined. Initial outreach variables included: date of referral, successful contact (yes/no), home visit attempted (yes/no), and home visit received (yes/no).

**2.3.2.4. Services.** The following services, including date(s) of receipt, were examined: adult trauma education, child trauma education, safety assessment, safety planning, crisis intervention, trauma screening and assessment, mental health referral, non-mental health referrals (includes housing, financial assistance, criminal justice, immigration services, victim services), advocacy (includes advocacy within the victim assistance service organization implementing the program, criminal justice system, child welfare/protective services, and other advocacy) and CFTSI.

**2.3.2.5. Child PTSD screening.** Screening for symptoms of PTSD in children was conducted using a modified version of the PC-PTSD (Prins et al., 2003). The PC-PTSD is a four-item screening measure with strong psychometric properties that is designed to detect possible PTSD symptoms in adults (Prins et al., 2003). To facilitate rapid detection of possible PTSD in children exposed to domestic violence,

CTRTR used the PC-PTSD to screen children for symptoms due to its brevity. Specifically, the CTRTR responder used the questions in the PC-PTSD screener to guide a conversation with the caregiver about PTSD symptoms in the affected child. If the caregiver endorsed at least one symptom, the child was considered to have screened positive and was referred for further assessment of PTSD symptoms.

**2.3.2.6. Caregiver PTSD assessment.** The PTSD Checklist (PCL) (Weathers, Litz, Herman, Huska, & Keane, 1993) was used to assess caregiver PTSD symptoms. The PCL is a 17-item self-report measure on which adults rate their symptoms of PTSD (based on DSM-IV PTSD criteria). Respondents rate each item from 1 (“not at all”) to 5 (“extremely”) to indicate the degree to which they have experienced a particular symptom over the past month. Total possible scores range from 17 to 85. The PCL has strong psychometric properties (Blanchard, Jones-Alexander, Buckley, & Forneris, 1996).

**2.3.2.7. Child PTSD assessment.** In order to better understand child PTSD symptoms and determine appropriate service and treatment options, children who screened positive on the PC-PTSD were offered an additional assessment of PTSD symptoms. The instrument used to assess child PTSD varied by the child's developmental stage. For children ages 0–2, PTSD was assessed with the Young Child PTSD Screen (YCPS) (Scheeringa, 2019). The YCPS is a brief 6-item screen to determine whether children need to be referred for clinical treatment for PTSD in the acute aftermath of traumatic events. The screen is not intended for a general assessment of PTSD or to make a diagnosis. PTSD symptoms in children ages 3–6 were assessed using the Pediatric Child Distress Scale (PEDS) (Saylor, Swenson, Reynolds, & Taylor, 1999). Similar to the YCPS, this 21-item tool (17 general behavior items and 4 trauma-specific items) was designed to rapidly assess for PTSD following exposure to a traumatic event. It is not intended to be a diagnostic instrument. The Child PTSD Symptom Scale (CPSS) (Foa, Johnson, Feeny, & Treadwell, 2001) was used for children and adolescents ages 7–17. This 24-item self-report instrument measures the frequency of all DSM-IV-defined PTSD symptoms (PTSD symptomatology and daily functioning and functional impairment). Though the CPSS is designed for child/adolescent self-report (not caregiver report of child symptoms), the CFTSI protocol required that caregivers also complete it; thus, both caregivers and children/adolescents aged 7–17 were asked to respond to the CPSS as part of the PTSD assessment for this age group.

## 2.4. Data analysis

### 2.4.1. Qualitative data

Interview notes were analyzed and coded by two research team members consistent with grounded theory technique (Strauss & Corbin, 1990). After obtaining interview data from approximately half of the sample, two researchers separately coded interview transcripts to identify recurring patterns in the interview data (“themes”). They compared and discussed themes to look for similarities, resolve differences, and the interview guide was updated at this point. After completing all interviews, the researchers again openly coded new data, aggregated related codes and then summarized these themes for reporting.

### 2.4.2. Quantitative data

Data analyses focused on outputs of interest to describe the implementation process at this early stage of implementation. Descriptive analyses were conducted (e.g., means, standard deviations, frequencies) to describe the CTRT client sample and services received within and across CTRT precincts. In addition, exploratory bivariate analyses (e.g., ANOVAs, t-tests) were conducted to examine group differences in results for the modified PC-PTSD screen by child age and gender and caregiver race. All analyses were conducted using the R statistical

**Table 1**  
Demographics of Children and Caregivers in CTRT Families.

Demographic	Total children (N = 240)	Total Caregiver (N = 145)
Age <sup>a</sup>	Mean = 6.5 (SD = 4.7, range = 0–18)	Mean = 33.3 (SD = 10.5, range = 15–79)
Sex		
Male	45.4%	9.0%
Female	35.8%	91.0%
Other/Unknown	18.8%	0.0%
Race/Ethnicity		
Caucasian	–	8.3%
African American	–	20.7%
Latinx	–	57.2%
Other	–	13.9%
Primary Language		
English	–	70.3%
Spanish	–	27.6%
Other	–	2.1%

<sup>a</sup> Due to missing age data, mean age for children was calculated with total N = 222 and mean age of caregiver was calculated with total N = 143. Data were not collected on child race/ethnicity or language. CTRT = Child Trauma Response Team; SD = standard deviation.

package. Listwise deletion was used to address missing data.

### 3. Results

The first research aim was to describe the children and families served by CTRT (e.g., gender, race/ethnicity, age).

#### 3.1.1. CTRT families

As shown in Table 1, 145 families and 240 children were included in the analyses. The mean age of children receiving CTRT services was 6.5 years. There appeared to be a higher proportion of male children in the study as compared to female but information on child gender was lacking for a large proportion (18.8%) of the sample. Consistent with expectations, caregivers were predominantly female. Most caregivers spoke English as their primary language although a sizable minority (27.6%) indicated Spanish as their primary language. There was a mix of caregiver race with the largest proportion identifying as Latinx, followed by African American, other, and Caucasian.

#### 3.1.2. Incident characteristics

The final sample of 145 families reported 148 DV incidents to the police (three families experienced more than one incident during the study time period). Crime classification for these incidents varied with 38.5% representing felonies, 33.1% misdemeanor, and 28.4% classified as other, including child abuse, child custody, other or unknown.

The second research goal was to examine the reach of CTRT in terms of specific CTRT components accessed by families. The next set of results describes the various services received by CTRT families, as well as details about initial CTRT contact and PTSD screening and assessment.

#### 3.1.3. CTRT services

As shown in Table 2, CTRT families received an average of 4.0 (SD = 2.0, min = 0, max = 8) of eight possible CTRT services. The most commonly received services were safety assessments (85.5%), followed by child trauma education (82.8%).

#### 3.1.4. Referral and initial contact

The vast majority of CTRT referrals came either directly or indirectly from police officers. Police directly referred 2.7% of families. Another 93.2% of referrals came from crime victims advocates located in each CTRT precinct. These advocates were responsible for reviewing police-filed incident reports and determining eligibility for CTRT and

**Table 2**  
Percent of Families Receiving CTRT Services.

Service Received	Total (N = 145 families)
Safety Assessments	124 (85.5%)
Safety Planning	110 (75.9%)
Advocacy	33 (22.8%)
Crisis Intervention	19 (13.1%)
Child Trauma Education	120 (82.8%)
Adult Trauma Education	108 (74.5%)
Non-Mental Health Referral	40 (27.6%)
Mental Health Referral	22 (15.2%)

Note. CTRT = Child Trauma Response Team.

**Table 3**  
Initial CTRT Contact with Families.

Contact	Total (N = 119 families)
Successful contact within 3 days of referral	42.9%
Successful contact within 7 days of referral	63.0%
Number of days from referral to first successful contact	Mean = 7.4 (SD = 8.3, range = 0–41)
Joint home visit (PD/CTRT responder) attempted	21.4%
Joint home visit received (of those attempted)	80.6%

PD = Police Department; CTRT = Child Trauma Response Team.

other services. A small percentage of families (4.1%) were referred to CTRT from other sources (e.g., the district attorney's office).

The CTRT team had a goal of reaching (i.e., making contact with) families within three days of referral to the program. Of the 145 families included in this study, 26 were missing data on referral date. As shown in Table 3, for the 119 families with a referral date, fewer than half of the families (42.9%) were successfully reached within three days; however, nearly two thirds of families (63%) were reached within seven days (42.9% reached within three days and an additional 20.1% reached by day seven). Of note, it is not known how many attempts were made prior to successful contact. A joint home visit (police and CTRT responder) was attempted with about one fifth of families and of those attempts, 80.6% were successful. We found that families reached within three days of referral did not receive a significantly different number of basic services from those not reached within three days ( $F(1,117) = 0.6, p = .4$ ).

#### 3.1.5. PTSD screening and assessment

Child PTSD screenings were conducted with 149 (62%) of the 240 children in the sample, using the PC-PTSD-guided screening conversation. About two thirds (66.4%) of these children screened positive. Of those who screened positive, 52.5% completed the CPSS or YCPS/PEDS PTSD assessments.

We also explored whether there were differences in results for the modified PC-PTSD screen by child age and sex and caregiver race. Child age was not significantly associated with the child's screening outcome ( $F(1,138) = 3.1, p = .07$ ) and neither was child gender ( $X^2(1) = 0, p = 1.0$ ). Caregiver race was associated with a positive screen for child PTSD symptoms ( $X^2(3) = 10.6, p = .01$ ). We found that Black caregivers were less likely to have children screen positive compared to Hispanic caregivers (OR = 0.28, 95% CI = 0.13, 0.61,  $p \leq .01$ ). While 71.7% of children of Hispanic caregivers screened positive only 41.4% of children of Black caregivers screened positive.

#### 3.1.6. Receipt of CFTSI

Forty-eight children representing 30 families were referred for CFTSI. At the time of analyses, 28 children had completed at least one session of CFTSI. Among children who initiated CFTSI, a mean of 6.5 sessions was completed (SD = 2.9, min = 5, max = 15).

The third research goal was to describe the lessons learned in the early stages of CTTR implementation, including challenges and how they were addressed or overcome. Through qualitative interviews, the three areas that arose as posing the greatest challenges were related to identification of eligible families, initiating and ensuring program engagement, and communication/collaboration across multiple agencies. Qualitative interviews also asked about program strengths.

### 3.1.7. Identification of eligible families

A key goal of the CTTR program is early identification of children exposed to DV who may be at risk for PTSD. Interviewees reported that an initial challenge in achieving this goal was determining the appropriate scope that balanced staff capacity with the potential volume of children who would be identified and thus eligible for services. In order to ensure CTTR responders could effectively provide services for families, program planners originally limited eligibility to families with children exposed to severe violence (i.e., the reported incident involved felony assault, misdemeanor assault, criminal contempt, or another crime in which the victim was injured). However, front line staff interviewed during this phase voiced frustration that incident reports identified many more children exposed to some form of DV (and therefore potentially able to benefit from CTTR services) but these children were not receiving services due to the limited eligibility criteria. One police representative interviewed during this phase stated that, “Domestic violence is not black and white, and each family is different. The criteria for the program are too small [narrow].” Representatives from the victim service organization voiced similar concerns with one interviewee noting, “There are a lot of clients and families who need the program... But I think a lot of families will miss out on the program because of the eligibility criteria even though there are children in the home who have seen violence.” In response to staff frustration and low enrollment in the program, the eligibility criteria were expanded to include any reported DV incident, thus expanding the number of children identified as eligible to receive services through CTTR. Respondents interviewed after the change was made universally provided positive feedback about the modification. As one interviewee put it, “I was excited for the expanded [eligibility] criteria. I felt like there were cases slipping through the cracks because they didn't quite fit our criteria. We are able to reach a lot more people and that is exciting.”

### 3.1.8. Program engagement

The program experienced separate challenges with respect to initial participant outreach and ongoing engagement in services. In keeping with the CTTR goal of providing a joint police-mental health advocate response to children exposed to DV, original program policy indicated that every attempt should be made to initially engage families via joint home visits by CTTR responders and police officers within 72 h of a reported incident. However, interviewees spoke of the practical difficulties in making this happen, including the large amounts of time and effort needed to coordinate CTTR and police schedules and the travel time needed to accomplish home visits. For example, contact during home visits typically only lasted 10–15 min while the coordination of the visit and travel to and from the home often took many hours. Program implementers noted that, even after all of these efforts, caregivers did not always agree to the trauma screening during the initial contact. CTTR responders often ended up performing additional outreach by phone, typically two weeks following the initial call or visit. Interviewees reported that the families they reached at this later timepoint were often receptive to their second outreach as they may have begun to notice some change in their child's behavior and/or because they were no longer in crisis mode and therefore able to consider the offer of services.

Program planners noted that they took these tradeoffs into account and decided to change the policy on initial outreach from joint home visit to phone contact by CTTR responder. Interviewees noted that

home visits do still occur but with less frequency and only in certain circumstances. For example, home visits might occur when a CTTR responder cannot initially engage the client by phone after several attempts or when a previously engaged client no longer responds to phone outreach. One interviewee who spoke about the change in policy characterized it as a tradeoff, “There is a lot of benefit to getting inside someone's home but weighing that against how long it was taking us to get there – it was just not working with the scale [of this program].”

With regards to ongoing engagement in services, several CTTR program staff cited the distance families needed to travel to visit CTTR office locations and receive services as a challenge. Although the program offered transportation assistance to offset this barrier, the time needed to travel still seemed to pose a challenge. As one interviewee noted, “Sometimes the client doesn't want to come in because they are very far away from our program. That has been a big challenge in engaging clients to come in. That is the biggest challenge, really.”

### 3.1.9. Multi-agency collaboration

While multi-agency collaboration and communication is the cornerstone of this program model, building and maintaining multi-agency collaboration requires consistent effort, time and resources. The availability of time and resources to invest in multi-agency relationships was perceived differently across stakeholders. Some interviewees in administrative/leadership positions noted that there are many meetings held as part of the program and the cumulative time commitment needed to attend all of them is burdensome. On the other hand, CTTR responders, who were not universally included in certain meetings (e.g., to review cases with other agencies), expressed a desire to be more involved in these key opportunities for collaboration and/or for more initial training for all involved collaborators. Administrators at collaborating CTTR agencies noted that they are aware that meeting time is seen as burdensome by some, and that they are working to reduce any redundancies, especially as the program moves out of the initial phases of implementation.

Distance was again mentioned as a challenge, this time to collaboration between partners. CTTR responders often needed to spend quite a bit of time traveling to attempt home visits and have in-person meetings with their police counterparts. This limitation is not by design but rather due in part to a lack of additional space at police precincts to house CTTR responders and the challenges (e.g., high cost, availability) of finding office space closer to the police precincts.

Many interviewees cited uncertainty and confusion about roles and processes as a challenge during program start up. According to one interviewee, “The greatest challenge is managing all of the partners. In the beginning that was the hardest. We were all unclear in the beginning, people didn't know what to do. There was frustration and anxiety.” CTTR responders noted that spending as much time as possible on-site at the precinct, while challenging due to travel time and space restrictions, helped police partners to better understand CTTR responder roles and helped both sides establish effective communication channels. Many stakeholders indicated that the inter-agency collaboration processes and roles have been clarified over time. The same interviewee added: “Now that we all have a system and have gone through change, things are starting to work out better.”

In addition to these challenges, interviewees most often noted that the overarching strength of the program is its ability to reach children and families who otherwise would be unlikely to receive services. One interviewee noted, “we find kids that no one else is finding.” Interviewees also spoke about the positive reaction they see from families who do participate in CTTR programming, reporting that parents appreciate the structured opportunity to work through issues they are seeing with their children and practice strategies for coping.

## 4. Discussion

The CTTR program arose out of a recognition of the need to reach

vulnerable children in a large urban area with a rapid, coordinated response to domestic violence. This early look at program implementation provided a good deal of information on who is using CTRT services, what types of services they are using, and lessons learned during the initial phases of program implementation.

The study found that the majority of children accessing CTRT services were young (average age = 6.5 years) and came from racial and/or ethnic minority backgrounds. The prevalence of racial and ethnic minorities reflects the communities where the program is located. However, the young age and minority status of CTRT children and families also makes them more vulnerable to negative mental health outcomes— racial and ethnic minorities less likely to have access to and receive needed mental health care than their white counterparts (Cauce et al., 2002; Satcher, 2001). Further, exposure to trauma earlier in childhood may pose greater risk for PTSD compared to exposure later in adolescence (McCutcheon et al., 2010).

Among families with diverse characteristics and experiences, there may be varying needs and levels of comfort with trauma-related services. We found that overall, children with Latinx caregivers were more likely to screen positive compared to children with Black caregivers. Some research has suggested that Hispanic and Latinx children may have higher rates of anxiety disorders compared to other racial/ethnic groups, but overall the literature on race/ethnicity and child mental health is fraught with conflicting findings and methodological problems (for a review, see (Anderson & Mayes, 2010)) This includes a tendency to compare racial/ethnic minority children to Non-Hispanic White children, but not to compare different minority groups (e.g., Black and Latinx) to each other. More rigorous measurement of racial/ethnic differences in child mental health problems is needed to put these findings into context.

With regard to services, the study found that the vast majority of families received safety assessment and planning and child trauma education, with many families receiving at least one other service. These types of services are critical for families to ensure their immediate security. Of note, child PTSD screenings were conducted with 62% of children in the sample, meaning that a substantial proportion of the children were not screened. As many CTRT-referred families had more than one child in the home, some caregivers may have selected one of their children to participate in the screening (e.g., the one who appeared to be most distressed) thus reducing the number of children who were screened. Furthermore, some caregivers declined to participate in the screening. While data on declined screens and reasons for declining (e.g., time constraints, mental health stigma, etc.) were not collected, future studies could track this to identify ways to improve screening rates.

According to the CTRT program model, if children screen positive for PTSD symptoms then further assessment of their symptoms is indicated. About half (52.5%) of the children who screened positive for PTSD symptoms went on to complete the assessment, a step which requires families to travel to CTRT responders' offices. It is difficult to determine whether this outcome should be considered a success or a challenge, absent published literature on comparable programs. However, these numbers may not be surprising given that other studies of mental health engagement have found that single-parent status, socioeconomic disadvantage, poor parental mental health, ethnic minority status, and coming from a low-resource neighborhood are all factors associated with a decreased likelihood of continued engagement in clinical care (Haine-Schlagel & Walsh, 2015; Harrison, McKay, & Bannon, 2004; Mendez, Lavilla, & Bendicho, 2004). One recent review of family engagement and retention in child mental health programs found that anywhere from 20 to 80% of families drop out of such programs before receiving the full intervention (Ingoldsby, 2010). Qualitative data suggested that the distance families would need to travel to receive the full trauma assessment and intervention may pose a challenge to longer term engagement. This is consistent with research on barriers to care among ethnic/minority youth (Cauce et al., 2002).

At the time of this study, CTRT did not document reasons for families' refusal of services. Future research, practice, and policy efforts should focus on this engagement issue. Programs should document specific barriers that prevent families from engaging in further assessment and services and consider leveraging the multiple agencies involved to address identified barriers and keep families engaged in needed services.

With regard to program reach and service provision, the program planners and implementers we interviewed highlighted several lessons learned for others interested in the development of collaborative victim services interventions. One early lesson learned was the importance of monitoring the match between staff capacity and program scope. Initially, CTRT limited program eligibility to the most severe DV cases to ensure staff had adequate time to manage workloads. However, the initial eligibility criteria was seen as too restrictive by many interviewees who were frustrated that families in need of services were not able to receive them. The subsequent expansion of eligibility to more families was viewed universally as positive, allowing for the identification and potential engagement of more families in needed services. Program staff also saw the switch to prioritizing initial outreach by phone (as opposed to a joint home visit) as positive. It is likely that the change will allow the program to reach more families now that large amounts of time will not be spent traveling to home visits. This highlights another lesson learned, namely the importance of ensuring multiple mechanisms and time points to reach families in the aftermath of a traumatic event.

Nevertheless, there are tradeoffs to the change in initial outreach policy. Most importantly, the change shifts the focus away from joint engagement of families by police officers and CTRT, which could be a missed opportunity for building trust between community members and police. In addition, there is some research showing that in-person police engagement with children in the immediate aftermath of DV is associated with lower child PTSD symptoms and other positive outcomes (Finkelhor & Turner, 2015; Richardson-Foster et al., 2012; Shields, 2008). However, some communities— particularly communities of color— may have had negative experiences with police that limit their willingness to trust police and, by extension, to fully engage in programs like CTRT (Peck, 2015). It is therefore important to examine implementation processes within such programs to identify and address possible barriers to engagement. If joint home visits are inefficient and logistically challenging, there could be opportunities through CTRT to focus more resources on training police officers in trauma-informed engagement with children during their visits.

Finally, interagency relationships are part of the foundation of the CTRT model and are increasingly seen as a comprehensive mechanism for meeting the needs of crime victims/survivors. Indeed, the Office of Justice Programs, Office for Victims of Crime has included coordinating and collaborating with other providers as a part of its program standards (OVC, 2018). However, building these relationships proved to be a challenge. In particular, working out roles and responsibilities was frequently cited as an early source of frustration as was time needed for frequent meetings. The barriers to interagency collaboration identified by CTRT stakeholders are highly consistent with those reported in the scientific literature (Darlington & Feeney, 2008; Darlington, Feeney, & Rixon, 2005). These studies suggest that positive regard for the other agencies, mutual trust, good communication, adequate training/knowledge development across agencies, and adequate resources are key elements of successful interagency collaboration. Of note, interviewees reported very little initial cross-agency training which may have been a missed opportunity to clarify roles and establish communication channels early in the process. Others looking to implement multi-agency service provision may want to consider a robust training program that can address these key elements of collaboration early on in the process. Furthermore, research evaluating the costs and benefits of multiagency collaborations relative to usual specialist services for children exposed to violence would help communities determine whether and how to invest in such efforts.

As with every study, it is important to take the study's limitations into account when interpreting the findings. First, due to the time frame of the study, a limitation is the relatively short data analysis window with only six months of administrative data. Small samples limit the potential for sub-group analyses or the ability to see changes over time. While our qualitative data suggested that the program was reaching families who might not otherwise receive services, the lack of a comparison or control group limits our ability to draw definitive conclusions that this was indeed the case. In addition, the study population was distinctive in that it represents a large urban jurisdiction that does not mirror other parts of the United States and thus some of the findings may not be generalizable. The six months represent a period in which three of the five included precincts were just launching CTRT, and program modifications in the referral procedure, eligibility criteria, and home visit component occurred. In addition, because the data used for this study were collected for clinical/programmatic purposes (not specifically for research), we found discrepancies across precincts on the quality and consistency of data. This is typical of research studies using administrative data from real-world community settings (Hernandez & Stolfo, 1998; Peabody, Luck, Jain, Bertenthal, & Glassman, 2004).

These initial results suggest that the CTRT program is providing needed services to a high-risk group of children and families exposed to violence. They demonstrate that through inter-agency collaboration, reaching and serving children exposed to DV in the days and weeks immediately following a violent event is feasible—even in a large city with complex inter-agency relationships. These findings may help to inform future modifications within CTRT and in other jurisdictions. Additional research to determine the impact and effects of this innovative program is needed. Future evaluations should identify a control or comparison group and implement follow-up assessments to measure outcomes of interest to truly understand the CTRT model and its impact. As CTRT was modified to fit the uniqueness of New York City, we anticipate other jurisdictions might find modifications are needed as well. Future studies could test whether these programmatic modifications are associated with changes in key outcomes.

Furthermore, we did not have data available to control for other variables like trauma severity and type, which also influence PTSD risk (Cloitre et al., 2009; Ehring & Quack, 2010). Therefore, we recommend that future evaluations collect additional data to facilitate an examination of differences in profiles of CTRT families as well as their levels of engagement with the program. If this program ultimately proves effective, it could provide a model for selective prevention and early intervention programs that could be applied in jurisdictions across the country.

## Acknowledgements

We are grateful to the many individuals at the following agencies (in alphabetical order) for participating in interviews, sharing documents and data, and answering follow-up questions: Bronx County District Attorney's Office; New York City Mayor's Office to Combat Domestic Violence; New York City Mayor's Office of Criminal Justice; New York County District Attorney's Office; NYC Opportunity; New York City Police Department; Queens County District Attorney's Office; Safe Horizon; Yale Childhood Violent Trauma Center (CVTC).

## Declarations of interest

The authors declare that they have no conflict of interest.

## Funding

This study was funded by the New York City Mayor's Office for Criminal Justice (MOCJ) as an initiative of the Mayor's Domestic Violence Task Force and coordinated by the Mayor's Office for Economic Opportunity (NYC Opportunity).

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