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# Crisis Response Services for People with Mental Illnesses or Intellectual and Developmental Disabilities:

A Review of the Literature on Police-based and Other First Response Models

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## About this project

Serving Safely is a national initiative of the Vera Institute of Justice designed to improve interactions between police and people with mental illnesses and intellectual and developmental disabilities. Serving Safely works to do the following:

- › develop and facilitate collaborative responses for people with mental illnesses and developmental disabilities who come into contact with the police and their community partners in ways that improve safety for all;
- › build a national community of practice for police responses to people with mental illnesses and developmental disabilities; and
- › contribute to and expand upon available information on best practices, policies, research, and resources in the field and ensure that all resources are easily accessible and widely disseminated.

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## About this report

Amy C. Watson, Michael T. Compton, and Leah G. Pope drafted and revised this report with input from members of the Research and Evaluation Committee of Serving Safely: The National Initiative to Enhance Policing for Persons with Mental Illnesses and Developmental Disabilities at the Vera Institute of Justice. As part of its charge, Serving Safely developed a research agenda for the Bureau of Justice Assistance and other federal agencies that considers the current research base, identifies gaps in knowledge, and lays out scalable research and evaluation options. To complete this goal, the Research and Evaluation Committee first identified existing models of partnership between police/law enforcement and mental health and developmental disability service providers to include in a comprehensive review of the literature. The authors then drafted the literature review. The committee members reviewed the draft and provided written feedback and comments through virtual convenings. All feedback was then integrated into the final report.

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# Introduction

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The Vera Institute of Justice (Vera) launched Serving Safely in May 2018 as a national initiative to improve police responses to people with mental illnesses and developmental disabilities. As part of its work, Vera formed a Research and Evaluation Committee (“the committee”) of leading researchers and practitioners in the fields of policing, mental health, and intellectual and developmental disabilities. Led by the authors, the committee was tasked with developing a research agenda for the field that identifies knowledge gaps and prioritizes options for scalable research and evaluation. This literature review was conducted as a first step toward the goal of developing that agenda.

Many converging factors have contributed to the need for community-based crisis and emergency responses for people with serious mental illnesses (SMI) or those having psychiatric crises (such as acute suicidality). These include the decline in inpatient psychiatric beds—especially state psychiatric hospital beds—in the past 60 years (Fisher, Geller, and Pandiani, 2009); related changes to involuntary commitment laws that now center around dangerousness (Testa and West, 2010); the widely accepted principle—and law—that care should be provided in the least-restrictive environment, ideally in the community (*Olmstead v. L.C.*, 527 US 581, 1999; *President’s New Freedom Commission on Mental Health*, 2003); and a failure to adequately fund community-based mental health services (Earley, 2006). The need for community-based crisis and emergency responses for people who have intellectual or development disabilities (I/DD) is also well established (Lunsky, Lake, Durbin, et al., 2014). The models and approaches described in this literature review have typically been designed and implemented for one population or the other (that is, those who have SMI or I/DD) and remarkably few studies have considered both groups.

This summary of the published research to date provides a sampling of the types of police-based and related emergency response programs that have received some research attention, as well as the methodological approaches used and their results. For the sake of brevity, select studies are concisely summarized; references are cited for deeper exploration of the research. Published descriptions of single programs are not covered

in this review, except in instances when research is so limited that such inclusion helps shed light on emerging or understudied models. Only studies published in English—and pertinent to policing or emergency response systems in the past 20 years (1998–2018)—are included, except when earlier research is particularly informative. Research on U.S. models and approaches are of primary interest, although work in other countries is mentioned or reviewed when it might help guide future development and research in the United States. Overall, this resulted in review and analysis of more than 100 research studies in the field during this period. (See References, page 72, as well as the Appendix, page 63, for a summary table reflecting the studies cited in this review.) Finally, although this summary is meant to provide a thorough sampling of studies, it is neither exhaustive nor comprehensive in scope or breadth. It does, however, provide important clues about directions for future research.

Most of the extant research has focused on models and approaches developed for people with mental illnesses or having a psychiatric crisis. The need for further research on the same or different models and approaches for those who have I/DD is compelling. In the United Kingdom, Hemmings, Bouras, and Craig (2014) have emphasized the dearth of research and some of the many (and even basic) research questions that need to be posed and addressed. They note:

There is now a consensus among clinicians of the need for crisis services but simple data of this need is often lacking. How often are mental health crises occurring in this service group? How often [are] people with ID [intellectual disability] in mental health crises. . . presenting to services? How often [are] mental health inpatient admissions. . . required? How frequent are presentations of people with ID in mental health crises to a range of settings, including accident and emergency services, police, mental health and specialist ID services?<sup>1</sup>

There is also a high prevalence of co-occurring I/DD and mental health conditions, and studies demonstrate that the incidence of psychiatric disorders is more than three times higher among people with I/DD than in the broader population (Harris, 2005). More intersectional research is needed, however, particularly about people with I/DD and mental health conditions who come in contact with police.

## The models and approaches reviewed

To frame this overview of published research on police-based and related crisis response services for people with mental illnesses or I/DD, the committee chairs, in conjunction with the group's members, selected models and approaches that have been formally described (to allow for implementation and dissemination) and have been the subject of at least one published research report. (A few exceptions provide descriptions of models because research is limited but the committee wanted to highlight emerging approaches.) The committee selected nine such models and approaches, which are briefly described here alphabetically, followed by more in-depth research literature reviews in subsequent sections.

The committee included only the models and approaches that can be implemented at the local level and that generate a response to a person in need in the community.<sup>2</sup> This review is limited to those responses at the *first intercept* (meaning pre-arrest or at the first point of contact with the

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Many converging factors have contributed to the need for community-based crisis and emergency responses for people with serious mental illnesses or those having psychiatric crises.

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criminal justice system, such as with dispatch, law enforcement, crisis teams, and emergency services); it does not discuss models and approaches at later intercepts (post-arrest, jails and courts, reentry from jail or prison, and probation and parole). The review does not cover approaches at "Intercept o," the comprehensive community mental health services intended to prevent exacerbations of illness or escalations of behavior that result in a crisis. Such services include assertive community treatment (a



multidisciplinary evidence-based approach for people with serious mental illness that includes assertive outreach), assisted outpatient treatment, and care coordination.<sup>3</sup>

This review focuses on the following nine models and approaches. (Note that references to the work described briefly here are cited in subsequent sections of this paper.)

**Case management services.** For the purposes of this paper, the case management teams of interest pair behavioral health professionals with officers to address people who are considered “high utilizers” of police and other emergency services. Such teams reviewed here are nested within agencies that have a broader set of police–mental health collaboration programs in their community.

**Co-responder teams.** Programs within this overarching model pair an officer with a mental health professional to respond to people in the community who are experiencing a mental health crisis. Some communities have also incorporated peer specialists or peer advocates into their services.

**The Crisis Intervention Team (CIT) model.** A CIT program is a collaborative strategy with multiple components, including a training to help officers intervene safely and effectively with people who are in crisis and link them to psychiatric care. The CIT model emphasizes coordination and partnerships among first-responder agencies as well as with advocacy groups and people with relevant lived experience (such as peers and family members of someone with mental illness).

**EMS- and ambulance-based responses.** Programs within this model build on their community’s existing approach for responding to medical emergencies while optimizing their capacity to address behavioral health emergencies. Although most U.S. jurisdictions respond to such emergencies by relying entirely on police (for example, through a CIT) or the mental health system, some countries make use of responses based on emergency medical services (EMS). Because the limited research on such models may help inform the field, the review includes this approach.

**I/DD-specific models and approaches.** Whereas most models and approaches reviewed here were developed primarily as responses to people who have SMI or are in a psychiatric crisis, some have been developed specifically for those with I/DD, though research is scant. One example of an I/DD-specific model is Pathways to Justice, developed by the national community-based organization The Arc. Similar to the CIT model, Pathways

includes training and the development of collaborative multidisciplinary teams that work to sustain training efforts and address issues in the community related to criminal justice and disability over time. A key theme of the model is cross-systems collaboration and relationship building among the criminal justice and disability communities.

**Mobile crisis teams (MCTs).** An MCT is a team of mental health professionals—commonly a social worker and a nurse—available to respond to mental/behavioral health crisis situations in the community. Goals include reducing unnecessary hospital transports and connecting people to community-based mental health services and supports. As with the co-responder model, some communities have incorporated peer specialists or peer advocates into their system along with clinicians.

**Officer notification and flagging systems.** Some communities have developed databases or flagging systems that alert officers about specific individuals' needs. In one system that is being tested in a randomized, controlled trial in Georgia, the background-check mechanism is used to post an alert that a person has a mental health condition and has given consent for an officer to talk by phone with a professional in the public mental health system where the person is or was in treatment. One police department in Wisconsin has initiated a similar program; the pilot project uses a visual indicator in the county law-enforcement records system that alerts officers if an individual has symptoms of mental illness and helps them respond more appropriately.

**Stand-alone trainings on mental health and I/DD response.** Though other models, such as CIT, include a training on mental health as part of collaborations to improve local emergency response processes, a few trainings have been designed specifically to help officers better recognize and respond to people with I/DD. Trainings for dispatch/emergency communications are included in this review.

**Trained support people/advocates.** This model involves a trained individual who serves as a support for people who have mental illnesses, I/DD, or both when they have contact with the criminal justice system—at the point of police questioning and during other justice-system interactions.<sup>4</sup> The support person does not provide legal representation or advocacy, but often works with a community organization serving the needs of people involved in the justice system or those with disabilities, such as The Arc in the United States or Australia's Criminal Justice Support Network.

It is important to note that initiatives beyond these categories are also being implemented (see the section “Other promising strategies and tools” on page 55) and that the nine approaches described above are not mutually exclusive. For example, many communities that have CIT programs also provide stand-alone mental health or I/DD trainings in addition to CIT training. A community may have mental health system-based mobile crisis services, police–mental health co-responder teams, and some form of case management for the “high utilizer” population. Some elements are shared across models, and variation in implementation is common, so at times it can be difficult to make clear distinctions between the models. For purposes of this review, it was necessary to impose somewhat artificial categories. The reality of what a given law enforcement agency and its community is implementing may be much more fluid.

## The outcomes of interest

To frame this overview of published research and to direct the literature search, the committee chairs (again with input from the group's members), selected, *a priori*, outcomes that would be of chief interest. These outcomes and outcome-related constructs included the following:

- › end-user acceptability (to officers, clients, and other stakeholders—that is, how relevant actors respond to the intervention);
- › pilot/feasibility data;
- › officers' knowledge, attitudes, and self-reported skills and behaviors;
- › officers' observed skills and behaviors;
- › arrest data, injury data, and use-of-force data;
- › utilization of agency resources (such as time on the scene and repeated encounters);
- › linkage to services;
- › mental health service utilization;
- › subjects' outcomes related to criminal justice involvement (such as recidivism, as measured by rearrest, re-conviction, and/or re-incarceration; and revocation of probation or parole);
- › subjects' outcomes related to mental health (such as service engagement, treatment and recovery, housing, homelessness, and substance use);

- › cost-effectiveness;
- › implementation data; and
- › model fidelity.

Research on the models and approaches reviewed below has typically addressed no more than a few of these areas. What's more, some of the outcomes and outcome-related constructs are not relevant to some of the models included in this review. But because the goal here is to lay the foundation for a proposed research agenda, the gaps in outcome measures studied to date are of most interest. Given limited resources for research across such diverse models, researchers may want to prioritize those outcomes most likely to have meaningful impact on the lives of people who have SMI, I/DD, or both. As such, injury, arrest, use of force, linkage to services, and clients' criminal justice and mental health outcomes are most pertinent to this review. Officers' knowledge, attitudes, skills, and behavior are also of interest and may help determine changes in the primary outcomes—and may help explain *how* those outcomes are achieved. Research on outcomes or constructs not directly tied to clients' outcomes (such as published model descriptions, feasibility, resource utilization, cost-effectiveness, and fidelity) may help guide implementation and dissemination.

# Overview of research

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The remainder of this report synthesizes the literature on the nine models and approaches outlined above and the identified outcomes of interest. Concise summaries of the literature are provided to highlight the breadth of research to date and generate insights for the direction of future research.

## Case management services

In many communities, a small number of people who have SMI have repeated contact with law enforcement and other emergency services. They are commonly referred to as “high service utilizers.” Law enforcement agencies, in partnership with mental health providers and often other emergency service agencies, are developing strategies to better meet the needs of “high utilizers.” These teams provide outreach and follow-up to keep people connected to care and reduce the number of contacts with police and emergency response systems.

Strategies may include short-term follow-up and linkages or longer-term case management in the community. In some places, an officer is involved in all service provision, and in others, mental health clinicians are the primary providers for people a law enforcement agency identifies as “high utilizers.” Although the authors were unable to locate any peer-reviewed research on these law enforcement-based case management services, several reports provide program descriptions and some preliminary findings on their impact.

The City of Houston’s Chronic Consumer Stabilization Initiative (CCSI) was implemented after analysis of Houston Police Department data indicated that a small number of people with SMI were responsible for a disproportionately high number of police encounters (Houston Police Department, 2010). To address this, the city funded two clinicians to work with the 30 people who had the highest frequency of police contact. During the initial six-month pilot of the program, the number of police contacts with those 30 people decreased by 70 percent in comparison to the six previous months.

In response to the local “high utilizer” population, the Los Angeles Police Department’s Mental Evaluation Unit developed the Case Assessment and Management Program (CAMP) to identify, engage, monitor, and provide case management to people with complex mental health needs (Los Angeles Police Department, 2018). Unlike Houston’s CCSI program, whose clinicians provide care once “high utilizers” are identified, CAMP services are provided by a team that includes a police detective and a psychologist, nurse, and/or social worker. The CAMP teams work to connect or reconnect people to mental health care and return them to their home community if needed (Scire, McPartland, and Musgrove, n.d.). Reviewers did not find information indicating whether these two programs serve people who have SMI *and* I/DD, nor did they identify similar I/DD-specific programs in the literature.

## Co-responder teams

Similarly collaborative in nature are co-responder teams, the predominant model of police-based mental health crisis response (also known as “mental health street triage”) in Canada and the United Kingdom (Puntis, Perfect, Kirubarajan, et al., 2018; Shapiro et al., 2015). This approach is also becoming more prevalent in the United States and Australia. Co-responder teams pair a mental health clinician with a police officer to respond to people who experience behavioral health crises in the community. Such teams in the United States are often created as part of larger CIT program efforts, although they may also be implemented as part of other comprehensive models of police–mental health collaboration or as stand-alone programs. The model is implemented with significant variation (Puntis et al., 2018). Co-responder teams described in the literature include clinician-officer teams that ride together in the same police car (marked or unmarked), teams in which the officer and clinician arrive at the scene separately, and teams whose clinicians respond remotely via phone or telehealth support. Some teams provide primary response to calls; others provide secondary response following a patrol officer’s response; and some provide both, while others provide follow-up to ensure that an individual is linked to care in the community (as in the case management services model described above). Other than the telephone support model, teams are typically not available to respond 24 hours a day. In most implementations of the model, the police officer has completed



specialized mental health response training. In communities with active CIT programs, for example, teams usually include CIT-trained officers. As Shapiro, Cusi, Kirst, et al. (2015) wrote:

The theory underlying these programs is that a joint response is preferable as police are specialists in handling situations that involve violence and potential injury while mental health professionals are specialists in providing mental health consultation to officers and mental health care to individuals in crisis.<sup>5</sup>

Thus the broad goals of co-responder teams are to reduce unnecessary emergency department visits, psychiatric hospitalizations, and arrests; to increase safety; and to provide linkage to appropriate care and supports in the community. Additional potential benefits include better experiences for people having a crisis in the community, reductions in repeated contacts, and reduced costs.

No randomized, controlled trials of co-responder teams have been published to date, but two recent systematic reviews and a number of descriptive and quasi-experimental studies provide initial evidence of the model's acceptability and potential for having an impact on a number of important outcomes.

## Co-responder models in the United States

The earliest mention of the police–mental health co-responder model in the literature is a description of outcomes for people served by the Los Angeles Systemwide Mental Health Assessment Response Team, which paired a police officer with a clinician from the Los Angeles County Department of Mental Health (Lamb et al., 1995). The study concluded that police–mental health emergency outreach teams were able to respond appropriately to people who had acute symptoms, potential to act violently, and a significant history of involvement in the criminal justice system—and that the teams may have helped keep people from cycling back into that system.

Two other studies examining the co-responder model in the United States were published in 2000; both examined the “mobile crisis team” program in DeKalb County, Georgia, that paired police officers with psychiatric nurses to respond to 911 calls identified as psychiatric emergencies. Scott (2000) used retrospective data to compare psychiatric emergency

calls the mobile crisis teams handled with those handled by police alone over a three-month period. Although the study found no significant difference in arrest rates, calls the mobile crisis teams handled were significantly more likely to be resolved without psychiatric hospitalization of the subject (55 percent vs. 28 percent) and costs were 23 percent lower than for calls handled by police alone. Ratings on satisfaction surveys that officers and consumers completed suggested relatively high levels of satisfaction with the program. Ligon and Thyer (2000) evaluated end-user satisfaction

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## Co-responder teams pair a mental health clinician with a police officer to respond to people who experience behavioral health crises in the community.

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with the same program. After services concluded, consumers (n=54) and family members (n=29) completed the Client Satisfaction Questionnaire. Family members who received services from the program rated services significantly higher than the clients receiving services did, but both groups rated the services positively.

Saunders and Marchik (2007) evaluated another co-responder program in Polk County, Iowa. Instead of officers and clinicians riding together to respond to mental health crisis calls, the Mobile Crisis Response Team (MCRT) clinicians responded at the request of officers in the field, providing on-scene assessment and helping people access needed services. MCRT clinicians also followed up with each individual by phone within 48 hours to ensure appropriate linkages. Findings from qualitative interviews with key stakeholders suggested that they perceived the program to have improved client outcomes and reduced the time police spent on calls. Surveys of officers indicated that they learned about mental health issues from observing the MCRT clinicians and believed their knowledge had improved. They were mostly satisfied with the program, endorsed the

benefits of being able to return to patrolling activities faster, and believed that people were receiving referrals for mental health services they needed.

Additional recent studies of co-responder programs in the United States provide descriptive and intervention-acceptability information for programs operating in three relatively large cities: Seattle, Boston, and Indianapolis. The Crisis Response Team (CRT) in Seattle was created in 2010 as part of the Seattle Police Department (SPD) Crisis Response Unit (Helfgott, Hickman, and Labossiere, 2016). The SPD contracted with a local mental health agency to have mental health clinicians work directly with dedicated CIT officers to triage cases for intervention, conduct outreach and follow-up, and respond to behavioral crisis events.

Helfgott et al. conducted a descriptive evaluation of the program using data. The authors concluded that these teams not only improve police-citizen relations and the quality of interactions between police and people experiencing a mental health crisis but also make better use of police resources by taking on work traditionally done by patrol officers. In one year, 3,029 cases were referred through the SPD's Crisis Response Unit. Of those referrals, 290 cases (9.6 percent) were triaged to the CRT, which delivered an officer/clinician response. Those cases were classified as follows:

- > 43 percent as involving mental illnesses and no criminal behavior;
- > 14.2 percent as assault/threat/harassment;
- > 12 percent as suicidality;
- > 11 percent as a suspicious circumstance;
- > 9 percent as a disturbance;
- > 8 percent as other; and
- > 3 percent as burglary/theft/robbery.

Spatial mapping suggested clustering of incidents, with the highest density in the downtown area. In terms of case resolution, the most common outcome was as follows:

- > referral to an agency other than law enforcement (34.1 percent);
- > recommended clearance/resolution (12.1 percent);
- > other (7.2 percent);
- > suggestion of individual community resolution (1.4 percent);
- > assistance declined (1.4 percent);

- › transport to the hospital (1.0 percent); and
- › arrest (1.0 percent).

For 126 (43.4 percent) of the events, the CRT had no subsequent contact with the individual. But 97 cases (33.4 percent) involved two to six repeat contacts; 52 (18 percent) involved seven to 15, and 15 cases (5.2 percent) involved 15 or more repeat contacts with police. On average, the CRT officer/mental health teams in Seattle had three contacts with subjects, spent about 50 minutes per case, and moved subjects off of their caseload in 19 days.

The Boston Police Department's (BPD) co-responder program features clinicians who ride with police officers to provide on-scene de-escalation, crisis intervention, assessment, referrals, and linkage to care. Morabito, Savage, Sneider, et al. (2018) examined data for the 1,127 mental health incidents to which this BPD program responded from 2011 through 2016 and about officers' perceptions of the program. Descriptive data about these events indicated that 10.3 percent of the calls explicitly mentioned substance use, 15.4 percent were related to suicidal ideation, 13.7 percent involved a family dispute, and 16.4 percent related to a child's mental health crisis. Only 9.8 percent of the incidents involved any criminal behavior and only 0.8 percent resulted in arrest. Other outcomes included resolution at the scene (35 percent), transport to the emergency department (30.3 percent), and transport to a behavioral health urgent care center (14 percent). In interviews about their perceptions of the program, officers (n=7) noted that having a clinician in the police car allowed for rapid response to people in crisis and that the clinicians helped de-escalate people and put them at ease. But they noted that the clinician was an additional person they had to protect. Officers also mentioned resource and logistical issues that made some of them skeptical about the program.

These mixed perceptions of co-responder teams are not unique to the BPD program. Bailey, Paquet, Ray, et al. (2018) examined barriers and facilitators to program implementation for a co-responder team piloted in Indianapolis. The Mobile Crisis Assistance Team (MCAT) consists of police officers, mental health clinicians, and paramedics who monitor the dispatch radio and respond to calls on their own or at the request of other officers. In addition to providing assessment and linkage to behavioral health services, teams are able to address medical issues. They also conduct follow-up visits to encourage connections to care. Focus groups with team members and key stakeholder

interviews identified barriers to and facilitators of program implementation. Barriers included an initial lack of clarity about policies and procedures, inadequate communication about the MCAT to the local network of first responders and community health care providers, and lack of treatment services for consumers' referral and care. Police officers and paramedics also reported receiving negative feedback from members of their own agencies as they transitioned to new nontraditional roles in the MCAT units. Officers in particular struggled with MCAT uniforms, which one officer described as “a halfway-police officer uniform” (Bailey et al., 2018, 7). As for the factors that contributed to success, participants mentioned the history of coordination among agencies and support from the mayor's office as key in getting agencies to work together. They also acknowledged that the initial joint MCAT training was valuable for building relationships and learning about one another's roles. Functionally, participants reported that the ability to integrate three sources of data (from police, mental health providers, and other health providers) allowed the MCAT to better prepare and deliver effective interventions and identify and address the needs of “frequent utilizers.”

## Co-responder models in Australia

Although the co-responder model originated in the United States, much of the literature is from other countries that have adopted it. For example, several studies have been published about the Australian version of the co-responder model, the Police and Clinician Emergency Response (PACER). The PACER team is a police officer and a clinician who provide secondary response after police determine that someone needs to be assessed by a mental health practitioner. PACER teams provide assessment, behavioral de-escalation, emergency department diversion, and linkage to appropriate community care.

Lee, Thomas, Doulis, et al. (2015) examined the A-PACER program, which served southern and bayside areas of Melbourne during afternoon and evening hours. Using descriptive data from activity sheets that police officers completed, researchers examined the characteristics and outcomes of 296 A-PACER calls over a six-month period. The most common reason for a call was threatened suicide (32 percent), followed by welfare concerns (22 percent) and response to a psychotic episode (18 percent). The most common resolution was transport to the emergency department (32 percent), followed by referral to an appropriate nonemergency service

(22 percent), no further intervention (20 percent), direct admission to the inpatient ward (11 percent), and phone support only (9 percent).

To examine the acceptability of the model, police officers (n=66) and clinicians (n=11) were invited to complete a questionnaire that included rated and open-ended questions about the operation of the A-PACER program. The police officers were mostly positive about the program, with all but one indicating that it should continue beyond the pilot. They noted benefits

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**The PACER team is a police officer and a clinician who provide secondary response after police determine that someone needs to be assessed by a mental health practitioner.**

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related to enhanced outcomes for consumers and officers, more efficient use of police resources, and improved collaboration across services. The primary challenge officers noted was the limited availability of A-PACER, given that it operated only during afternoon and evening hours.

In contrast to the officers who participated in A-PACER, only 40 percent of the clinicians were supportive of the unit continuing after the pilot. They acknowledged benefits that included improved collaboration with police and fewer transports of people to the emergency department. But they pointed out challenges related to inappropriate referrals, including people who did not present as acute risks and could have been better handled by crisis assessment teams (with a clinician and no officer) and the lack of privacy for conducting assessments in public settings. Clients, on the other hand, generally appreciated the team and were satisfied with the A-PACER response. Interviews with 12 clients who had contact with A-PACER indicated that the team was able to communicate and de-escalate the crisis and made them feel that their needs had been considered (Evangelista, Lee, Gallagher, et al., 2016).



McKenna, Furness, Oakes, et al. (2015b) examined N-PACER, a team operating in northern Melbourne. Similar to the A-PACER teams that Lee et al. described, the N-PACER team operated only during afternoon and evening hours. To assess the impact of N-PACER implementation, researchers conducted an interrupted time series analysis of electronic data on Section 10 (Mental Health Act) emergency department (ED) admissions (n=1,776) during a 27-month period (McKenna et al., 2015b).<sup>6</sup> In the six months before N-PACER was introduced, the average number of Section 10 ED arrivals was 60.1 per month. In the six months after the N-PACER team began its work, the average was 33.1 per month, almost a 50 percent reduction. The study's authors also examined all of the Section 10 incidents that occurred during the six months after N-PACER was introduced, comparing those that happened during the team's operating hours (noon to midnight; n=243) with those that occurred outside of N-PACER hours (n=194). Although both groups were similar in terms of people's gender, age, and diagnosis, all 194 subjects without access to N-PACER were brought to the ED for assessment, as compared to 40 (16 percent) of the N-PACER subjects. The teams provided direct access to an inpatient unit for 51 (21 percent) of people assessed either at a police station or in the community. Sixty percent (n=116) of the subjects without access to N-PACER had a final disposition to the community (all after their initial ED assessment), whereas 71 percent (n=172) of the N-PACER subjects had a final disposition to the community (97 of whom—56 percent—remained in the community throughout the entire process). From the perspective of the study's authors, the findings indicate that N-PACER effectively prevented mandatory transports to the ED for people in crisis. The authors also wrote that a few people were transported to a police station for assessment, perhaps because of geographic proximity, but that the potentially restrictive environment is not ideal for most people in crisis.

In a separate paper, McKenna, Furness, Brown, et al. (2015a) explored the perceptions of the N-PACER program's major stakeholders and interviewed 17 of them. Participants included three consumer advisers, three caregiver advisers, three staff from the acute inpatient unit, four ED staff members, three participants from the police service, and an ambulance service manager. Questions focused on the strength of the collaboration, trust, information sharing, and the transfer of knowledge and skills. Additional themes related to perceived improvement in consumers' outcomes and

their pathway through care in terms of fewer ED visits and more direct access to community and inpatient care, police officers' availability for duties not related to mental health calls, and fewer adverse events. The primary recommendation stakeholders made about improving the model was to expand the N-PACER to more than one daily shift. Some interviewees also cautioned that the model may be less useful in areas that have lower volumes of mental health crisis calls to the police.

Although it is not called a PACER model, the co-responder team in the West Moreton region of Queensland, Australia, is similar in that it pairs a police officer with a psychiatric nurse to provide secondary response during afternoon and evening hours. Meehan, Brack, Mansfield, et al. (2018) examined data from 16 weeks of program operation. The team had direct contact with 137 people: 28.7 percent were transported to the ED, 4.1 percent were taken into police custody, and 67.2 percent remained in the community. First-responding officers indicated that they would have transported 81.9 percent to the ED if the co-responder team had not been available, suggesting that the intervention diverted 67 percent of the cases from the ED.

Also in Australia, Boscarato, Lee, Kroschel, et al. (2014) interviewed 11 mental health service users about their preferences among different models of crisis response. All but one of the participants indicated that they would prefer not to involve police at all when they are experiencing a mental health crisis. When asked to rate four models of police–mental health response—the CIT model, an embedded clinician at a police station, a ride-along co-response, or separate police and mental health responses—participants acknowledged the value of the ride-along and CIT models. They were concerned that the embedded clinician model would delay their receipt of appropriate care and reported that a response by only police would place consumers at unacceptable risk of injury or criminalization.

## Co-responder models in the United Kingdom

In the United Kingdom, the collaborative model of police–mental health response to mental health crisis is called street triage. Horspool, Drabble, and O'Cathain (2016) conducted interviews with 14 police and mental health stakeholders at two street-triage locations to discuss barriers and facilitators (factors that contributed to success) in implementing the service. Although both programs involved a mental health worker who responded to calls in the police car, operating hours and other service

components differed. Stakeholders noted the importance of the service being tailored to the community and the value of having the right staff on the team rather than a rotating roster. They described the benefits of the model as helping people with mental health problems, joint decision-making among police and mental health clinicians, and improved information sharing and understanding among organizations. Some stakeholders noted that a minority of officers believe that mental health responses should be the responsibility of the health service, not the police. Some interviewees noted the need to further develop services to reduce contacts with “frequent utilizers.” Indicating that it would improve patient care, one person said the long-term goal should be to shift responsibility back to the health service and limit police response to only those situations that involve an immediate safety risk.

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**Cleveland Street Triage places a nurse at police headquarters from noon until midnight to monitor calls for indications of mental health issues and to respond to a call scene if officers make a request.**

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Dyer, Steer, and Biddle (2015) described a variation of the street-triage model that the Cleveland Police implemented in northeast England. Rather than using a ride-along model described in the study by Horspool et al., Cleveland Street Triage places a nurse at police headquarters from noon until midnight to monitor calls for indications of mental health issues and to respond to a call scene if officers make a request. From August 2012 through February 2014, the Cleveland Police Street Triage received 572 referrals, with an average of 30 per month (Dyer et al., 2015). The majority of people referred were adult males, with just more than half (51 percent) already known to the local mental health service. “Concern for safety” calls

received during Street Triage operating hours were compared to those occurring outside of those hours. The rate of Mental Health Act detentions was 80 percent lower during hours when the program was operating. Rather than detaining people, the Cleveland team provided alternative pathways to care that included reconnection to services, mental health crisis teams, primary care, substance use services, and counseling. Most people Street Triage saw were not referred again during the 19-month period of data collection. Interviews with Street Triage stakeholders (n=16) indicated that having mental health nurses and police officers at the same location provided timely on-scene advice and support for officers, better outcomes for service users, and fewer mental health detentions. Stakeholders also noted concerns about “frequent utilizers,” lack of service access, and officers bypassing the team and taking people directly to the hospital because Street Triage staff were unavailable or because they disagreed with a mental health nurse’s assessment.

## Co-responder models in Canada

Moving beyond acceptability and descriptive research on the co-responder model, Kisely, Campbell, Peddle, et al. (2010) conducted a quasi-experimental study of the Mental Health Mobile Crisis Team (MHMCT) program in Nova Scotia. Before the program was implemented, a service had offered clinician telephone support to police in the field and a clinician-only mobile crisis response. The new MHMCT service provided 24-hour telephone clinician support to officers and teams of plainclothes officers paired with clinicians. Two years after implementation, researchers assessed the program’s effectiveness with a before-and-after design comparing the intervention area with a similar location that did not have access to the service. Findings indicated an increase in contacts between the MHMCT and people in crisis, families, and service partners from the year before implementation and from year one to year two; reduced officer time on the scene; and increased outpatient contacts for patients the MHMCT served. Qualitative findings from focus groups with service recipients, family members, and service staff indicated positive experiences related to availability, officers’ better understanding of mental health issues, and improved on-scene partnering.

Reviewers found two studies that examined the Mobile Crisis Intervention Team (MCIT) model in Toronto, an approach whose design is different from the Nova Scotia model described above. The MCIT program

staffed six teams, each consisting of a psychiatric nurse and a specially trained police officer (Kirst, Pridham, Narrandes, et al., 2015). MCITs are dispatched as a secondary response to mental health crisis calls at the request of primary responding officers. Kirst et al. conducted qualitative interviews and focus groups with MCIT staff, consumers, and stakeholders from police, health, and community agencies. Overall, participants viewed the MCIT program positively as an approach to meet consumers' needs, divert people from the hospital and criminal justice system, and free up patrol officers for other calls. The reported challenges involved cultural differences between police and mental health providers, lack of clarity about team roles, lack of awareness and buy-in for the program in some police divisions, transfer-of-care issues, and the need for a better coordinated mental health system (including nonpolice crisis services). Consumers' experiences and perceptions of the program varied. Some described positive interactions in which they were treated with respect and given choices, while others reported negative experiences in which they did not feel respected.

More recently, Lamanna, Shapiro, Kirst, et al. (2018) conducted a mixed methods study of the City of Toronto Mobile Crisis Intervention Team program, research that included analysis of administrative data and in-depth qualitative interviews with 15 service users. Administrative data was used to examine consumers' characteristics and co-responder interactions and to compare the outcomes of MCIT and police-only interactions. The most frequent diagnostic category indicated was psychotic disorder (42.9 percent), followed by mood disorder (25.7 percent), substance use disorder (8.0 percent), and other disorders (23.1 percent). By comparing data about incidents that involved MCIT response (2,743) with data on police-only responses (16,226) over a nine-month period, researchers found that MCIT response times were longer than police-only response times (with a median of 13 vs. 8.7 minutes). And though a police-only response was more likely to result in officer-initiated involuntary transport to the ED (odds ratio [OR] = 1.18), the MCIT response was more likely to result in any transport (OR = 2.27), voluntary transport (OR = 17.02), and other mandated transport (such as transport initiated by a physician; OR = 3.83) to the ED. "Handover" time at the ED was significantly lower for MCIT transports (median of 60 minutes) than for police-only transports (75 minutes).<sup>7</sup> Although the authors did not provide a comparison to police-only response, they indicated that 1.9 percent of MCIT calls involved an arrest. Subjects were injured during

the course of 1.9 percent of MCIT calls, but none of the injuries were caused by responders (most were self-inflicted). Themes that emerged from interviews with 15 service users indicated that they valued the knowledge, compassionate approach, and de-escalation skills of the co-responder teams. They reported that this was in contrast to less-positive experiences with police-only teams in which they felt criminalized.

Unlike the Toronto MCIT secondary response model, the Mobile Crisis Rapid Response Team (MCRRT) in Hamilton, Ontario, pairs a CIT-trained police officer and clinician who are dispatched as a first response to 911 calls (Fahim, Semovski, and Younger, 2016). The primary goals of the program are to reduce unnecessary ED visits and involvement in the criminal justice system by redirecting people to appropriate community services, urgent services, and beds in hospitals and other settings that are designated for people in crisis. Findings from an evaluation of the initial MCRRT pilot suggest that program implementation has reduced the number of transports to the ED by almost half but increased the admission rate among those brought to the ED as compared to the rate using the prior police-only model. The authors suggested that services helped reduce the burden on the ED and that emergency department care remained accessible for those who needed it. A survey of officers also supported that the availability of MCRRT reduced unnecessary ED transports.

### Co-responder teams: Summary

To date, the descriptive literature on the co-responder model suggests that it may have value for responding to people experiencing mental health crises in the community and reducing unnecessary ED visits—and perhaps reducing the number of repeated calls for service. With some important caveats, studies that examined the model’s acceptability indicate that stakeholders view it positively and appreciate the cross-sector cooperation. A lack of available community mental health services is consistently noted as an issue for these programs, and in several qualitative studies a concern emerged about including police officers in response to events that might be more appropriately handled with only mental

health professionals. As illustrated in this review and noted in the two published systematic reviews of the co-responder model (Puntis et al., 2018; Shapiro et al., 2015), significant variation in implementation of the model makes it difficult to generalize findings from the existing research. And though a growing body of descriptive research exists, there is a dearth of controlled research about the model’s effectiveness. Furthermore, although co-responder teams likely interact regularly with people who have I/DD when they experience behavioral health crises, the literature does not address the frequency of contact or the model’s appropriateness or effectiveness for this population.



## The Crisis Intervention Team (CIT) model

The Crisis Intervention Team (CIT) model is a collaborative strategy with multiple components. It is best known for its 40-hour training designed to provide officers with the knowledge, attitudes, and skills to safely and effectively intervene with people in crisis and link them to services (Dupont, Cochran, and Pillsbury, 2007). This training for specialist officers is delivered within a model of partnership and collaboration across first-responder agencies, including emergency communications agencies that must identify mental health-related calls and dispatch CIT officers; the mental health system, including emergency psychiatric drop-off sites and mobile crisis and community mental health services; and advocacy groups and people with relevant lived experience (such as peers and family members of someone with mental illness). Although CIT's components are well defined, the model was designed to be flexible enough to allow communities to tailor their efforts to local needs, resources, and limitations. This creates some challenges in comparing research across CIT programs, as does the lack of a fidelity measure (a tool that assesses program implementation in comparison to the original model) to capture this variation.

The growing body of research on CIT includes qualitative and quantitative studies that have examined the following:

- › the acceptability of the training and/or model;
- › the officer-level impacts in terms of knowledge, attitudes, confidence in skills, and reports of the need for force in mental health-related incidents; and
- › field-related outcomes involving the use of force, arrests, transports, and linkages to care.

Two studies have also examined subject-related outcomes and cost-effectiveness. To date, no randomized, controlled trials have been published. One meta-analysis examined the impact of CIT on arrests, use of force, and injuries (Taheri, 2016).

### Early research on models of specialized response

Some of the earliest published research on CIT compared agencies implementing three models of specialized response: the CIT model (Memphis);

on-scene assistance from a mobile crisis team (Knoxville, Kentucky); and in-house social workers who assist officers with calls (Birmingham, Alabama). Borum, Deane, Steadman, et al. (1998) compared perceptions of crisis response effectiveness among officers (n=452) working in the three police agencies. Officers implementing CIT perceived their model as highly effective in meeting the needs of people experiencing a mental health crisis and keeping them out of jail; minimizing officers' time on mental health calls; and maintaining community safety. Officers using the other two models rated their agencies' responses as moderately effective, with one exception: officers from the agency with a mobile crisis team rated their model lower than officers rated the other two models on effectiveness for minimizing their time on mental health calls. A subsequent study compared data on mental disturbance calls from the three agencies (Steadman, Deane, Borum, et al., 2000). The agency using the CIT model had a much higher rate of specialized response at the scene (95 percent) than mobile crisis (40 percent) and embedded social worker (28 percent) approaches, and for calls with a specialized response, CIT response had the lowest rate of arrest outcomes (2 percent vs. 5 percent and 13 percent, respectively). The authors noted that the combination of specialized police response from CIT officers and the presence of a crisis drop-off center (also part of the CIT model) may have contributed to the greater effectiveness perceived among officers and lower arrest rates for the agency implementing CIT.

## Officer-level outcomes of Crisis Intervention Team models

A number of subsequent studies have examined officers' perceptions and experiences related to CIT training and implementation of the model. Hanafi, Bahora, Demir, et al. (2008) conducted focus groups with 25 CIT officers in Georgia to explore how they incorporated the training into their work. Participating officers indicated that CIT training increased their knowledge about mental illness and confidence in their skills and helped reduce the extent to which stigma influenced their responses to mental health interactions. A survey of 57 officers who had completed CIT training in Ohio found that officers rated CIT training as "very positive" and perceived that it had a positive impact on their knowledge, skills, confidence, and effectiveness in responding to people with mental

illnesses (Bonfine, Ritter, and Munetz, 2014). Canada, Angell, and Watson (2012) conducted qualitative interviews with officers in Chicago to explore potential differences in how CIT-trained and other officers described their response to mental health-related calls. CIT officers reported using more nuanced assessment strategies and reported a broader understanding of

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**Participating officers indicated that CIT training increased their knowledge about mental illness and confidence in their skills and helped reduce the extent to which stigma influenced their responses to mental health interactions.**

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symptomatic behaviors as compared to their non-CIT peers. CIT officers also discussed more deliberate use of de-escalation strategies and were able to identify more options for resolving mental health-related calls.

Multiple studies have used more rigorous designs to test the impact of CIT on officer outcomes. Pre-test and post-test CIT training studies have consistently demonstrated improvements in knowledge and attitudes and reduced stigma (Compton, Esterberg, McGee, et al., 2006; Cuddeback, Kurtz, Wilson, et al., 2016; Davidson, 2014; Ellis, 2014; Kubiak, Comartin, Milanovic, et al., 2017); enhanced self-efficacy and reduced levels of social distance (a manifestation of stigma that is measured by a scale asking about officers' willingness to interact with people who have mental illness) (Bahora, Hanafi, Chien, et al., 2008); and more clinically accurate beliefs about the causes of schizophrenia (Demir, Broussard, Goulding, et al., 2009). The most rigorous study to date of the impact of CIT on these officer-level outcomes compared 251 CIT-trained officers (at a median of 22 months after their training) with 335 non-CIT officers on diverse measures of knowledge, attitudes about mental illnesses and treatment, self-efficacy for interacting with someone experiencing psychosis or suicidality, and

social distance stigma (Compton et al., 2014a). Across all measures, the CIT-trained officers' scores were consistently and significantly better than those of their non-CIT peers. Thus, there is strong evidence that CIT training effectively improves officers' knowledge, attitudes, and self-efficacy. A study by Compton and Chien (2008) in Georgia also found that CIT training effects were most durable for more experienced officers.

## Field and call-level outcomes of Crisis Intervention Team training

Research has also examined officers' behavioral outcomes related to CIT. Compton, Neubert, Broussard, et al. (2011) compared the responses of CIT-trained and non-CIT officers to a series of vignettes describing a subject with schizophrenia who exhibited escalating behavior. CIT-trained officers demonstrated lower preferences for the use of force and lower perceptions of the effectiveness of physical force than did officers not trained in CIT. Similarly, a study by Compton, Bakeman, Broussard, et al. (2014a) compared 251 CIT-trained officers to 335 non-CIT officers and found significant and substantial differences between the two groups in terms of de-escalation skills and referral decisions, based on vignettes portraying encounters involving suicidality and psychosis. Examining use of force in 1,063 encounters in the field, Compton, Bakeman, Broussard et al. (2014b) found that CIT-trained officers were more likely than their non-CIT peers to report "verbal engagement" as the highest level of force used. In a study using data from researcher-administered surveys in Chicago, Morabito, Kerr, Watson, et al. (2012) found that CIT officers used less force with more resistant subjects than their non-CIT peers did.

Several other studies have compared outcomes of calls handled by CIT and non-CIT officers. The previously mentioned study by Compton et al. (2014b) found that CIT-trained officers were more likely to resolve calls with referral or transport to mental health services and less likely to resolve calls with arrest than was true of officers without CIT training. This finding was most pronounced when force (which included handcuffing) was used. In two studies, Watson and her colleagues (Watson, Ottati, Morabito, et al., 2010; and Watson, Ottati, Draine, et al., 2011) also found that CIT-trained officers were more likely to resolve calls with referral or transport to mental health services. In their study, however, they did not find a difference in the number

of arrests. CIT officers appeared to be more likely to provide some form of linkage to care in lieu of resolving the situation at the scene rather than as a diversion from immediate arrest. Taheri (2016) conducted a meta-analysis to assess the impact of CIT on arrests, use of force, and injuries, and found that CIT has no effect on these outcomes. But the research included only seven studies that examined varied implementations of CIT and used distinctly different measurement approaches. Thus, the findings can at best be considered inconclusive, as it was arguably premature to conduct a meta-analysis given the limited available research on these particular outcomes.

## System-related outcomes of Crisis Intervention Team models

In addition to officer- and call-level outcomes, research on CIT models has also considered system-level impacts. Instead of comparing CIT-trained with non-CIT officers, several studies have examined changes pre- and post-implementation of CIT programs. Using police dispatch data, Teller, Munetz, Gil, et al. (2006) compared call data for two years before and four years after CIT implementation in Akron, Ohio. In the period following CIT implementation they found significant increases in the number of identified mental health calls and transports to the emergency department and in the proportion of transports that were voluntary. They found no differences in rates of arrest. More recently, Kubiak, Comartin, Milanovic, et al. (2017) examined CIT implementation in Oakland County, Michigan, a metropolitan area that is home to approximately 1.2 million people. Using an interrupted time series design, they found that the number of transports to the psychiatric crisis center increased significantly after CIT implementation and that the increase was sustained over the seven-month follow-up period.

Two additional studies have examined the system costs of CIT. Using data from the Memphis CIT site of the SAMHSA diversion study, Cowell, Broner, and Dupont (2004) found that over the 12-month follow-up, diversion was associated with increased costs of \$6,576 per person. They noted that the costs associated with greater use of hospitalization exceeded any savings from reductions in the number of days people spent in jail. In contrast, a study conducted in Louisville, Kentucky, reported savings associated with CIT (El-Mallakh, Kiran, El-Mallakh, 2014). The authors

estimated that deferred hospital and jail costs resulted in an annual net savings of \$1,024,897 after accounting for program costs.

Research has also explored elements related to CIT training delivery and selection of officers for the program. Examining a variation in the delivery of CIT training, one quasi-experimental study sought to determine whether CIT training could be effective when delivered over an extended period. Cuddeback, Kurtz, Wilson, et al. (2016) compared 47 officers completing the traditional 40-hour week of CIT training with 32 officers who completed the 40 hours in segments over a three-month period. Findings indicated comparable improvements in knowledge and attitudes across groups.

Though the timing of delivery does not appear to be a critical factor in the efficacy of CIT training, officer selection methods show greater effects. Compton, Bakeman, Broussard, et al. (2017) used data from their large study in Georgia to assess the value of officers volunteering to complete CIT training and take on the CIT role. CIT officers who had volunteered for the role scored significantly better on six of 28 measures of knowledge, attitudes, and skills than did CIT officers who had been assigned to the role. Differences on eight additional measures were marginally significant, all in favor of volunteering. And although volunteering officers were more likely to use some form of physical force in the field (including the use of handcuffing), when force was used, volunteering officers were less likely to arrest and more likely to refer people to services than assigned CIT officers were.

## Subject-level outcomes of Crisis Intervention Team models

Research on the impact of CIT on outcomes for people with mental illnesses is extremely limited. The Substance Abuse and Mental Health Services Administration (SAMHSA) funded a large study of eight models of criminal justice diversion for people with both serious mental illness and substance use disorders; the study included three police-based pre-booking diversion programs, two of which used the CIT model (Broner, Lattimore, Cowell, et al., 2004). Overall, police-based diversion increased the likelihood of someone receiving mental health services in the three- and 12-month follow-up periods as compared to participants who were not diverted. The participants at one of the CIT sites reported



reductions in mental health symptoms at the three-month follow-up. Across all eight sites, diverted participants spent fewer days in jail during the three-month follow-up period than those who were not diverted. But there were no differences in rates of criminal recidivism at 12 months, with the exception of one CIT site that had an increased likelihood of arrest.

### Crisis Intervention Teams: Summary

Overall, there is strong evidence that CIT improves officers' knowledge, attitudes, self-efficacy, and preference for de-escalation strategies. There is also strong evidence that CIT increases referrals and other linkages to mental health services. Low-frequency events such as arrest, use of force, and injuries are harder to study adequately, and the research to date on those outcomes is less conclusive. But there is some evidence that CIT can reduce the likelihood of arrest and use of force in mental health-related encounters. In terms of longer-term outcomes on the subject, system, and community levels, the research is extremely limited. Some evidence suggests that CIT diversion can make people more likely to receive services, but there is little reported evidence that it affects long-term mental health or criminal justice system outcomes. The availability of local services and supports for people subsequent to their contact with police appears to influence CIT's long-term impact heavily. System impacts in terms of costs are unclear. It seems that CIT has the potential to produce cost savings but also to increase costs, depending on the context of implementation. A major limitation in the research is the lack of a fidelity measure for the CIT model. To date, the literature does not provide a way to consider variations in CIT implementation, something that could affect how generalizable the findings are and how they should be interpreted.

More research is needed to evaluate the impact of involving all ranks and levels of law enforcement—from new recruits to captains—in training, given that buy-in from patrol officers and other first responders is likely enhanced when upper-level supervisors also support the training and serve as role models.

Research should also focus on including law enforcement supervisors in training with first responders so that everyone involved gets a better sense of their role and responsibilities. And to the extent that some version of CIT is emerging as a best practice, it is important to guard against it being applied in a rote manner without adaptation to local conditions or without formal mechanisms to allow systematically for program innovation, reevaluation, and updates.

Although most 40-hour CIT trainings include some content on intellectual and developmental disabilities, often including a presentation on autism, research on CIT has not focused on I/DD thus far. In the field, some sort of behavioral crisis often prompts a CIT response, with a person's outward behavior being more important in the moment than a particular psychiatric diagnosis. An examination of the frequency of CIT responses to people living with I/DD and the nature of these events would help determine whether CIT programs benefit this population. Research might highlight the need for additional CIT training content, I/DD-specific training, the need to engage additional community partners in model development or implementation (to better serve people living with I/DD who may come in contact with police during a behavioral health crisis), or some combination. It should be noted that future research could define more clearly what qualifies as a "crisis" so that responders can know how to address these situations better. For example, what looks like a crisis to an officer might look like an everyday seizure to a person with a disability. How does an officer know when someone is truly in crisis? The answers can help officers approach these situations more effectively and objectively.

## EMS- and ambulance-based responses

Although most U.S. jurisdictions rely on police or the mental health system to respond to emergency calls involving people with SMI or those having a psychiatric crisis, another approach is to optimize responses based on emergency medical services. As with any medical emergency, acute mental health problems must be addressed quickly. As such, mobile crisis teams might not always be a viable approach because substantial wait times are common. At the same time, a police response like a crisis intervention team is often unnecessary. But only recently has formal research addressed the extent of EMS utilization by people with mental illnesses and have pilot programs been developed to enhance EMS responses to psychiatric emergencies.

### EMS responses in the United States

Using data from the National Hospital Ambulatory Medical Care Survey (1997 to 2003), Larkin, Claasen, Pelletier, et al. (2006) examined characteristics of patients transported to U.S. emergency departments by ambulance and determined predictors of ambulance utilization. During those years, people were conveyed by ambulance for approximately one in every seven ED visits (14 percent), but for patients with mental health visits, nearly one in three (31 percent) arrived by ambulance. Among those who made mental health visits, the predictors of ambulance use included ages of 46 or older, self-pay status (lacking health insurance), urban ED location, regions outside the southern United States, and visits classified as urgent. Ambulance usage within the mental health group was highest for suicide-related visits and lowest for visits related to mood disorders and anxiety disorders (Larkin et al., 2006). Cuddeback, Patterson, Moore, et al. (2010) analyzed data on 70,126 medical transports to EDs in three counties of a southeastern state. Fewer behavioral health transports resulted in hospital admission as compared to general medical transports, although among behavioral health transports, people with schizophrenia were 2.6 times more likely to be admitted than those with substance use disorders, and people with mood disorders were 4.4 times more likely to be admitted than those with substance use disorders.

Given that paramedics and other EMS staff are increasingly being called to address patients' mental health concerns, current debates identified by Ford-Jones and Chaufan (2017) have focused on "inappropriate" or an "excess" use of paramedic services for mental health and other psychosocial issues

and on insufficient paramedic mental health training. Regarding the latter, the authors cite multiple news articles demonstrating that paramedics often have minimal mental health training, and people in the field agree that they would benefit from more. Along these lines, Brady (2012) emphasized that paramedic practice needs to explore not just the traditional physical health needs of the subjects of emergency calls, but also their psychological and sociological needs and concerns. Yet research about paramedic training in this area—and research on judgment and decision-making pertaining to mental illnesses—is sparse (Shaban, 2006).

A number of jurisdictions have implemented pilot programs, including those designed to expand the types of facilities that will potentially receive patients who need emergency care or change the disciplines of the emergency responders themselves (for example, by having emergency responders who are trained as social workers). Although initial evaluations of some pilot programs have been conducted, formal research is lacking. One program, the “Alternative Destination,” was developed in Wake County, North Carolina, to improve EMS responses to mental health-related calls, partly with the goal of reducing emergency department wait times. This pilot program enabled EMS workers to transport patients experiencing a mental health crisis directly to a psychiatric facility rather than taking them to an ED for a psychiatric evaluation. To be transported to a psychiatric facility, patients must meet certain criteria. (For example, Hector and Khey [2018] reported that an individual must have a mental health status that is not severe enough to require sedation; normal/stable vital signs; no acute medical symptoms; a blood alcohol content level of less than 0.04 percent; and the ability to perform activities of daily living.) An evaluation showed that the pilot program reduced transports to EDs by 20 percent from 2013 to 2015 and transported 764 of 3,831 patients to other facilities (Hector and Khey). Other work has revealed that people held involuntarily—who are usually required to be screened and evaluated for “medical clearance” in an ED to ensure that their behavior is not caused by an underlying life-threatening nonpsychiatric illness—can be assessed using a field-screening protocol that allows EMS to transport many patients directly to a stand-alone psychiatric emergency service (Trivedi, Glenn, Hern, et al., 2019).

Another modification to typical EMS response—aside from expanding the options for the emergency receiving facility beyond the ED—pertains to the responding personnel. In Georgia, the Grady Health System piloted an

EMS-based response team consisting of a paramedic, a licensed counselor, a clinical social worker, and sometimes a third-year psychiatry resident. During the study's pilot phase, the crisis team responded with regular EMS staff, but later the team responded to crisis events independently, without EMS personnel. Grady EMS also created a process that allowed 911 dispatchers to transfer some calls directly to the Georgia Crisis and Access Line (GCAL), the hotline for accessing mental health services statewide. The 911 dispatch calls to GCAL had to meet certain criteria, and staff could also call Grady EMS again if an ambulance response was needed. This EMS-based program reduced the number of patients being arrested or restrained and improved care while saving money and resources (Hector and Khey, 2018).

## International EMS responses

Similar EMS-based approaches are used in other countries. In Canada, some paramedic services include a social worker to address patients' psychosocial needs, allowing paramedics to focus on emergency medical care (Campbell and Rasmussen, 2012). Another approach is to have a responding team that consists of a specially trained paramedic and a mental health

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**In Canada, some paramedic services include a social worker to address patients' psychosocial needs, allowing paramedics to focus on emergency medical care.**

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nurse. An example of this called the Mental Health Acute Assessment Team (MHAAT) was created in Western Sydney, Australia in 2013. A joint initiative of the New South Wales Ambulance and Sydney Local Health District Mental Health Services, the responding team consists of a specially trained paramedic and a mental health nurse. After conducting a clinical

assessment designed to determine the best course of care, the team is able to refer patients to general practitioners or mental health facilities instead of an emergency department. Initial evaluation results revealed that about 70 percent of patients had bypassed EDs for more appropriate care settings (Faddy, McLaughlin, Cox, et al., 2017).

In Stockholm, the project PAM (Psykiatrisk Akut Mobilitet, the Psychiatric Emergency Response Team) was created to respond to mental health crisis calls, focusing on patients with an acute risk of suicidal behavior (Bouveng, Bengtsson, and Carlborg, 2017). In Sweden, as in the United States, police have traditionally handled these emergency calls, though it is widely believed that involving trained mental health professionals could improve the quality of care provided and minimize stigmatization of patients who have psychiatric concerns. The PAM team consists of two specialized psychiatric nurses and a paramedic who often work with police, ambulance, and rescue services. During its first year, PAM was requested 1,580 times and attended to 1,254 cases, averaging 4.3 requests and 3.4 cases daily; one third of the cases required no further action after a psychiatric assessment and sometimes crisis intervention had been made on-site (Bouveng et al., 2017). Although it is likely that these programs, like the models previously described, are serving people with I/DD, the available literature does not shed much light on the extent to which that happens—or whether PAM takes into consideration the needs of people who have such disabilities.

### **EMS- and ambulance-based responses: Summary**

Responses that leverage existing emergency medical response systems continue to develop; descriptive overviews from pilots in the United States and early data from initiatives in Australia and Sweden suggest that these models have been well received and that EMS responses contribute to reduced use of emergency departments. But formal research is lacking and evaluation must continue alongside program development. In particular, there is a need for additional

research on stakeholder acceptability as well as experimental research testing the impact of this type of service model on police/emergency service contacts and mental health and criminal justice outcomes. Future research should also look at the effectiveness of EMS-based responses for subpopulations, such as people with I/DD.

## I/DD-specific models and approaches

The models reviewed thus far were developed primarily as responses to people who have mental illness or are in a psychiatric crisis and, as noted, additional research is needed to understand how they serve individuals with I/DD. Meanwhile, advocates have started to develop I/DD-specific models to better serve people who have such disabilities and come in contact with the criminal justice system. As described earlier, Pathways to Justice is a model for law enforcement, victim services professionals, and legal professionals developed by the National Center on Criminal Justice and Disability at The Arc.<sup>8</sup> It was designed to create and support Disability Response Teams (DRTs) to better serve people with I/DD who come in contact with the criminal justice system, whether they are crime victims/survivors, suspects, witnesses, defendants, incarcerated, or some combination. DRTs can include a range of community members, including law enforcement, victim service providers, attorneys, self-advocates, parent advocates, and

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**Pathways to Justice is a model for law enforcement, victim services professionals, and legal professionals developed by The Arc's National Center on Criminal Justice and Disability.**

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disability advocates. The eight-hour Pathways training features joint sessions that bring together members of the professional groups involved, as well as profession-specific breakout sessions. The training is designed as a kickoff event for longer-term cross-system collaborations to identify barriers to justice for people with I/DD and develop practical site-specific solutions. An unpublished evaluation of a pilot of the Pathways training at six sites in 2017 indicated that overall, participants were satisfied with the training and

that the DRTs established beforehand continued to meet afterward (The Arc, National Center on Criminal Justice and Disability, 2017). Although some communities may be developing additional models and strategies to address the needs of people with I/DD, reviewers were unable to locate literature describing other I/DD-specific approaches.

## Mobile crisis teams (MCTs)

Mobile crisis teams (MCTs), sometimes called mobile crisis units or in-home crisis services, have been widely implemented across the United States. The MCT model is not a police-based approach; the mental health system houses and operates the teams, though police involvement is not uncommon. MCTs provide immediate on-site crisis management through assessment, intervention, consultation, and referral, with follow-up to ensure linkage to recommended services after a psychiatric crisis (Kim and Kim, 2017). When a call comes in, the team reviews the case, sends out team members—often a social worker, possibly a nurse, and at times a psychiatrist—to see the individual, attempt to stabilize the crisis, recommend appropriate services (such as hospitalization or referral to additional community-based services), and provide follow-up (Dyches et al., 2002).

MCTs may be operated by a county or state, a hospital-based psychiatric crisis service, a community-based nonprofit agency, or a county- or state-funded vendor. The literature describes MCTs' potential benefits as including improved access to care; the ability to avert a crisis or reduce its severity; the opportunity to evaluate clients—and provide supportive counseling and psychoeducation to them—in their own settings and with their own natural supports; and fewer arrests among those with mental illnesses, along with more diversions from jail to treatment. MCTs can also see clients who may refuse to come in for evaluation—and thus the evaluation is brought to them on-site. These teams may also decrease hospitalization and its associated costs, help alleviate family burden, and reduce the consequences of involvement in the criminal justice system (and associated costs) by providing on-site assessment and crisis management in the community (Zealberg, Santos, and Fisher, 1993; Scott, 2000). A clear benefit of the MCT model is that it is intimately connected with the rest of the community mental health system, and this should help in making linkages to care. Ideally, the mobile approach can provide short-term case



management until a client has access to other services, something most hospital-based EDs do not provide.

The first descriptions of mobile crisis services appeared in the literature as early as the 1970s, though such services evolved from earlier models of psychiatric home-visiting teams and community-based crisis intervention services). More recently, MCTs have increasingly been used as a key part of the mental health continuum of care. It is thought that MCT implementation addresses gaps in services for people who have SMI or are having

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**Mobile crisis teams provide  
immediate on-site crisis management  
through assessment, intervention,  
consultation, and referral.**

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a psychiatric crisis. This review does not discuss published descriptions of the model and its potential benefits (see, for example, Zealberg, Santos, and Fisher, 1993). Three studies published from 1990 through 1995 (and not reviewed further here) examined hospitalization rates in relation to MCT utilization, with mixed results (Fisher, Geller, and Wirth-Cauchon, 1990; Reding and Raphaelson, 1995; Bengelsdorf et al., 1993). And though in-home crisis response programs for people with I/DD exist in some localities, no research on this subject has been published.

In 1993, Geller, Fisher, and McDermeit conducted the first systematic attempt to review the prevalence and effectiveness of mobile crisis services, including all 50 states, the District of Columbia, and U.S. territories (Geller et al., 1995). At the time, 39 states had implemented mobile crisis services and 90 percent reported that they would go to locations including private homes, general hospital emergency rooms, residential programs, and shelters. Fifty to 80 percent of states reported that their mobile crisis services would go to correctional facilities, the streets, bus and train stations, and general

hospital medical units, and a small number indicated that they would provide services at any site where a crisis occurred or a client might be, or to any reasonable and safe place. The vast majority (95 percent) of states with these services reported that they had “a significant impact on the successful functioning of their state’s crisis services,” as evidenced by reduced hospital use, yet few states collected data on this impact (Geller et al., 1995, 896).

## Outcomes of mobile crisis teams

Benefits of mobile crisis services that were perceived but not necessarily formally evaluated included advantages to patients and families (such as opportunities to teach coping skills and provide support to families, minimization of trauma, and reduced stigma), staff and community providers (such as improved access to patients with limited means of transportation and increased assistance from law enforcement), and the mental health system (for example, fewer inpatient admissions and related financial savings) (Geller et al., 1995). The authors wrote, “Having failed to evaluate the efficacy of mobile crisis intervention services before their widespread implementation, we should take the opportunity now available to do this evaluation” (Geller et al., 1995, 897). Still, limited formal research has been done on the efficacy of these services. Some early research evaluated the effectiveness, efficiency, and consumer satisfaction of the MCT approach.

Because it is broadly assumed that community-based MCTs should result in improved linkage to the local mental health system and thus to more frequent and more timely use of such community-based services after a crisis event, some research has used matched control groups, a quasi-experimental design, to examine the effects of MCTs on the use of community-based and hospital-based mental health services. Dyches and colleagues carried out several studies using data from Cuyahoga County, Ohio (where Cleveland is located). In fact, the most compelling research on MCTs has come from that research group in that jurisdiction (Dyches, Biegel, Johnsen, et al., 2002; Guo, Biegel, Johnsen, et al., 2001; Min, Biegel, and Johnsen, 2005).

In the analysis by Dyches et al., consumers receiving MCT services were matched with consumers of the hospital-based intervention cohort on seven variables: gender, race, age at time of crisis service (in five-year groupings), primary diagnostic group, recency of prior service use, indication of harmful substance use, and certification of severe mental

disability by the state's department of mental health and addiction services. Whenever an MCT consumer was matched with more than one consumer of a hospital-based intervention, the researchers randomly selected one case from the multiple matches to create the comparison group. A total of 1,888 MCT consumers were matched to 4,660 consumers of hospital-based emergency services. Some 63 percent of the 1,888 could be matched, resulting in the two samples of 1,187. The data came from administrative data sets available to the county's mental health authority. The researchers focused on the rate of community mental health service use within a 90-day window as an outcome. They found that 45.1 percent of MCT consumers used such services within 90 days of the crisis visit, as compared to 37.4 percent in the comparison group. As such, a MCT consumer was 17 percent more likely to receive community-based mental health services within 90 days of the crisis event ( $p < 0.05$ ). The significant difference, however, was limited to MCT consumers with no prior use of mental health services. Consumers using post-crisis services were more likely to be African American, homeless, diagnosed with serious psychiatric disorders and not with substance use disorders, previous users of mental health services, and severely mentally disabled.

Using the same data and analytic approach, the same researchers found that a greater percentage of the hospital-based intervention cohort was hospitalized within 30 days of a crisis event (Guo et al., 2001). Specifically, patients receiving ED-based crisis services ( $n=1,100$ ) were 1.5 times more likely to be hospitalized within 30 days of the initial services than those who received MCT services ( $n=1,100$ ), demonstrating that MCTs were more effective in reducing the rate of psychiatric hospitalization after an initial crisis intervention ( $p < 0.001$ ). Min et al. (2005) then assessed differences in psychiatric hospitalization after MCT intervention with Cuyahoga County patients who had co-occurring substance use and mental health disorders ( $n=783$ ) and those who had only mental illnesses ( $n=830$ ). Dually diagnosed patients were more likely to be hospitalized within 30 days of a MCT intervention than those who had only mental illness ( $p < 0.05$ ).

More recently, Kim and Kim (2017) examined 14 potential predictors of use and duration of community mental health service utilization among 1,771 adults receiving MCT intervention in Cuyahoga County in 2007–2008. Some 44.2 percent used community mental health services within 30 days of MCT intervention; the likelihood of using such services

was predicted by four factors: use of community mental health services in the previous year, having a psychotic or mood disorder, having a depressive disorder, and/or not having a substance use disorder.

Though MCTs are frequently associated with hospital diversion, they can also be used as an extension of psychiatric emergency services after an evaluation in a hospital-based emergency setting. In a study in Rochester, New York, Currier, Fisher, and Caine (2010) assessed whether MCT intervention (n=56) is more effective than standard referrals to hospital-based

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**Though MCTs are frequently associated with hospital diversion, they can also be used as an extension of psychiatric emergency services after an evaluation in a hospital-based emergency setting**

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clinics (n=64) as a means to establish short-term clinical contact after an emergency department discharge related to suicidality. Successful first clinical contact after a discharge occurred in 69.6 percent of participants randomized to MCTs versus 29.6 percent for outpatient psychiatric clinics, demonstrating that community-based mobile outreach programs can be a highly effective method for facilitating linkages to care after an emergency discharge ( $p < 0.001$ ). Early evaluation research thus provides evidence that MCTs increase community-based service use, reduce hospital-based mental health service use, and link people to community-based care when they do have an ED admission.

## **Concerns and challenges regarding mobile crisis teams**

The literature does reveal some concerns pertaining to MCT's utility in adequately addressing psychiatric emergencies. These include limited capacity

(for example, where only one team served an entire geographic area); the MCT's typical availability only during certain hours or on certain days; wait times; and the not-uncommon occurrence of the MCT needing to call law enforcement for assistance. Perhaps the greatest disadvantage of this approach is that a team can deploy only a limited number of crisis workers. Because of safety concerns, these workers respond to crises in pairs. When capacity is reached and all staff are engaged, alternatives such as EMS or CIT need to be available. What's more, MCTs cannot be viewed as a replacement for police-based responses. Yet many jurisdictions may want to expand the use of MCTs substantially, both to reduce unnecessary hospitalization and provide linkage to appropriate community-based resources.

Hospital-based psychiatric emergency rooms and community-based mobile crisis outreach programs such as MCT are extremely different approaches to delivering emergency services. For example, MCTs can do field assessments and referrals but not treat true psychiatric emergencies that require the resources of an ED. Determining whether the two approaches lead to different outcomes is a difficult empirical problem. As Dyches, Biegel, Johnsen, et al. (2002) pointed out, ideally, an experiment could be designed such that everyone experiencing a psychiatric crisis would be randomly assigned to one of the two treatment conditions. But opportunities for conducting controlled studies of alternative interventions within the public mental health system are rare. Services are more typically studied in their naturally occurring context, using matching or statistical controls. As noted previously, studies to date have not examined the extent to which these approaches serve people with I/DD.

### Mobile crisis teams: Summary

Many communities continue to explore the use of mobile crisis teams to serve as adjuncts or alternatives to emergency department psychiatric care. Overall, the literature demonstrates that MCT services have high rates of consumer and provider satisfaction and can effectively increase community-based service use, reduce reliance on psychiatric EDs, and link people to community-based care

once discharged from an ED. The majority of the literature is now more than 20 years old, however, so updated research is needed, particularly at a time when there have been so many other innovations in crisis response models. Additional research on stakeholder acceptability is needed, as well as more robust experimental research that examines the impact of MCTs on a variety of individual and system level outcomes.

## Officer notification and flagging systems

When people with SMI or I/DD give consent in advance, agencies can use various types of flagging systems to alert officers about an individual's specific needs during an encounter. Development and research in this area are nascent. Some models are conceptually similar to a medical alert bracelet in that they give the responding officer information about a health condition that could be pertinent in an emergency. An individual provides consent to share such information, which is entered into a system in advance of an emergency. The models described below are included in this review—even when no related research has been conducted—as a way to shed light on emerging approaches that deserve further research and exploration.

Compton, Halpern, Broussard, et al. (2017) created and studied a “linkage system” to notify responding officers and provide immediate access to a mental health professional via telephone. Developed by the Georgia Crime Information Center, the background-check mechanism is used to post an alert that a person has a mental health condition and has given consent for the officer to talk by phone with a professional in the public mental health system where the subject is or was in treatment.

The linkage system consists of three steps. First, prior to potential future police encounters, people with SMI and a criminal justice history give special consent for a brief disclosure of their mental health status within a database in the state's crime information system and for an officer to talk with a mental health “linkage specialist” if an encounter occurs. This consent serves as a waiver of usual Health Insurance Portability and Accountability Act protections that would prohibit responders and providers from having this conversation. Second, if officers have an encounter with an enrolled patient and run the individual's name or other identifiers as an inquiry (similar to a background check), they receive an electronic message—in the inquiry output on their standard in-car laptop or via dispatch—that the person has special mental health considerations and is directed to call for more information. (The phone number provided connects to a linkage specialist in the local mental health system.) Third, the linkage specialist gives brief telephone assistance to the officer, thinking through observed behaviors and potential dispositions. This police–mental health linkage system differs from other pre-arrest jail diversion models such as CIT in that officers need not step outside of their usual professional

role to assess someone's mental health status. Instead, officers running a routine inquiry have access to information that might assist them. Initial research has demonstrated acceptability among patients with SMI and law enforcement officers (Compton, Halpern, Broussard, et al., 2017), and has shown that in some cases, a discretionary arrest is replaced by informal

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## The CIT model has the most widely recognized mental health response training for police officers in the United States.

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resolution in light of the new information provided to the officer via the electronic message and telephone support (Compton, Anderson, Broussard, et al., 2017). (A discretionary arrest means that no violence is involved and thus arrest is not obligatory.) A key unanticipated finding was that, even more often than with jail diversion, many people involved in a police encounter were reconnected to care, often after falling out of care and becoming symptomatic. This linkage system is now the subject of a randomized, controlled trial in Georgia.

The Mental Health Awareness Flag program at the Janesville Police Department in Rock County, Wisconsin, was created through its Behavioral Health Information Sharing Initiative, which involved multiple stakeholders, including local law enforcement agencies, mental health services providers, the local affiliate of the National Alliance on Mental Illness, the public defender's office, and the district attorney's office (Klementz, 2018). Agencies are able to share behavioral health information for the purpose of collaboration, and all parties agreed to take steps to prevent any information from being used in a manner that would adversely affect their clients. The flag program generates a visual indicator in the county law-enforcement records management system that alerts an officer if an individual has a known mental illness, along with information



about triggers and calming approaches. A more in-depth Crisis Strategy Information Sheet can be added to the system, with details about how best to work with the person during a crisis. Initial program evaluation suggested that calls for service decreased by 48 percent after a Mental Health Awareness Flag was added (Klementz, 2018).

A more general approach related to the two programs described above is the Smart911 system, which allows someone to create a “safety profile” that includes medical information and lists prescribed medications that, in the event of an emergency call, displays to 911 personnel (Rave Mobile Safety, 2019).<sup>9</sup> This information can better equip first responders to prepare and meet an individual’s needs, by informing them about existing medical conditions before they arrive on the scene. Some emergency communication agencies also maintain a “disability registry” that allows people to provide information that might be pertinent to first responders in the event of a natural disaster or medical emergency. People can agree to have information related to their SMI or I/DD entered into the database. But aside from disasters and medical events, first responders—specifically, police—differ in the extent to which they use the database.

## Stand-alone trainings on mental health and I/DD response

Though other models, like Crisis Intervention Teams, include a mental health training as part of collaborations to improve local emergency response processes, many other types of training are designed specifically to help officers better recognize and respond to people who have mental illnesses, I/DD, or both. The two best-known mental health-related trainings are Mental Health First Aid for Public Safety (MHFA-PS) and the Police Executive Research Forum’s Integrating Communications, Assessment, and Tactics (ICAT) training. Trainings for dispatch/emergency communications are included in this review.

The CIT model has the most widely recognized mental health response training for police officers in the United States. Given that the full model is considered in a separate section of this review (see “The Crisis Intervention Team (CIT) model,” page 27), this section focuses on the limited research about other trainings that have been developed to

prepare officers to better recognize and respond to people with mental illnesses, I/DD, or both.

Coleman and Cotton (2014) conducted a scan of mental health trainings for police and identified common elements, which included signs and symptoms of major mental disorders, other disorders affecting cognition and emotions, and substance use disorders; assessment of suicidal intent; de-escalation and behavioral management techniques; relevant mental health policies; and available mental health services. Trainings varied in terms of length, when in an officer's career they were provided (in the preservice academy vs. in-service, for example, and once vs. at repeated intervals), and the manner of delivery. Some trainings included input from mental health professionals and exposure to people with lived experience of mental illness. Limited peer-reviewed research on these trainings has been published, particularly in terms of training that involves response to people with I/DD. This section reviews the available research.

## Mental health training initiatives in the United Kingdom

Two non-comparative studies from England examined one-day mental health trainings developed through local collaborations between police forces and mental health units. Norris and Cooke (2000) surveyed officers (n=55) who had completed a one-day mental health awareness training. Participants indicated that the training improved their ability to deal with people who have mental illnesses (76 percent) and more than half (61 percent) reported that they had used the information they learned in the training. More recently, Forni, Caswell, and Spicer (2009) administered a survey of officers and found a high level of satisfaction with a similar training. Officers indicated that they found the training relevant and that it improved their understanding of mental illnesses. An added benefit was increased understanding of the police role among the mental health professionals who delivered the training.

Several studies have focused primarily on trainings aimed at reducing stigma. Pinfold, Huxley, Thornicroft, et al. (2003) examined the impact of an in-service mental health awareness program for police officers on knowledge and attitudes about people with mental illnesses. The program, developed to impart key messages identified by mental health service

users and provided to police personnel in southeast England, involved two two-hour sessions. The first session addressed the lived experience of mental illness and the second focused on how police can support people with mental illnesses and on relevant mental health legislation and local services. Both sessions included didactic presentations, small-group discussions, and interactions with people who have mental illnesses and their family members or other caregivers. A total of 109 participants completed questionnaires on knowledge and attitudes about mental illness at baseline and four weeks post-training. Findings indicated that the intervention had a small but positive effect on knowledge and attitudes, and at the follow-up point approximately one-third of participants reported that the training had a positive practical impact on their work as police officers.

The most rigorous study design to date was a cluster randomized, controlled trial of a one-day mental health awareness training delivered to members of a single police force in England (Scantlebury, Fairhurst, Booth, et al., 2017). Mental health professionals delivered the training in a classroom, using lectures, short films, and group discussion. Twelve North Yorkshire police stations were recruited to participate and randomized to groups of frontline officers receiving the mental health training (n=6) or routine training. Call data from the six months after the training was compared across conditions. Findings indicated that there was no difference between conditions in the number of calls requiring police response, the number of applications of the Mental Health Act, or the number of people with a mental health marker or flag in the police data system who had contact with officers. But the intervention group had more incidents in which a mental health flag was applied, suggesting that the training had a positive effect on how officers recorded mental health-related incidents. The authors noted that an evaluation was conducted to assess the impact of the training on officers' knowledge, attitudes, and confidence, but to date it has not been published.

## Mental health training initiatives in Sweden

Although most of the published research has focused on in-service trainings provided to officers, one study examined an enhancement to such training. Hansson and Markström (2014) assessed a course designed to improve officers' mental health literacy and reduce stigma about mental health; the training was provided over three weeks as part

of third-semester basic police officer training at the University of Umeå in Sweden. The course covered community mental health, etiology and diagnosis of mental disorders, and mental health legislation. Part of the course was an anti-stigma intervention that consisted of a kickoff lecture, presentations by two people with lived experience of mental illness, interaction with those presenters during *in vivo* training modules, and videos of authentic representations of mental illnesses. Intervention participants were compared to participants recruited from students in their first semester of basic officer training. Mental health knowledge, attitudes, and intended behavior were measured pre- and post-training, and, for the intervention group, through a six-month follow-up. Findings indicated that participants who had taken the course improved in these constructs more than students in the comparison group did, and that these changes were mostly maintained at the six-month follow-up.

## Mental health training initiatives in Canada

In the province of Alberta, Krameddine, DeMarco, Hassel, et al. (2013) developed a scenario-based training approach to improve officers' skills for interacting with people who have mental illnesses. The one-day training, which was explicitly designed to change behavior rather than knowledge and attitudes, involved having participants complete six scripted interactive scenarios with trained actors, followed by feedback and group discussion. Training participants were invited to complete baseline and six-month follow-up assessments that included measures of knowledge, recognition, and attitudes about mental illness. Supervisors' ratings were used to measure behavior change. The number of mental health calls, time spent on calls, and use of force were examined at the agency level. From the baseline to the six-month follow-up, no significant changes in knowledge or attitudes were measured among the 170 officers who completed assessments. Supervisors' ratings were available for 142 participants and indicated an average improvement of about 10 percent in ratings of officers' de-escalation skills and empathy. Agency-level data comparing the pre-training period with the follow-up six months post-training suggests that the number of mental health calls increased and the average time spent on scene decreased, as did the use of force. Of note, however, is that the reduction in the percentage of mental health calls involving the use of force represents

a trend that began prior to the training. Calculating the savings from the reduced average time spent on calls, the authors concluded that the training was cost-effective, although they acknowledged that some but not all program costs were factored into the analysis. In a separate article they reported on acceptability of the intervention for police officers (Silverstone, Krameddine, DeMarco, et al., 2013). Officers were invited to complete an online survey after the training, and 381 of 663 training participants did so. Feedback was positive overall, with nearly 50 percent strongly agreeing with the statement “I will implement the knowledge and skills learned from this course in my everyday duties.” The authors noted that the training’s primary drawback was that it is time- and resource-intensive to deliver for both the actors and police.

## Training initiatives specific to people with I/DD

Although the trainings discussed so far may have touched on content relevant to police response to people with I/DD, none of the studies mentioned that or reported specific findings related to knowledge, attitudes, confidence, skills, or field responses to those who have such disabilities. Reviewers did find research on two I/DD-specific trainings for police. Bailey, Barr, and Bunting (2001) reported on an evaluation of an intellectual disability awareness training conducted by the Royal Ulster Constabulary, which was the national police force in Northern Ireland until 2001. Participants were police officers in their two-year probationary period who engaged in a role-play exercise that was debriefed and followed by a discussion of stereotyped views of people with intellectual disabilities. Training participants (n=31) and comparison group participants (n=34) who attended an unrelated training completed the “Attitudes Toward Mental Retardation and Eugenics” questionnaire at baseline and after the training. Findings indicated a significant improvement in attitudes for the intervention group and no change for the control group.

Teagardin, Dixon, Smith, et al. (2012) conducted a randomized, controlled trial of a 13-minute video, *Law Enforcement: Your Piece to the Autism Puzzle*, developed by the Sahara Cares Foundation. The video explains what autism is, how to recognize a person with autism, and how to respond. Officers who watched the video were participating in a regular training in Ventura County, California. Participants in the intervention group (n=42) completed a brief questionnaire about the content of the training

immediately before viewing the video and immediately afterward. The questionnaire comprised 10 knowledge questions and two confidence questions. Control-group participants completed the pre-test, followed by the post-test 15 minutes later. The training group scored significantly better on the post-test than the control group did. Additional research is needed, focusing on the frequency and scope of these types of I/DD-specific trainings as well as their impact on officers' knowledge, attitude, and behaviors.

## Additional U.S.-based mental health training initiatives to be explored

Agencies throughout the United States are using several promising training approaches but do not yet have published research on their effectiveness. One model is specific to mental health and substance use-related crises and another addresses situations involving people experiencing a mental health or other crisis. Mental Health First Aid for Public Safety (MHFA-PS) is an adaptation of the widely disseminated program Mental Health First Aid (MHFA). The program was designed to train the public to recognize signs and symptoms of mental health and substance use disorders and assist people in crisis and noncrisis situations (Jorm and Kitchener, 2011). A growing body of research supports MHFA as effective for improving related knowledge and self-confidence in providing assistance and reducing stigma about mental illness (Hadlaczky, Hökby, Mkrtchian, et al., 2014; Morgan, Ross, and Reavley, 2018). Dissemination of MHFA has been supported in legislation (Mental Health First Aid Act of 2016 S. 711/H.R. 1877) and funded throughout the United States via grants administered by SAMHSA.<sup>10</sup> MHFA-PS is an adaptation of the original MHFA training to address the experiences and needs of public safety personnel. Like MHFA, it is an eight-hour training that teaches participants to apply the ALGEE (Assess, Listen, Give, Encourage, Encourage) action plan.<sup>11</sup> It is being widely disseminated and promoted as part of the International Association of Chiefs of Police (IACP) One Mind Campaign, which encourages law enforcement agencies to take the One Mind pledge. The pledge includes providing MHFA-PS to 100 percent of an agency's sworn and non-sworn personnel.<sup>12</sup> To date, no research on MHFA-PS has been published.

Another training approach U.S. law enforcement agencies are implementing is the Integrated Communications, Assessment and Tactics (ICAT)

## Stand-alone trainings on mental health and I/DD response: Summary

As this review of the literature suggests, a number of locally developed and a few more widely disseminated models of mental health trainings for law enforcement exist, but little is available in terms of training specific to I/DD. Many of the trainings are collaborations between law enforcement and mental health services and a few involve people with lived experience who deliver at least part of the training. Police officers find these trainings acceptable and useful, and there is evidence that some of the trainings effectively

change knowledge, attitudes, and confidence in responding, though the durability of those improvements is less clear. Only limited evidence indicates that brief trainings may change behavior in the field, but several promising models are gaining attention. More research is needed on the models being disseminated and on key elements of trainings that affect the outcomes of interest to law enforcement and community stakeholders.

training of the Police Executive Research Forum (PERF). According to the PERF website, “ICAT is designed especially for situations involving persons who are unarmed or are armed with weapons other than firearms, and who may be experiencing a mental health or other crisis.”<sup>13</sup> The training package has six modules: Introduction, Critical Decision-Making Model, Crisis Recognition and Response, Tactical Communications, Operational Safety Tactics, and Integration and Practice. The materials are designed to be adaptable to the needs of agencies and can be used in a stand-alone training or integrated selectively in other trainings. The stand-alone version is designed to be delivered in one and a half to two days. As with MHFA-PS and many other related trainings, no research on ICAT has been published yet.

## Trained support people/advocates

In the United Kingdom, people with mental illnesses can request an “appropriate adult” to provide support when they are arrested or questioned by police (Cummins, 2011). In Australia, the Criminal Justice Support Network provides “trained support persons” to assist people who have intellectual disabilities and come in contact with the justice system (Hepner et al., 2015). In the United States, jurisdictions that use peer support advocates include Miami-Dade County, Florida; Albuquerque, New Mexico; and Arlington, Virginia.<sup>14</sup> The Arc, a national community-based organization advocating for and serving people with intellectual and developmental disabilities and their families, has chapters in the Pikes Peak region of Colorado and in New Jersey that provide similar support



for people with I/DD (The Arc Pikes Peak Region, 2019; The Arc of New Jersey, 2019). In New Jersey, The Arc's Criminal Justice Advocacy Program has caseworkers who report that about 50 percent of their clients are people with I/DD who have been accused of sexual offenses. The Arc's New Jersey chapters and some others throughout the country also use "personalized justice plans," which educate court personnel about the services and supports that can be provided to a defendant with I/DD as an alternative to incarceration.

Although not specific to responses to people experiencing crisis in the community, some Australian literature focuses on the use of an independent support person during police interviews with vulnerable people, such as those with I/DD. Advocates do not provide legal advice; their role is to assist with communication, ensure that interviewees understand their rights, and provide emotional support. Henshaw, Spivak, and Thomas (2018) examined the perceptions of and police's use of independent support people in the state of Victoria, for interviews with those who have I/DD.

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**In some countries and U.S. jurisdictions, trained support people or peer support advocates assist those with mental illness or I/DD when they have contact with police or the justice system.**

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Officers reported that they regularly used independent support people and had a fairly accurate understanding of the advocate's role. Officers viewed the support person primarily as facilitating communication and ensuring the rights of the person being interviewed. Officers most often used trained volunteers in this role, but officers' responses did not indicate a preference for trained volunteers over family members. They were able to discuss benefits of trained volunteers and family members in this role and reported that they found support people useful.

Spivak and Thomas (2013) conducted a mail survey of registered volunteer support people in Victoria called Independent Third Persons (ITPs). In general, ITPs were satisfied with the way police treated people with intellectual disability (ID) and said that officers were competent in providing opportunities for legal support. A minority of people surveyed reported negative perceptions of police in their ITP role, noting a lack of understanding of ID and negative attitudes toward ITPs and people with ID. The ITPs considered themselves competent in their role but suggested that it would be useful to have additional information about police procedures, cognitive impairments, and communication difficulties. They also indicated less perceived confidence in providing emotional support to interviewees than performing the perfunctory aspects of their role. That study and another by Henshaw, Spivak, and Thomas (2018) suggested that police may need two support people during interviews: one to assist with communication and one to provide emotional support.

## Other promising strategies and tools

The reviewers identified several promising strategies and tools that do not fit neatly within the models or categories described thus far. These include the following:

- › the use of a training/consultation model developed in medicine (Extension for Community Healthcare Outcomes, or ECHO) to provide Crisis Intervention Team in-service training and case consultation;
- › a technology-based tool (RideAlong app) to help identify “high utilizers” of services and provide information to police officers on the scene; and
- › a brief mental health screener that officers could use to improve communication with emergency department staff.

The CIT ECHO project uses a video hub for providing didactic lectures and case debriefings with mental health and law enforcement experts (Crisanti, Earheart, Rosenbaum, et al., 2019). The hub team includes two psychiatrists, a CIT detective, a crisis specialist, and a project coordinator. The team facilitates weekly 90-minute sessions for law enforcement and

other professionals who respond to mental health crises throughout New Mexico. Officers can participate via their cell phone, laptop, or in-car computer. During the program's first 17 months of operation, 159 professionals from 26 agencies in New Mexico and from 12 other states participated. An evaluation is underway.

RideAlong is an app designed to help law enforcement agencies collect and manage data that allows them to identify and respond more effectively to people with mental illnesses who have frequent contact with police.<sup>15</sup> The app provides a mobile interface to enter data that is used to identify “high utilizers” and create profiles with information to assist officers in effectively responding to crisis calls. Profiles may include information about prior contacts, strategies that have and have not worked with the person, mental health providers, history, and medical alerts. A data analytics dashboard allows supervisors to track events, activity, and trends. The Seattle Police Department first implemented the system, which is being tested in other communities (Hitchcock, Erickson, and Andrignis, 2017).

Working with interRAI (an international collaboration of researchers), Hoffman, Hirdes, Brown, et al. (2014) developed the interRAI Brief Mental Health Screener (BMHS) for police officers to capture their observations in a standardized format for communicating with ED staff. Items included in the screener were derived from analysis of data about people admitted to psychiatric hospitals and drew on input from police, mental health professionals, and patient groups. Findings from their study on two police agencies' use of the BMHS in Ontario, Canada, suggest that the details the screener gathers were good predictors of which people officers would transport to the ED and those who would be admitted. The electronic form also improved the quality of the information officers provided to the ED staff. The authors indicated that using the screener helped officers learn and provided shared terminology among police and medical personnel. Ongoing research is testing the impact of screener data being transmitted to behavioral health providers—as allowable by law—and tracking multiple contacts police have with the same people.

# Law enforcement contacts with people who have I/DD

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Although the literature on police responses to people with SMI has many gaps, this review found that the gaps are even more extreme when considering those who have I/DD. The I/DD-related literature in this area is several decades behind the SMI-related literature. Thus, prior to identifying the needs for models of response and training for police interactions with people who have I/DD, it is important to better understand the scope and nature of police interactions with this population. Studies to date have attempted to describe and measure the prevalence of criminal offending among people with I/DD, the frequency of police contacts, the nature of these contacts, and the need for training and strategies to improve police responses to this population. Some studies have included people with both intellectual and developmental disabilities, some just with intellectual disability, and some with autism. Much of this work has been conducted outside of the United States, and much of it suffers from some of the same limitations apparent in the SMI-related research. It is important to note that people with I/DD are at disproportionate risk of victimization; this is clear from the National Crime Victimization Survey, which identifies the disability status of crime victims (Harrell, 2017).

## Justice-system involvement among people who have I/DD

A few studies have examined the prevalence of criminal offending among people with I/DD. Emerson and Halpin's study (2013) of youth ages 13 to 15 in England found that although young people with I/DD had higher rates of several types of antisocial behaviors, when researchers controlled for risk factors, these children reported higher rates of graffiti, similar rates of shoplifting, and lower rates of involvement with fighting, public disturbance, and vandalism than their peers who do not have I/DD. Thus, much of the increased risk of antisocial behavior among these young people may

be attributed to increased exposure to risk factors rather than directly to their disability. Fogdan, Thomas, Daffern, et al. (2016) examined rates of crime perpetration and victimization (measured by criminal charges) for people with a diagnosis of ID in a community sample in Victoria, Australia. They did not find differences in overall rates of offending between people who have an intellectual disability and the community sample. But the group with ID had higher rates of violent and sexual offending; the authors suggest many reasons for this, such as significant environmental and individual challenges as well as this population's limited access to comprehensive sex education. People with ID were less likely to have an official record of any criminal victimization overall, but had higher rates of sexual and other violent victimization. Having a mental illness diagnosis in addition to ID was associated with a nearly doubled risk of both perpetration and victimization.

Rather than focusing on antisocial or offending behavior or officially documented offending and victimization, several studies have examined police contacts among people with I/DD and suggest that such interactions are common. Tint, Palucka, Bradley, et al. (2017) found that 16 percent of the people with autism in Ontario, Canada, had at least one police contact during their 12- to 18-month participation in a study. Although these contacts included a range of situations, the most common presenting issue leading to police involvement was aggressive behavior. As compared to people with autism who did not have police contact, those who did were older and more likely to have a prior history of aggression, live outside the family home, and have parents experiencing higher rates of caregiver and financial strain. In the United States, Rava, Shattuck, Rast, et al. (2017) analyzed data from a nationally representative survey of youth with autism and their parents. Findings indicated that by age 21, approximately 19.5 percent of the young people had been stopped by police and 4.7 percent had been arrested. The authors reported that female gender reduced the odds of being stopped by police and that externalizing behaviors (such as aggressiveness or impulsivity) increased the odds of both being stopped and being arrested.

Limiting their scope to behavioral crisis events that involved police, Raina, Arenovich, Jones, et al. (2013) examined outcomes for adults with ID (n=138) in Ontario. More than half of the incidents (76, or 55 percent) were resolved by transporting an individual to the emergency department; a third (46, or 33 percent) were resolved at the scene; and approximately one

in 10 (15, or 11 percent) were resolved with an arrest. All crises involving suicidal behavior were resolved with transport to the emergency department. Having a prior criminal history, exhibiting aggression, and living in a less-supported setting (living independently or in their family home as opposed to living in a group home) increased the likelihood of arrest.

Research demonstrates mixed findings when the experiences of police contacts of people with I/DD are considered alongside the perceptions of their parents. Crane, Chester, Goddard, et al. (2016) conducted online surveys with adults in the United Kingdom who have autism and with their parents, to gain a better understanding about their experiences with police contacts. Overall, adults with autism and their parents rated their interactions with police as unsatisfactory (69 percent of the adults with autism; 74 percent of the parents), reporting that police lacked awareness and knowledge about the condition and did not make sure that people's needs were met. Some indicated that they felt victimized by officers. Parents were more satisfied with police in the study by Tint et al. (2017) in Ontario: half of those who reported a police contact indicated that officers' involvement had a calming effect on the situation and that they were "somewhat satisfied" with the interaction. Ultimately, it remains unclear whether the needs of people with autism and their parents or caregivers are being satisfactorily met during law enforcement interactions, and additional research is needed in the United States.

## Training and officers' experience with people who have I/DD

Studies have also examined the perceptions, experiences, and training needs of police officers. Similar to the research described above, some has focused on autism, some on intellectual disability, and some on intellectual and developmental disabilities. Two studies asked officers about the frequency with which they encounter people who have I/DD. Although Gardner, Campbell, and Westdal's study (2018) of police in Florida found that just half of the 72 officers surveyed had responded to a call involving a person with autism in the previous 12 months, participants in Henshaw and Thomas's study (2012) with the Victoria Police in Melbourne, Australia, reported coming in contact with almost three people who have I/DD per

week on average. Most often the person was considered “vulnerable/at risk” (23 percent) or “in need of assistance” (23 percent). It is clear that additional research is needed to examine the frequency and nature of police contacts with people who have I/DD.

As for officers’ preparedness to respond, surveys and focus groups with police have consistently found that although they are fairly confident in their ability to identify and respond to people with I/DD, many are lacking in basic knowledge about characteristics of this population (Chown, 2010; Douglas and Cuskelly, 2012; Eadens, Cranston-Gingras, Dupoux, et al., 2016; Modell and Mak, 2008). Officers report that they identify people with I/DD by physical appearance and through their communication and comprehension difficulties and their behavior (Douglas and Cuskelly; Henshaw and Thomas, 2012), but some evidence shows that they may be failing to identify many members of this population (Douglas and Cuskelly). The studies reviewed consistently concluded that there is a need for I/DD-specific training for law enforcement personnel. In several of the studies, officers provided recommendations to add training content that focuses on recognizing people with I/DD, skills for responding, communication strategies, and referral options (Chown, 2010; Gardner, Campbell, and Westdal, 2018; Henshaw and Thomas). Participants in Henshaw and Thomas’s study also identified the need for interdisciplinary responses.

### **Law enforcement contacts with people who have I/DD: Summary**

Overall, this literature suggests that people with I/DD may be at risk of higher rates of police contact and higher rates of some types of crime perpetration and victimization. People with I/DD and disability advocates frequently report that law enforcement officers are not adequately prepared to respond in a satisfactory manner. Although officers believe they are

able to recognize an individual who has I/DD, they may lack adequate knowledge and skills to respond effectively. The need for I/DD-specific training is apparent, as is the need for additional research to determine effective training content and models of response.



# Conclusion

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The literature reviewed here highlights nine approaches to police-based and related crisis response services for people with mental illnesses or I/DD. It focuses on models that have been developed and researched to date, as well as other promising strategies and tools being implemented across the United States. As this review demonstrates, although each of these approaches has unique elements, many were designed with similar goals in mind, among them improved interactions with people who have SMI and/or I/DD; fewer ED visits, hospitalizations, and arrests; appropriate linkage to community-based care; increased collaboration across law enforcement and health service sectors; and increased safety for all. It is not surprising that communities are piloting multiple approaches to meet these goals at a time when law enforcement agencies are increasingly challenged to respond to calls involving people in psychiatric crisis and more attention is focusing on the need to divert people with SMI and/or I/DD from the criminal justice system.

The evidence to date suggests that each of the approaches reviewed has promise for meeting the goals of improved crisis response but that the extent and type of research on each approach varies and key gaps in knowledge remain. The Research and Evaluation Committee of Vera's Serving Safely initiative identified five types of research that may be appropriate for the service models reviewed given the current evidence base. These include the following:

- › descriptive research;
- › research examining stakeholder acceptability;
- › experimental research (randomized, controlled trial or quasi-experimental) testing the impact of the service model on subsequent police/emergency contacts and mental health and criminal justice outcomes;
- › research examining the effectiveness of the service model for sub-populations (such as people with SMI, I/DD, and/or co-occurring disorders); and
- › research examining the cost-effectiveness of the service model.

Some of these types of research are more appropriate for certain models than for others. For example, there is still a great need for basic descriptive research on case management models, whereas Crisis Intervention Teams have already been the focus of multiple studies and would benefit from more experimental research.

Several additional areas of research are crucial to the field and its development. First, all models would benefit from additional research on implementation, replicability, and the relative importance of preserving a model's fidelity to attain desired outcomes. Second, research is needed to compare models to one another and examine their effectiveness in the same or different contexts. Although each model described here is considered a discrete approach, what a community is implementing may be fluid, and models may be used in various combinations at the local level. Third, research is needed on the potential role of peer and family advocates using each of these models, especially given that a robust peer-support workforce exists in many states and is increasingly being deployed in crisis response systems. Finally, foundational research is needed on the extent and nature of the interactions people with I/DD have with the justice system, as well as how each of the reviewed models—which were developed primarily for people with mental illnesses—would need to be adapted to best meet the needs of people with I/DD.

Police-based and related crisis response services for people with mental illnesses or I/DD can play a vital role in reducing justice system contact and improving health outcomes among these vulnerable populations. Although the approaches reviewed here represent only part of a comprehensive, integrated service delivery system that communities rely on to direct people to appropriate and effective treatment, they are increasingly understood as crucial alternatives to traditional law enforcement and emergency response, with the hope that they will eventually become more commonplace. Continued research and evaluation is needed as models develop and proliferate, so that practitioners and policymakers can better understand the range and mix of elements that can transform contact with first responders into opportunities for improved health and well-being.

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## Appendix

### A summary of the research reviewed

Model	Country of focus	Authors	Date	Study overview
Case management teams	United States	Houston Police Department	1999	Overview of Houston Police Department Chronic Consumer Stabilization Initiative
Case management teams	United States	Los Angeles Police Department	2018	Overview of Los Angeles Police Department Mental Evaluation Unit, which includes a Systemwide Mental Assessment Response Team (SMART), Case Assessment and Management Program (CAMP), triage desk, and administrative training detail
Case management teams	United States	Scire, McPartland, and Musgrove	n.d.	Overview presentation of Los Angeles Police Department Case Assessment Management Program
Co-responder model	United States	Lamb, Shaner, Eliot, et al.	1995	Outcomes for people served by Los Angeles Systemwide Mental Health Assessment Response Team
Co-responder model	United States	Ligon and Thyer	2000	Survey of satisfaction among consumers (n=54) and family members (n=29) of mobile crisis team in Dekalb County, Georgia
Co-responder model	United States	Scott	2000	Comparison of psychiatric emergency calls handled by mobile crisis teams (n=73) versus those handled by police (n=58) in DeKalb County, Georgia
Co-responder model	United States	Saunders and Marchik	2007	Mixed methods evaluation of co-responder program in Polk County, Iowa
Co-responder model	Canada	Kisely, Campbell, Peddle, et al.	2010	Mixed methods study of Mental Health Mobile Crisis Team in Nova Scotia using controlled before-and-after evaluation and focus groups
Co-responder model	Australia	Boscarato, Lee, Kroschel, et al.	2014	Interviews with 11 mental health service users about preferences among different models of crisis response
Co-responder model	United Kingdom	Dyer, Steer, and Biddle	2015	Descriptive study of Cleveland Police Street Triage model in northeast England
Co-responder model	Canada	Kirst, Pridham, Narrandes, et al.	2015	Interviews and focus groups with 57 stakeholders of Mobile Crisis Intervention Team in Toronto (consumers, staff, individuals from health system, police services, and community organizations)
Co-responder model	Australia	Lee, Thomas, Doulis, et al.	2015	Descriptive evaluation of A-PACER program in Melbourne

<b>Model</b>	<b>Country of focus</b>	<b>Authors</b>	<b>Date</b>	<b>Study overview</b>
Co-responder model	Review article: Australia, Canada, United Kingdom, and United States	Shapiro, Cusi, Kirst, et al.	2015	Review of co-responding police mental health programs (11 peer-reviewed papers, seven reports, and three dissertations)
Co-responder model	Australia	Evangelista, Lee, Gallagher, et al.	2016	Qualitative interviews with 12 A-PACER program clients in Melbourne
Co-responder model	Canada	Fahim, Semovski, and Younger	2016	Pilot study of Mobile Crisis Rapid Response Team in Ontario
Co-responder model	United States	Helfgott, Hickman, and Labossiere	2016	Descriptive evaluation of Seattle Police Department Crisis Response Unit
Co-responder model	United Kingdom	Horspool, Drabble, and O’Cathain	2016	Description of barriers to and facilitators of program implementation in two U.K. locations
Co-responder model	United States	Bailey, Paquet, Ray, et al.	2018	Description of barriers to and facilitators of program implementation of co-responder Mobile Crisis Assessment Team in Indianapolis
Co-responder model	Canada	Lamanna, Shapiro, Kirst, et al.	2018	Mixed methods study of Mobile Crisis Intervention Team in Toronto
Co-responder model	Australia	Meehan, Brack, Mansfield, et al.	2018	Descriptive evaluation of co-responder team in Queensland
Co-responder model	United States	Morabito, Savage, Sneider, et al.	2018	Descriptive evaluation of Boston Police Department co-responder program
Co-responder model	Review article: Australia, Canada, United Kingdom, and United States	Puntis, Perfect, Kirubarajan, et al.	2018	Review of co-responding models of police-mental health triage (26 peer-reviewed papers and 11 non-academic studies)
Co-responder model	Australia	McKenna, Furness, Brown, et al.	2015a	Study of stakeholder acceptability of N-PACER model in northern Melbourne
Co-responder model	Australia	McKenna, Furness, Oakes, et al.	2015b	Time series analysis of N-PACER model in northern Melbourne
Crisis Intervention Team model	United States	Borum, Deane, Steadman, et al.	1998	Survey of 452 police officers from three agencies implementing three models of specialized response: CIT, on-scene assistance from mobile crisis team, and in-house social workers who assist officers with calls
Crisis Intervention Team model	United States	Steadman, Deane, Borum, et al.	2000	Comparison of mental disturbance call data in three police agencies implementing three models of specialized response: CIT, on-scene assistance from mobile crisis team, and in-house social workers who assist officers with calls

<b>Model</b>	<b>Country of focus</b>	<b>Authors</b>	<b>Date</b>	<b>Study overview</b>
Crisis Intervention Team model	United States	Broner, Lattimore, Cowell, et al.	2004	Quasi-experimental study of eight programs conducting criminal justice diversion for people with co-occurring serious mental illnesses and substance use disorders compared to jail detainees eligible for diversion but processed through traditional criminal justice methods
Crisis Intervention Team model	United States	Cowell, Broner, and Dupont	2004	Cost-effectiveness study of four jail diversion programs in Oregon, Tennessee, New York, and Arizona
Crisis Intervention Team model	United States	Compton, Esterberg, McGee, et al.	2006	Pre- and post-test study to determine changes in knowledge, attitudes, and stigma among 159 police officers completing CIT training
Crisis Intervention Team model	United States	Teller, Munetz, Gil, et al.	2006	Analysis of police dispatch data before and after implementation of CIT program in Akron, Ohio, to assess effect of training on officers' call disposition
Crisis Intervention Team model	United States	Bahora, Hanafi, Chien, et al.	2008	Pre- and post-test study to determine changes in knowledge, attitudes, self-efficacy, and social-distance stigma among officers completing CIT training and controls
Crisis Intervention Team model	United States	Compton and Chien	2008	Study of CIT training effects as related to level of officer experience among 88 police officers in Georgia
Crisis Intervention Team model	United States	Demir, Broussard, Goulding, et al.	2009	Pre- and post-test study of 159 CIT-trained police officers in Georgia on beliefs about causes of schizophrenia
Crisis Intervention Team model	United States	Watson, Ottati, Morabito, et al.	2010	Study of effect of CIT training on call outcomes using data from 112 patrol officers in Chicago
Crisis Intervention Team model	United States	Compton, Neubert, Broussard, et al.	2011	Comparison of 135 CIT-trained and non-CIT officers on responses to series of vignettes related to escalating situation involving a person with psychosis
Crisis Intervention Team model	United States	Watson, Ottati, Draine, et al.	2011	Study of 122 police officers in Chicago regarding impact of mental health services availability and CIT saturation on resolution of calls involving people with mental illnesses
Crisis Intervention Team model	United States	Canada, Angell, and Watson	2012	Qualitative interviews with 20 CIT-trained and other officers describing their response to mental health calls in Chicago

<b>Model</b>	<b>Country of focus</b>	<b>Authors</b>	<b>Date</b>	<b>Study overview</b>
Crisis Intervention Team model	United States	Morabito, Kerr, Watson, et al.	2012	Study of 216 police officers in Chicago examining impact of CIT training on use of force
Crisis Intervention Team model	United States	Bonfine, Ritter, and Munetz	2014	Survey of 57 CIT-trained officers in Ohio on experiences of mental illness and perspectives on CIT
Crisis Intervention Team model	United States	Davidson	2014	Pre- and post-test study of 179 law enforcement officers and 100 correction officers in Florida to examine changes in knowledge, self-efficacy, and perceptions of verbal de-escalation skills
Crisis Intervention Team model	United States	Ellis	2014	Pre- and post-test study of 25 officers in Miami-Dade County, Florida, examining effect of CIT training on knowledge and attitudes
Crisis Intervention Team model	United States	El-Mallakh, Kiran, and El-Mallakh	2014	Study of costs and savings associated with CIT program in Louisville, Kentucky, nine years after program implementation
Crisis Intervention Team model	United States	Cuddeback, Kurtz, Wilson, et al.	2016	Pre- and post-test study examining impact of segmented CIT training (n=32) versus traditional CIT training (n=47) on officer knowledge and attitudes in North Carolina
Crisis Intervention Team model	United States	Taheri	2016	Meta-analysis of seven studies to examine impact of CIT on arrests, use of force, and injuries
Crisis Intervention Team model	United States	Compton, Bakeman, Broussard, et al.	2017	Comparison of 251 CIT-trained officers who had volunteered (68%) with those who had been assigned, on knowledge, attitudes, skills and behaviors in actual encounters
Crisis Intervention Team model	United States	Kubiak, Comartin, Milanovic, et al.	2017	Mixed methods study of CIT program in Oakland County, Michigan
Crisis Intervention Team model	United States	Hanafi, Bahora, Demir, et al.	2008	Focus group study with 25 officers in Georgia to evaluate effectiveness of CIT training
Crisis Intervention Team model	United States	Compton, Bakeman, Broussard, et al.	2014a	Comparison of 251 CIT-trained officers with 335 non-CIT-trained officers on knowledge, attitudes, self-efficacy, and social-distance stigma
Crisis Intervention Team model	United States	Compton, Bakeman, Broussard, et al.	2014b	Comparison of 251 CIT-trained officers with 335 non-CIT-trained officers on use of force in field encounters

<b>Model</b>	<b>Country of focus</b>	<b>Authors</b>	<b>Date</b>	<b>Study overview</b>
EMS- and ambulance-based responses	United States	Larkin, Claasen, Pelletier, et al.	2006	Analysis of data from National Hospital Ambulatory Medical Care Survey to understand predictors of ambulance use
EMS- and ambulance-based responses	United States	Shaban	2006	Review of research examining mental health assessments in the emergency care context, with a focus on the role of paramedics
EMS- and ambulance-based responses	United States	Cuddeback, Patterson, Moore, et al.	2010	Analysis of administrative data on medical transports to emergency departments in three southeastern counties
EMS- and ambulance-based responses	United States	Brady	2012	Review of literature on role of paramedics in responding to psychological and sociological needs of patients in addition to physical needs
EMS- and ambulance-based responses	United States	Ford-Jones and Chaufan	2017	Analysis and commentary on role of paramedics in responding to mental health calls
EMS- and ambulance-based responses	United States	Hector and Khey	2018	Overview of first responders' work with people with mental illness and those experiencing a mental health crisis
EMS- and ambulance-based responses	United States	Trivedi, Glenn, Hern, et al.	2019	Analysis of EMS use among patients receiving involuntary holds as compared to all EMS patients; evaluation of EMS field protocol to identify patients that can be diverted from the emergency department (ED) to a regional psychiatric emergency service
EMS- and ambulance-based responses	Canada	Campbell and Rasmussen	2012	Ethnographic study of role of social work alongside emergency ambulance services in British Columbia
EMS- and ambulance-based responses	Sweden	Bouveng, Bengtsson, and Carlborg	2017	Evaluation of first year of PAM (Psykiatrisk Akut Mobilitet, i.e., Psychiatric Emergency Response Team) in Stockholm
EMS- and ambulance-based responses	Australia	Faddy, McLaughlin, Cox, et al.	2017	Pilot study of Mental Health Acute Assessment Team in Western Sydney
Mobile crisis teams	United States	Geller, Fisher, and McDermeit	1995	National survey on prevalence and effectiveness of mobile crisis services in all 50 states, the District of Columbia, and U.S. territories
Mobile crisis teams	United States	Guo, Biegel, Johnsen, et al.	2001	Quasi-experimental study of mobile crisis intervention program on rate and timing of hospitalization in Cuyahoga County, Ohio (n=2,200)



<b>Model</b>	<b>Country of focus</b>	<b>Authors</b>	<b>Date</b>	<b>Study overview</b>
Mobile crisis teams	United States	Dyches, Biegel, Johnsen, et al.	2002	Study comparing two cohorts of crisis service consumers (mobile crisis versus hospital) in Cuyahoga County, Ohio (n=2,374)
Mobile crisis teams	United States	Min, Biegel and Johnsen	2005	Study of predictors of psychiatric hospitalization among 1,613 users of crisis intervention services in Cuyahoga County, Ohio
Mobile crisis teams	United States	Currier, Fisher, and Caine	2010	Randomized controlled trial of 120 patients discharged from an urban ED and randomized to follow-up either via a mobile crisis team or at an outpatient mental health clinic
Mobile crisis teams	United States	Kim and Kim	2017	Study examining determinants of community-based mental health services for 1,771 adults who received a mobile crisis team intervention
Officer notification and flagging systems	United States	Compton, Anderson, Broussard, et al.	2017	Feasibility study of police-mental health linkage system in Georgia
Officer notification and flagging systems	United States	Compton, Halpern, Broussard, et al.	2017	Acceptability study of police-mental health linkage system in Georgia
Officer notification and flagging systems	United States	Klementz	2018	Overview and outcomes of mental health awareness flag program in Janesville, Wisconsin
Stand-alone trainings: mental health	Review article: Australia, Canada, United Kingdom, and United States	Coleman and Cotton	2014	Overview of police mental health training programs in Canada, the United States, the United Kingdom, and Australia and a focus on the Training and Education about Mental Illness for Police Organizations (TEMPO) model in Canada
Stand-alone trainings: mental health	United Kingdom	Norris and Cooke	2000	Post-training survey of police officers who had completed a one-day mental health awareness training
Stand-alone trainings: mental health	United Kingdom	Pinfold, Huxley, Thornicroft, et al.	2003	Pre- and post-training evaluation of 109 police officers attending mental health training intervention in England to determine changes in knowledge, attitudes, and behavioral interventions
Stand-alone trainings: mental health	United Kingdom	Forni, Caswell, and Spicer	2009	Post-training survey of police officers who had completed a one-day mental health awareness training in England

<b>Model</b>	<b>Country of focus</b>	<b>Authors</b>	<b>Date</b>	<b>Study overview</b>
Stand-alone trainings: mental health	United Kingdom	Scantlebury, Fairhurst, Booth, et al.	2017	Randomized controlled trial of officers from 12 police stations in North Yorkshire, England, receiving either bespoke mental health training package or routine training
Stand-alone trainings: mental health	Sweden	Hansson and Markström	2014	Evaluation of anti-stigma intervention on attitudes, mental health literacy, and intentional behavior in Sweden through a controlled pre- and post-intervention study using a comparison group and a six-month follow-up of the intervention group (n=120)
Stand-alone trainings: mental health	Canada	Krameddine, DeMarco, Hassel, et al.	2013	Pre- and post-training evaluation of 170 police officers to determine change in attitudes and behavior after implementation of scenario-based, role-play training program in Alberta
Stand-alone trainings: mental health	Canada	Silverstone, Krameddine, DeMarco, et al.	2013	Acceptability study of scenario-based, role-play training program for police officers interacting with people with mental illnesses in Alberta
Stand-alone trainings: Mental Health First Aid	Review article: Australia and United Kingdom	Jorm and Kitchener	2011	Overview of Mental Health First Aid program and research
Stand-alone trainings: Mental Health First Aid	Review article: Australia, Canada, and Sweden	Hadlaczky, Hökby, Mkrтчian, et al.	2014	Meta-analysis of published evaluations of Mental Health First Aid on change in knowledge, attitudes, and helping behaviors
Stand-alone trainings: Mental Health First Aid	Review article: Australia, Canada, United Kingdom, United States, and China	Morgan, Ross, and Reavley	2018	Systematic review and meta-analysis of randomized controlled trials or controlled trials of Mental Health First Aid
Stand-alone trainings: intellectual/developmental disabilities (I/DD)	Ireland	Bailey, Barr, and Bunting	2001	Quasi-experimental study of attitudes prior to and following awareness training about intellectual disability for police officers (n=65; 31 treatment participants and 34 control participants)
Stand-alone trainings: I/DD	United States	Teagardin, Dixon, Smith, et al.	2012	Randomized controlled trial of 82 law enforcement officers to determine effect of training on people with autism spectrum disorders in Ventura County, California
Trained support people	Australia	Spivak and Thomas	2013	Survey of 207 Independent Third Persons in Victoria to explore police identification of and responses to people with intellectual disabilities

<b>Model</b>	<b>Country of focus</b>	<b>Authors</b>	<b>Date</b>	<b>Study overview</b>
Trained support people	Australia	Henshaw, Spivak, and Thomas	2018	Study of police officers' perceptions of Independent Third Person volunteers during interviews with people with intellectual disabilities
Other strategies and tools	Canada	Hoffman, Hirdes, Brown, et al.	2014	Overview of process that led to development of the interRAI Brief Mental Health Screen and pilot study results in Ontario
Other strategies and tools	United States	Hitchcock, Erickson, and Adriginis	2017	Case study presentation of RideAlong technology as used by the Seattle Police Department
Other strategies and tools	United States	Crisanti, Earheart, Rosenbaum, et al.	2019	Overview of CIT ECHO extension training and case based learning system developed in Albuquerque, New Mexico
I/DD: criminal justice contact	United Kingdom	Emerson and Halpin	2013	Secondary analysis of Longitudinal Study of Young People in England to describe rates of antisocial behavior among adolescents with and without mild/moderate intellectual disability
I/DD: criminal justice contact	Australia	Fogdan, Thomas, Daffern, et al.	2016	Case linkage study to examine records of victimization and criminal charges among people with and without intellectual disability
I/DD: criminal justice contact	United States	Harrell	2017	National Crime Victimization Survey data on crime against persons with disabilities 2009–2015
I/DD: criminal justice contact	United States	Rava, Shattuck, Rast, et al.	2017	Nationally representative survey of youth with autism and their parents regarding involvement in the criminal justice system
I/DD: officer training	United States	Modell and Mak	2008	Study to assess police officer knowledge and perceptions of persons with disabilities
I/DD: officer training	United Kingdom	Chown	2010	Survey of 124 police officers about autism awareness and understanding
I/DD: officer training	Australia	Douglas and Cuskelly	2012	Focus group of police officers in Queensland about recognition of individuals with intellectual disability
I/DD: officer training	Australia	Henshaw and Thomas	2012	Study of the experiences and perceptions of operational members of Victoria Police in relation to their contacts with people with intellectual disability

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<b>Model</b>	<b>Country of focus</b>	<b>Authors</b>	<b>Date</b>	<b>Study overview</b>
I/DD: officer training	Canada	Raina, Arenovich, Jones, et al.	2013	Study of outcomes of police response to 138 people with intellectual disability in crisis
I/DD: officer training	United Kingdom	Crane, Chester, Goddard, et al.	2016	Online survey of 1,047 parents about the experience and process of attaining a diagnosis of autism spectrum disorder for their children
I/DD: officer training	United States	Eadens, Cranston-Gingras, Dupoux, et al.	2016	Survey of 188 officers from three police districts in southeast United States about perceptions about persons with intellectual disabilities
I/DD: officer training	Canada	Tint, Palucka, Bradley, et al.	2017	Study of police interactions among 284 adolescents and adults with autism spectrum disorder
I/DD: officer training	United States	Gardner, Campbell, and Westdal	2018	Survey of 72 law enforcement officers regarding knowledge of and training related to autism spectrum disorder

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## References

The Arc. "Pathways to Justice 2017 Evaluation Summary Report." Unpublished manuscript. 2017.

The Arc of New Jersey, Criminal Justice Advocacy Program. "Program Components: Intervention, Advocacy, Case Management, Education, Training, Personalized Justice Plan (PJP)." <https://perma.cc/W7U6-LL2H>.

The Arc Pikes Peak Region. "Judicial Advocacy." <https://perma.cc/5QUC-VHUB>.

Bahora, Masuma, Sonya Hanafi, Victoria H. Chien, et al. "Preliminary Evidence of Effects of Crisis Intervention Team Training on Self-Efficacy and Social Distance." *Administration and Policy in Mental Health and Mental Health Services Research* 35, no. 3 (2008), 159-167. doi:10.1007/s10488-007-0153-8.

Bailey, Andrew, Owen Barr, and Brendan Bunting. "Police Attitudes Toward People with Intellectual Disability: An Evaluation of Awareness Training." *Journal of Intellectual Disability Research* 45, no. 4 (2001), 344-350. doi:10.1046/j.1365-2788.2001.00339.x.

Bailey, Katie, Stacie R. Paquet, Bradley R. Ray, et al. "Barriers and Facilitators to Implementing an Urban Co-Responding Police-Mental Health Team." *Health & Justice* 6, no. 1 (2018), 1-12. doi:10.1186/s40352-018-0079-0.

Bengelsdorf, Herbert, John O. Church, Richard A. Kaye, et al. "The Cost Effectiveness of Crisis Intervention: Admission Diversion Savings Can Offset the High Cost of Service." *Journal of Nervous and Mental Disease* 181 (1993), 757-762. doi:10.1097/00005053-199312000-00008.

Bonfine, Natalie, Christian Ritter, and Mark R. Munetz. "Police Officer Perceptions of the Impact of Crisis Intervention Team (CIT) Programs." *International Journal of Law and Psychiatry* 37, no. 4 (2014), 341-350. doi:10.1016/j.ijlp.2014.02.004.

Borum, Randy, Martha Williams Deane, Henry J. Steadman, et al. "Police Perspectives on Responding to Mentally Ill People in Crisis: Perceptions of Program Effectiveness." *Behavioral Sciences & the Law* 16, no. 4 (1998), 393-405. doi:10.1002/(SICI)1099-0798(199823)16:4<393::AID-BSL317>3.0.CO;2-4.

Boscarato, Kara, Stuart Lee, Jon Kroschel, et al. "Consumer Experience of Formal Crisis-Response Services and Preferred Methods of Crisis Intervention." *International Journal of Mental Health Nursing* 23, no. 4 (2014), 287-295. doi:10.1111/inm.12059.

Bouvang, Oleg, Fredrik A. Bengtsson, and Andreas Carlborg. "First-Year Follow-up of the Psychiatric Emergency Response Team (PAM) in Stockholm County, Sweden: A Descriptive Study." *International Journal of Mental Health* 46, no. 2 (2017), 65-73. <https://perma.cc/CY2M-Z6D2>.

Brady, Mike. "Pre-Hospital Psychosocial Care: Changing Attitudes." *Journal of Paramedic Practice* 4, no. 9 (2012), 516-525. <https://perma.cc/66RJ-EXXQ>.

Broner, Nahama, Pamela K. Lattimore, Alexander J. Cowell, et al. "Effects of Diversion on Adults with Co-Occurring Mental Illness and Substance Use: Outcomes from a National Multi-Site Study." *Behavioral Sciences & the Law* 22, no. 4 (2004), 519-541. doi:10.1002/bsl.605.

Campbell, Hilary, and Brian Rasmussen. "Riding Third: Social Work in Ambulance Work." *Health & Social Work* 37, no. 2 (2012), 90-97. doi.org/10.1093/hsw/hls012.

Canada, Kelli E., Beth Angell, and Amy C. Watson. "Intervening at the Entry Point: Differences in How CIT Trained and Non-CIT Trained Officers Describe Responding to Mental Health-Related Calls." *Community Mental Health Journal* 48, no. 6 (2012), 746-755. doi:10.1007/s10597-011-9430-9.

Chown, Nick. "Do You Have Any Difficulties That I May Not Be Aware Of? A Study of Autism Awareness and Understanding in the UK Police Service." *International Journal of Police Science and Management* 12, no. 2 (2010), 256-273. doi:10.1350/ijps.2010.12.2.174.

Coleman, Terry, and Dorothy Cotton. "TEMPO: A Contemporary Model for Police Education and Training about Mental Illness." *International Journal of Law and Psychiatry* 37, no. 4 (2014), 325-333. doi:10.1016/j.ijlp.2014.02.002.

Compton, Michael T., Simone Anderson, Beth Broussard, et al. "A Potential New Form of Jail Diversion and Re-Connection to Mental Health Services: II. Demonstration of Feasibility." *Behavioral Sciences and the Law* 35, nos. 5-6 (2017), 492-500. doi:10.1002/bsl.2319.

Compton, Michael T., Roger Bakeman, Beth Broussard, et al. "The Police-Based Crisis Intervention Team (CIT) Model: I. Effects on Officers' Knowledge, Attitudes, and Skills." *Psychiatric Services* 65, no. 4 (2014a), 517-522. doi:10.1176/appi.ps.201300107.

Compton, Michael T., Roger Bakeman, Beth Broussard, et al. "The Police-Based Crisis Intervention Team (CIT) Model: II. Effects on Level of Force and Resolution, Referral, and Arrest." *Psychiatric Services* 65, no. 4 (2014b), 523-529. doi:10.1176/appi.ps.201300108.

Compton, Michael T., Roger Bakeman, Beth Broussard, et al. "Police Officers' Volunteering for (Rather than Being Assigned to) Crisis Intervention Team (CIT) Training: Evidence for a Beneficial Self-Selection Effect." *Behavioral Sciences & the Law* 35, nos. 5-6, (2017), 470-479. doi:10.1002/bsl.2301.

Compton, Michael T., and Victoria H. Chien. "Factors Related to Knowledge Retention After Crisis Intervention Team Training for Police Officers." *Psychiatric Services* 59, no. 9 (2008), 1049-1051. <https://perma.cc/27C5-ML98>.

- Compton, Michael T., Berivan Nazligul Demir Neubert, Beth Broussard, et al. "Use of Force Preferences and Perceived Effectiveness of Actions Among Crisis Intervention Team [CIT] Police Officers and Non-CIT Officers in an Escalating Psychiatric Crisis Involving a Subject with Schizophrenia." *Schizophrenia Bulletin* 37, no. 4 (2011), 737-745. doi:10.1093/schbul/sbp146.
- Compton, Michael T., M. L. Esterberg, Robin E. McGee, et al. "Crisis Intervention Team Training: Changes in Knowledge, Attitudes, and Stigma Related to Schizophrenia." *Psychiatric Services* 57, no. 8 (2006), 1199-1202. <https://perma.cc/BG4S-ZD6M>.
- Compton, Michael T., Brooke Halpern, Beth Broussard, et al. "A Potential New Form of Jail Diversion and Re-Connection to Mental Health Services: I. Stakeholders' Views on Acceptability." *Behavioral Sciences and the Law* 35, nos. 5-6 (2017), 480-491. doi:10.1002/bsl.2319.
- Cowell, Alexander J., Nahama Broner, and Randolph Dupont. "The Cost-Effectiveness of Criminal Justice Diversion Programs for People with Serious Mental Illness Co-Occurring with Substance Abuse: Four Case Studies." *Journal of Contemporary Criminal Justice* 20, no. 3 (2004), 292-314. doi.org/10.1177/1043986204266892.
- Crane, Laura, James W. Chester, Lorna Goddard, et al. "Experiences of Autism Diagnosis: A Survey of Over 1000 parents in the United Kingdom." *Autism* 20, no. 2 (2016), 153-162. doi:10.1177/1362361315573636.
- Crisanti, Annette S., Jennifer A. Earheart, Nils A. Rosenbaum, et al. "Beyond Crisis Intervention Team (CIT) Classroom Training: Videoconference Continuing Education for Law Enforcement." *International Journal of Law and Psychiatry* 62 (2019), 104-110. doi:10.1016/j.ijlp.2018.12.003.
- Cuddeback, Gary, Paul Daniel Patterson, Charity Galena Moore, et al. "Utilization of Emergency Medical Transports and Hospital Admissions Among Persons with Behavioral Health Conditions." *Psychiatric Services* 61, no. 4 (2010), 412-415. doi:10.1176/ps.2010.61.4.412.
- Cuddeback, Gary S., Robert A. Kurtz, Amy Blank Wilson, et al. "Segmented Versus Traditional Crisis Intervention Team Training." *The Journal of the American Academy of Psychiatry and the Law* 44, no. 3 (2016), 338-343. <https://perma.cc/5S6N-AWUT>.
- Cummins, Ian. "'The Other Side of Silence': The Role of the Appropriate Adult Post-Bradley." *Ethics and Social Welfare* 5, no. 3 (2011), 306-312. doi:10.1080/17496535.2011.597163.
- Currier, Glenn W., Susan G. Fisher, and Eric D. Caine. "Mobile Crisis Team Intervention to Enhance Linkage of Discharged Suicidal Emergency Department Patients to Outpatient Psychiatric Services: A Randomized Controlled Trial." *Academic Emergency Medicine* 17, no. 1 (2010), 36-43. doi:10.1111/j.1553-2712.2009.00619.x.
- Davidson, Megan L. "A Criminal Justice System-Wide Response to Mental Illness: Evaluating the Effectiveness of the Memphis Crisis Intervention Team Training Curriculum Among Law Enforcement and Correctional Officers." *Criminal Justice Policy Review* 27, no. 1 (2014), 46-75. doi:10.1177/0887403414554997.
- Demir, Berivan, Beth Broussard, Sandra M. Goulding, et al. "Beliefs About Causes of Schizophrenia Among Police Officers Before and After Crisis Intervention Team Training." *Community Mental Health Journal* 45 no. 5 (2009), 385-392. doi:10.1007/s10597-009-9194-7.
- Douglas, Lyn, and Monica Cuskelly, "A Focus Group Study of Police Officers' Recognition of Individuals with Intellectual Disability," *Psychiatry, Psychology and Law* 19, no. 1 (2012), 35-44. doi:10.1080/13219719.2010.543403.
- Dupont, Randolph, Sam Cochran, and Sarah Pillsbury. *Crisis Intervention Team Core Elements*. Memphis, TN: The University of Memphis, 2007. Available at <https://perma.cc/PF45-CQ7H>.
- Dyches, Hayne, David E. Biegel, Jeffrey A. Johnsen, et al. "The Impact of Mobile Crisis Services on the Use of Community-Based Mental Health Services." *Research on Social Work Practice* 12, no. 6 (2002), 731-751. doi.org/10.1177/104973102237470.
- Dyer, Wendy, Melanie Steer, and Paul Biddle. "Mental Health Street Triage." *Policing* 9, no. 4 (2015), 377-387.
- Eadens, Danielle May, Ann Cranston-Gingras, Errol Dupoux, et al. "Police Officer Perspectives on Intellectual Disability." *Policing* 39, no. 1 (2016), 222-235. doi:10.1108/PIJPSM-03-2015-0039.
- Earley, Pete. *Crazy: A Father's Search Through America's Mental Health Madness*. New York: Berkley Books, 2006.
- Ellis, Horace A. "Effects of a Crisis Intervention Team [CIT] Training Program upon Police Officers Before and After Crisis Intervention Team Training." *Archives of Psychiatric Nursing* 28, no. 1 (2014), 10-16. doi:10.1016/j.apnu.2013.10.003.
- El-Mallakh, Peggy, Kranti Kiran, and Rif S. El-Mallakh. "Costs and Savings Associated with Implementation of a Police Crisis Intervention Team." *Southern Medical Journal* 107, no. 6 (2014), 391-395. doi:10.14423/01.SMJ.0000450721.147877d.
- Emerson, Eric, and Sarah Halpin. "Anti-Social Behaviour and Police Contact Among 13- to 15-Year-Old English Adolescents with and Without Mild/Moderate Intellectual Disability." *Journal of Applied Research in Intellectual Disabilities* 26, no. 5 (2013), 362-369. doi:10.1111/jar.12041.
- Evangelista, Eloisa, Stuart J. Lee, Angela Gallagher, et al. "Crisis Averted: How Consumers Experienced a Police and Clinical Early Response (PACER) Unit Responding to a Mental Health Crisis." *International Journal of Mental Health Nursing* 25, no. 4 (2016), 367-376. doi:10.1111/inm.12218.

- Faddy, Steven C., Kevin J. McLaughlin, Peta T. Cox, et al. "The Mental Health Acute Assessment Team: A Collaborative Approach to Treating Mental Health Patients in the Community." *Australasian Psychiatry* 25, no. 3 (2017), 262-265. doi:10.1177/1039856216689655.
- Fahim Christine, Valbona Semovski, and Jodi Younger. "The Hamilton Mobile Crisis Rapid Response Team: A First-Responder Mental Health Service." *Psychiatric Services* 67, no. 8 (2016), 929. <https://perma.cc/3KV2-KQYD>.
- Fisher, William H., Jeffrey L. Geller, and Janet L. Wirth-Cauchon. "Empirically Assessing the Impact of Mobile Crisis Capacity on State Hospital Admissions." *Community Mental Health Journal* 26, no. 3 (1990), 245-253.
- Fisher, William H., Jeffrey L. Geller, and John A. Pandiani. "The Changing Role of the State Psychiatric Hospital." *Health Affairs* 28, no. 3 (2009), 676-684. <https://perma.cc/Z3SS-ZKA7>.
- Fogdan, Billy C., Stuart D.M. Thomas, Michael Daffern, et al. "Crime and Victimization in People with Intellectual Disability: A Case Linkage Study." *BMC Psychiatry* 16, no. 170 (2016). doi:10.1186/s12888-016-0869-7.
- Forchuk, Cheryl, Elisabeth Jensen, Mary-Lou Martin, et al. "Psychiatric Crisis Services in Three Communities." *Canadian Journal of Community Mental Health* 29, no. S5 (2010), 73-86. doi:10.7870/cjcmh-2010-0035.
- Ford-Jones, Polly Christine, and Claudia Chauhan. "A Critical Analysis of Debates Around Mental Health Calls in the Prehospital Setting." *INQUIRY* 54 (2017). doi:10.1177/0046958017704608.
- Forni, Carlos, Nick Caswell, and Jerina Spicer. "Delivering Mental Health Awareness Training to Police Officers." *Nursing Times* 105, no. 10 (2009), 12-13.
- Gardner, Lauren, Jonathan M. Campbell, and June Westdal. "Brief Report: Descriptive Analysis of Law Enforcement Officers' Experiences with ad Knowledge of Autism." *Journal of Autism and Developmental Disorders* 49, no. 3 (2018), 1278-1283. doi:10.1007/s10803-018-3794-4.
- Geller, Jeffrey L., William H. Fisher, and Melissa McDermeit. "A National Survey of Mobile Crisis Services and Their Evaluation." *Psychiatric Services* 46, no. 9 (1995), 893-897. doi:10.1176/ps.46.9.893.
- Guo, Shenyang, David E. Biegel, Jeffrey A. Johnsen, et al. "Assessing the Impact of Community-Based Mobile Crisis Services on Preventing Hospitalization." *Psychiatric Services* 52, no. 2 (2001), 223-228. doi:10.1176/appi.ps.52.2.223.
- Hadlaczky, Gergő, Sebastian Hökby, Anahit Mkrtchian, et al. "Mental Health First Aid Is an Effective Public Health Intervention for Improving Knowledge, Attitudes, and Behaviour: A Meta-Analysis." *International Review of Psychiatry* 26, no. 4 (2014), 467-475. doi:10.3109/09540261.2014.924910.
- Hanafi, Sonya, Masuma Bahora, Berivan N. Demir, et al. "Incorporating Crisis Intervention Team (CIT) Knowledge and Skills into the Daily Work of Police Officers: A Focus Group Study." *Community Mental Health Journal* 44, no. 6 (2008), 427-432. doi:10.1007/s10597-008-9145-8.
- Hansson, Lars, and Urban Markström. "The Effectiveness of an Anti-Stigma Intervention in a Basic Police Officer Training Programme: A Controlled Study." *BMC Psychiatry* 14, no. 55 (2014). doi:10.1186/1471-244X-14-55.
- Harrell, Erika. "Crimes Against Persons with Disabilities, 2009-2015 – Statistical Tables," NCJ 250632. Washington, DC: U.S. Department of Justice, 2017. <https://perma.cc/NQ4J-JH6M>.
- Harris, James C. *Intellectual Disability: Understanding Its Development, Causes, Classification, Evaluation, and Treatment*. New York: Oxford University Press, 2005.
- Hector, Jada, and David Khey. "The Front Line: EMS, Law Enforcement, and Probation and Parole." In *Criminal Justice and Mental Health: An Overview for Students*. Cham, Switzerland: Springer International Publishing, 2018.
- Helfgott, Jacqueline B., Matthew J. Hickman, and Andre P. Labossiere. "A Descriptive Evaluation of the Seattle Police Department's Crisis Response Team Officer/Mental Health Professional Partnership Pilot Program." *International Journal of Law and Psychiatry* 44 (2016), 109-122. doi:10.1016/j.ijlp.2015.08.038.
- Hemmings, Colin, Nick Bouras, and Tom Craig. "How Should Community Mental Health of Intellectual Disability Services Evolve?" *International Journal of Environmental Research and Public Health* 11, no. 9 (2014), 8624-8631. doi:10.3390/ijerph110908624.
- Henshaw, Marie and Stuart Thomas. "Police Encounters with People with Intellectual Disability: Prevalence, Characteristics, and Challenges." *Journal of Intellectual Disability Research* 56, no. 6 (2012), 620-631. doi:10.1111/j.1365-2788.2011.01502.x.
- Henshaw, Marie, Benjamin Spivak, and Stuart D.M. Thomas. "Striking the Right Balance: Police Experience, Perceptions and Use of Independent Support Persons During Interviews Involving People with Intellectual Disability." *Journal of Applied Research in Intellectual Disabilities* 31, no. 2 (2018), e201-e211.
- Hepner, Ilana, Mary N. Woodward, and Jeanette Stewart. "Giving the Vulnerable a Voice in the Criminal Justice System: The Use of Intermediaries with Individuals with Intellectual Disability." *Psychiatry, Psychology and Law* 22, no. 3 (2015), 453-64. doi:10.1080/13218719.2014.960032.
- Hitchcock, Meredith, Dan Erickson, and Mariah Andrignis. "Police, Technology, and CIT: Closing the Information Gap and Providing Diversion Options." PowerPoint presentation at Crisis Intervention



- Team International conference, Fort Lauderdale, FL, August 17, 2017. <https://perma.cc/T3BE-B979>.
- Hoffman, Ron, John Hirdes, Gregory P. Brown, et al. "The Use of a Brief Mental Health Screener to Enhance the Ability of Police to Identify Persons with Serious Mental Disorders." *International Journal of Law and Psychiatry* 47 (2014), 28-35. doi:10.1016/j.ijlp.2016.02.031.
- Horspool, Kimberley, Sarah J. Drabble, and Alicia O’Cathain. "Implementing Street Triage: A Qualitative Study of Collaboration Between Police and Mental Health Services." *BMC Psychiatry* 16, no. 1 (2016), 313. doi:10.1186/s12888-016-1026-z.
- Houston Police Department. *Chronic Consumer Stabilization Initiative: Multi-Agency Collaboration Between the City of Houston Health and Human Services Department, the Houston Police Department and the Mental Health Mental Retardation Authority of Harris County*. Houston: Houston Police Department, 2010. <https://perma.cc/G7SV-PVRL>.
- Jorm, Anthony F., and Betty A. Kitchener. "Noting a Landmark Achievement: Mental Health First Aid Training Reaches 1% of Australian Adults." *Australian and New Zealand Journal of Psychiatry* 45, no. 10 (2011), 808-813. doi:10.3109/00048674.2011.594785.
- Kim, Seokjoo, and HyunSoo Kim. "Determinants of the Use of Community-Based Mental Health Services After Mobile Crisis Team Services: An Empirical Approach Using the Cox Proportional Hazard Model." *Journal of Community Psychology* 45 (2017), 877-887. doi:10.1002/jcop.21899.
- Kirst, Maritt, Katherine F. Pridham, Renira Narrandes, et al. "Examining Implementation of Mobile, Police-Mental Health Crisis Intervention Teams in a Large Urban Center." *Journal of Mental Health* 24, no. 6 (2015), 369-74. doi:10.3109/09638237.2015.1036970.
- Kisely, Steve, Leslie A. Campbell, Sarah Peddle, et al. "A Controlled Before-and-After Evaluation of a Mobile Crisis Partnership Between Mental Health and Police Services in Nova Scotia." *Canadian Journal of Psychiatry/La Revue canadienne de psychiatrie* 55, no. 10 (2010), 662-668. doi:10.1177/070674371005501005.
- Klementz, Craig. "Law Enforcement and the Mental Health Awareness Flag." PowerPoint presentation at Crisis Intervention Team International conference, Kansas City, MO, August 15, 2018. <https://perma.cc/6ZXL-CKV5>.
- Krameddine, Yasmeen I., David DeMarco, Robert Hassel, et al. "A Novel Training Program for Police Officers that Improves Interactions with Mentally Ill Individuals and Is Cost-Effective." *Frontiers in Psychiatry* 4, no. 9 (2013). doi:10.3389/fpsy.2013.00009.
- Kubiak, Sheryl, Erin Comartin, Edita Milanovic, et al. "Countywide Implementation of Crisis Intervention Teams: Multiple Methods, Measures and Sustained Outcomes." *Behavioral Sciences & the Law* 35, nos. 5-6 (2017), 456-469. doi:10.1002/bsl.2305.
- Lamanna, Denise, Gilla K. Shapiro, Maritt Kirst, et al. "Co-Responding Police-Mental Health Programmes: Service User Experiences and Outcomes in a Large Urban Centre." *International Journal of Mental Health Nursing* 27, no. 2 (2018), 891-900. doi:10.1111/inm.12384.
- Lamb, H. Richard, Roderick Shaner, Diana M. Elliot, et al. "Outcome for Psychiatric Emergency Patients Seen by an Outreach Police-Mental Health Team." *Psychiatric Services* 46, no. 12 (1995), 1267-1271. doi:10.1176/ps.46.12.1267.
- Los Angeles Police Department (LAPD). "Los Angeles Police Department Mental Evaluation Unit Program Overview." Los Angeles: LAPD Mental Evaluation Unit, 2018. <https://perma.cc/3VHT-APT2>.
- Larkin, Gregory L., Cynthia A. Claassen, Andrea Pelletier, et al. "National Study of Ambulance Transports to United States Emergency Departments: Importance of Mental Health Problems." *Prehospital and Disaster Medicine* 21, no. 2 (2006), 82-90.
- Lee, Stuart J., Phillipa Thomas, Chantelle Doulis, et al. "Outcomes Achieved by and Police and Clinician Perspectives on a Joint Police Officer and Mental Health Clinician Mobile Response Unit." *International Journal of Mental Health Nursing* 24, no. 6 (2015), 538-546. doi:10.1111/inm.12153.
- Ligon, Jan, and Bruce A. Thyer. "Client and Family Satisfaction with Brief Community Mental Health, Substance Abuse, and Mobile Crisis Services in an Urban Setting." *Crisis Intervention and Time-Limited Treatment* 6, no. 2 (2000), 93-99. doi:10/1080/10645130008951135.
- Lunsky, Yona, Johann K. Lake, Janet Durbin, et al. "Understanding and Improving Care for Individuals with Intellectual and Developmental Disabilities in the Emergency Department." *International Review of Research in Developmental Disabilities*, 47 (2014), 1-37. doi:10.1016/B978-0-12-800278-0.00001-4.
- McKenna, Brian, Trentham Furness, Steve Brown, et al. "Police and Clinician Diversion of People in Mental Health Crisis from the Emergency Department: A Trend Analysis and Cross Comparison Study." *BMC Emergency Medicine* 15, no. 1 (2015a), 14. doi:10.1186/s12873-015-0040-7.
- McKenna, Brian, Trentham Furness, Jane Oakes, et al. "Police and Mental Health Clinician Partnership in Response to Mental Health Crisis: A Qualitative Study." *International Journal of Mental Health Nursing* 24, no. 5 (2015b), 386-393. doi:10.1111/inm.12140.
- Meehan, Tom, Janet Brack, Yolanda Mansfield, et al. "Do Police-Mental Health Co-Responder Programmes Reduce Emergency Department Presentations or Simply Delay the Inevitable?" *Australasian Psychiatry* 27, no. 1 (2018), 18-20. doi:10.1177/1039856218797424.
- Min, Meeyoung O., David E. Biegel, and Jeffrey A. Johnsen. "Predictors of Psychiatric Hospitalization for Adults with Co-Occurring Substance



- and Mental Disorders as Compared to Adults with Mental Illness Only.” *Psychiatric Rehabilitation Journal* 29, no. 2 (2005), 114-121.
- Modell, Scott J. and Suzanna Mak. “A Preliminary Assessment of Police Officers’ Knowledge and Perceptions of Persons With Disabilities.” *Intellectual and Developmental Disabilities* 46, no. 3 (2008), 183-189. doi:10.1352/2008.46:183-189.
- Morgan, Amy J., Anna Ross, and Nicola J. Reavley. “Systematic Review and Meta-Analysis of Mental Health First Aid Training: Effects on Knowledge, Stigma, and Helping Behaviour.” *PLOS ONE* 13, no. 6, (2018), 1-20. doi:10.1371/journal.pone.0197102.
- Morabito, Melissa S., Amy N. Kerr, Amy Watson, et al. “Crisis Intervention Teams and People with Mental Illness: Exploring the Factors that Influence the Use of Force.” *Crime & Delinquency* 58, no. 1, (2012), 57-77. doi:10.1177/0011128710372456.
- Morabito, Melissa S., Jenna Savage, Lauren Sneider, et al. “Police Response to People with Mental Illnesses in a Major U.S. City: The Boston Experience with the Co-Responder Model.” *Victims & Offenders* 13, no. 8, (2018), 1093-1105. doi:10.1080/15564886.2018.1514340.
- New Freedom Commission on Mental Health. *Achieving the Promise: Transforming Mental Health Care in America*. Final report, Pub. No. SMA-03-3832. Rockville, MD: U.S. Department of Health and Human Services, 2003. <https://perma.cc/R6M9-QV5L>.
- Norris, C., and E. Cooke. “Mental Health Training Scheme for Police Officers.” *Professional Nurse* 15, no. 10 (2000), 655-658.
- Pinfold, Vanessa, Peter J. Huxley, G. Thornicroft, et al. “Reducing Psychiatric Stigma and Discrimination: Evaluating an Educational Intervention with the Police Force in England.” *Social Psychiatry and Psychiatric Epidemiology* 38, no. 6 (2003), 337-344. doi:10.1007/s00127-003-0641-4.
- Puntis, Stephen, Devon Perfect, Abirami Kirubarajan, et al. “A Systematic Review of Co-Responder Models of Police Mental Health ‘Street’ Triage.” *BMC Psychiatry* 18, no. 1 (2018), 256. doi:10.1186/s12888-018-1836.
- Raina, Poonam, Tamara Arenovich, Jessica Jones, et al. “Pathways to the Criminal Justice System for Individuals with Intellectual Disability.” *Journal of Applied Research in Intellectual Disabilities* 26 (2013), 404-409. doi:10.1111/jar.12039.
- Rava, Julianna, Paul Shattuck, Jessica Rast, et al. “The Prevalence and Correlates of Involvement in the Criminal Justice System Among Youth on the Autism Spectrum.” *Journal of Autism and Developmental Disorders* 47, no. 2 (2017), 340-346. doi:10.1007/s10803-016-2958-3.
- Rave Mobile Safety. “Rave Mobile Safety Enhances Smart911 to Help First Responders Address the Growing Mental Health Epidemic.” January 29, 2019. <https://perma.cc/D9Q3-A56A>.
- Reding, Georges R., and Michael Raphelson. “Around-the-Clock Mobile Psychiatric Crisis Intervention: Another Effective Alternative to Psychiatric Hospitalization.” *Community Mental Health Journal* 31, no. 2 (1995), 179-187.
- Saunders, Jeanne A., and Billie M.A. Marchik. “Building Community Capacity to Help Persons with Mental Illness: A Program Evaluation.” *Journal of Community Practice* 15, no. 4, (2007), 73-96. doi:10.1300/J125v15n04\_04.
- Scantlebury, Arabella, Caroline Fairhurst, Alison Booth, et al. “Effectiveness of a Training Program for Police Officers Who Come into Contact with People with Mental Health Problems: A Pragmatic Randomised Controlled Trial.” *PLoS One* 12, no. 9, (2017). doi:10.1371/journal.pone.0184377.
- Scire, Paul, Sean McPartland, and Sean Musgrove. “CAMP Case Assessment Management Program: Reducing Instability, Managing Risk and Redirecting Patterns of High Utilization among Mentally Ill in Los Angeles, California.” Undated PowerPoint presentation. <https://perma.cc/R8BG-U7F6>.
- Scott, Roger L. “Evaluation of a Mobile Crisis Program: Effectiveness, Efficiency, and Consumer Satisfaction.” *Psychiatric Services* 51, no. 9 (2000), 1153-1156. <https://perma.cc/WN4H-VARU>.
- Shapiro, Gilla K., A. Cusi, Maritt Kirst, et al. “Co-responding Police-Mental Health Programs: A Review.” *Administration and Policy in Mental Health and Mental Health Services Research* 42, no. 5 (2015), 606-620. doi:10.1007/s10488-014-0594-9.
- Shaban, Ramon. “Paramedics’ Clinical Judgment and Mental Health Assessments in Emergency Contexts: Research, Practice, and Tools for the Trade.” *Journal of Emergency Primary Health Care* 4, no. 2 (2006). doi:10.33151/ajp.4.2.369.
- Silverstone, Peter H., Yasmeen I. Krameddine, David DeMarco, et al. “A Novel Approach to Training Police Officers to Interact with Individuals Who May Have a Psychiatric Disorder.” *Journal of the American Academy of Psychiatry and the Law* 41, no. 3 (2013), 344-355. <https://perma.cc/BC6L-667M>.
- Spivak, Benjamin L., and Stuart D. M. Thomas. “Police Contact with People with an Intellectual Disability: The Independent Third Person Perspective.” *Journal of Intellectual Disability Research* 57, no. 7 (2013), 635-646. doi:10.1111/j.1365-2788.2012.01571.x.
- Steadman, Henry J., Martha W. Deane, Randy Borum, et al. “Comparing Outcomes of Major Models of Police Responses to Mental Health Emergencies.” *Psychiatric Services* 51, no. 5 (2000), 645-649. doi:10.1176/appi.ps.51.5.645.

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Taheri, Sema A. "Do Crisis Intervention Teams Reduce Arrests and Improve Officer Safety? A Systematic Review and Meta-Analysis." *Criminal Justice Policy Review* 27, no. 1 (2016), 76-96. doi:10.1177/0887403414556289.

Teagardin, Jill, Dennis R. Dixon, Marlena N. Smith, et al. "Randomized Trial of Law Enforcement Training on Autism Spectrum Disorders." *Research in Autism Spectrum Disorders* 6, no. 3 (2012), 1113-1118. doi:10.1016/j.rasd.2012.02.002.

Teller, Jennifer L. S., Mark R. Munetz, Karen M. Gil, et al. "Crisis Intervention Team Training for Police Officers Responding to Mental Disturbance Calls." *Psychiatric Services* 57, no. 2 (2006), 232-237. <https://perma.cc/PK67-44DJ>.

Testa, Megan, and Sara G. West. "Civil Commitment in the United States." *Psychiatry* 7, no. 10 (2010), 30-40. <https://perma.cc/G8G5-UYB3>.

Tint, Ami, Anna M. Palucka, Elspeth Bradley, et al. "Correlates of Police Involvement Among Adolescents and Adults with Autism Spectrum Disorder." *Journal of Autism and Developmental Disorders* 47, no. 9 (2017), 2639-2647. doi:10.1007/s10803-017-3182-5.

Trivedi, Tarak K., Melody Glenn, Gene Hern, et al. "Emergency Medical Services Use Among Patients Receiving Involuntary Psychiatric Holds and the Safety of an Out-of-Hospital Screening Protocol to 'Medically Clear' Psychiatric Emergencies in the Field, 2011 to 2016." *Annals of Emergency Medicine* 73, no. 1 (2019), 42-51. [www.annemergmed.com/article/S0196-0644\(18\)31158-2/fulltext](http://www.annemergmed.com/article/S0196-0644(18)31158-2/fulltext).

Watson, Amy C., Victor C. Ottati, Jeffrey N. Draine, et al. "CIT in Context: The Impact of Mental Health Resource Availability and District Saturation on Call Dispositions." *International Journal of Law and Psychiatry* 34, no. 4 (2011), 287-294. doi:10.1016/j.ijlp.2011.07.008.

Watson, Amy C., Victor C. Ottati, Melissa Morabito, et al. "Outcomes of Police Contacts with Persons with Mental Illness: The Impact of CIT." *Administration and Policy in Mental Health* 37, no. 4 (2010), 302-317. doi:10.1007/s10488-009-0236-9.

Zealberg, Joseph J., Alberto B. Santos, and Richard K. Fisher. "Benefits of Mobile Crisis Programs." *Hospital and Community Psychiatry* 44, no. 1 (1993), 16-17.

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## Endnotes

- 1 See Colin Hemmings, Nick Bouras, and Tom Craig, “How Should Community Mental Health of Intellectual Disability Services Evolve?” *International Journal of Environmental Research and Public Health* 11, no. 9 (2014), 8276, <https://perma.cc/4HM9-LDTN>.
- 2 The review does not include other approaches, such as sequential intercept mapping—a collaborative, interactive process that allows a local community to assess its resources and service gaps at each of five intercept points that coincide with potential opportunities for diversion.
- 3 For more information on Intercept 0, see U.S. Department of Health and Human Services (HHS), Substance Abuse and Mental Health Services Administration (SAMHSA), *The Sequential Intercept Model: Advancing Community-Based Solutions for Justice-involved People With Mental and Substance Use Disorders* (Rockville, MD: HHS, SAMHSA, GAINS Center, 2019), <https://perma.cc/AM6B-T86H>. For more information on community-based mental health interventions such as assertive community treatment and assisted outpatient treatment, see SAMHSA, *Principles of Community-Based Behavioral Health Services for Justice-involved individuals: A Research-Based Guide*, SMA-19-5097 (Rockville, MD: HHS, SAMHSA, Office of Policy, Planning, and Innovation, 2019), <https://perma.cc/LES5-XM8H>.
- 4 No common term is used nationwide to refer to people who play this role. In addition to the titles trained support person or advocate, some programs use titles such as caseworker or advocacy coordinator.
- 5 Gilla K. Shapiro, A. Cusi, Maritt Kirst, et al., “Co-responding Police-Mental Health Programs: A Review,” *Administration and Policy in Mental Health and Mental Health Services Research* 42, no. 5 (2015), 607, <https://perma.cc/5MA4-L8N4>.
- 6 Section 10 of the Mental Health Act 1986 was replaced by Section 351 of the Mental Health Act 2014. It sets out the power of the police to apprehend a person who appears to have a mental illness when the person needs to be apprehended to prevent serious and imminent harm to the person or any other person. See <https://perma.cc/68FX-W62E>.
- 7 “Handover time” was defined as the number of minutes between the mobile crisis intervention team’s arrival to the hospital emergency department and its departure.
- 8 For more information about The Arc’s national center, go to <https://perma.cc/3DBT-KWLZ>. For more information about the Pathways to Justice program, go to <https://perma.cc/7A48-EA8G>.
- 9 Smart911 is owned and operated by Rave Mobile Safety. For more information about Smart911, go to <https://perma.cc/Z25F-UB4R>.
- 10 For more information about the Mental Health First Aid Act of 2016, see <https://perma.cc/5EFB-SK7Y>. For more information about the Mental Health First Aid course, see <https://perma.cc/Y57L-EJLN>.
- 11 ALGEE is a mnemonic device for the course’s five-step action plan: Assess for risk of suicide or harm, Listen nonjudgmentally, Give reassurance and information, Encourage appropriate professional help; and Encourage self-help and other support strategies. For more information, go to <https://perma.cc/32JZ-4BTB>.
- 12 For more information, see the International Association of Chiefs of Police website at <https://perma.cc/LF3N-RFNN>.
- 13 For more information on ICAT, go to <https://perma.cc/HYU9-W8LB>.
- 14 For example, in Miami-Dade County, the Criminal Justice Mental Health Project was established in the 11th Judicial Circuit more than 10 years ago to divert people with serious mental illness and substance use disorders from the criminal justice system. The project has peers who support program participants; see <https://perma.cc/HZT4-XXQ8>. In Albuquerque, the Bernalillo County Behavioral Health Initiative is piloting community engagement teams that provide peers who can intervene with people who have behavioral health issues before a crisis episode; see <https://perma.cc/G44A-QL3K>. In Virginia, the Arlington County Community Services Board is pursuing a behavioral health docket that will include certified peer specialists; see <https://perma.cc/X4SK-H5H6>.
- 15 For more information on RideAlong, go to <https://perma.cc/B2G2-BJR3>.

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