

# The Police-Based Crisis Intervention Team (CIT) Model: I. Effects on Officers' Knowledge, Attitudes, and Skills

Michael T. Compton, M.D., M.P.H.  
Roger Bakeman, Ph.D.  
Beth Broussard, M.P.H.  
Dana Hankerson-Dyson, M.P.A., M.P.H.  
Letheshia Husbands, B.A.  
Shaily Krishan, M.P.H.

Tarianna Stewart-Hutto, M.S.  
Barbara M. D'Orio, M.D., M.P.A.  
Janet R. Oliva, Ph.D.  
Nancy J. Thompson, Ph.D., M.P.H.  
Amy C. Watson, Ph.D.

**Objective:** Individuals with serious mental illnesses are very likely to interact with police officers. The crisis intervention team (CIT) model is being widely implemented by police departments across the United States to improve officers' responses. However, little research exists on officer-level outcomes. The authors compared officers with or without CIT training on six key constructs related to the CIT model: knowledge about mental illnesses, attitudes about serious mental illnesses and treatments, self-efficacy for deescalating crisis situations and making referrals to mental health services, stigmatizing attitudes, deescalation skills, and referral decisions. **Methods:** The sample included 586 officers, 251 of whom had received the 40-hour CIT training (median of 22 months before the study), from six police departments in Georgia. In-depth, in-person assessments of officers' knowledge, attitudes, and skills were administered. Many measures were linked to two vignettes, in written and video formats, depicting typical police encounters with individuals with psychosis or with suicidality. **Results:** CIT-trained officers had consistently better scores on knowledge, diverse attitudes about mental illnesses and their treatments, self-efficacy for interacting with someone with psychosis or suicidality, social distance stigma, deescalation skills, and referral decisions. Effect sizes for some measures, including deescalation skills and referral decisions pertaining to psychosis, were substantial ( $d=.71$  and  $.57$ , respectively,  $p<.001$ ). **Conclusions:** CIT training of police officers resulted in sizable and persisting improvements in diverse aspects of knowledge, attitudes, and skills. Research should now address potential outcomes at the system level and for individuals with whom officers interact. (*Psychiatric Services* 65:517–522, 2014; doi: 10.1176/appi.ps.201300107)

Police officers are often first responders to emergency calls involving individuals with serious mental illnesses (1), defined as mental disorders that substantially interfere with a person's life activities and ability to function, such as schizophrenia, bipolar disorder, and major depression. In fact, up to 10% of all police contacts involve a person with a mental illness (2), and officers provide up to one-third of all emergency mental health referrals (3). Thus, because officers are gatekeepers not only to the justice system but also to the psychiatric system (4), they serve as de facto mental health professionals (5), making decisions about whether to refer a person to mental health services or to arrest and incarcerate the person, as well as other discretionary decisions. Despite the magnitude of these decisions, which involve the most vulnerable individuals with serious mental illnesses and some of the most strained public sectors, officers usually receive little training about mental illnesses, although they want more training and find the topic very important to their work (6).

To improve officers' responses to individuals with serious mental illnesses, the crisis intervention team (CIT) model was developed in 1988 in Memphis (7–9). CIT provides certain officers with 40 hours of specialized training by police trainers, local mental health professionals, family advocates,

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*Dr. Compton and Ms. Broussard are with the Department of Psychiatry, Lenox Hill Hospital, the North Shore–LIJ Health System, New York City (e-mail: mcompton@nshs.edu). When this study was conducted, they were with Emory University, Atlanta, and The George Washington University, Washington, D.C. Dr. Bakeman is with the Department of Psychology, Georgia State University, Atlanta. Ms. Hankerson-Dyson, Ms. Husbands, Ms. Krishan, Ms. Stewart-Hutto, and Dr. D'Orio are with the Department of Psychiatry and Behavioral Sciences, Emory University School of Medicine, Atlanta. Dr. Oliva was formerly with the Georgia Bureau of Investigation, Atlanta, and is now retired. Dr. Thompson is with the Department of Behavioral Sciences and Health Education, Rollins School of Public Health, Emory University, Atlanta. Dr. Watson is with the Jane Addams College of Social Work, University of Illinois at Chicago.*

and consumer groups (7,10). The training equips officers with knowledge, attitudes, and skills to enhance their responses to persons with serious mental illnesses or to those experiencing a psychiatric crisis (1,2,8). After training, officers are specialized first-line responders to such calls (11–14). CIT also supports partnerships between psychiatric emergency services and police departments, encouraging treatment rather than jail when appropriate (1,10). Thus, in addition to its other goals (for example, improved officer and citizen safety), CIT is a form of prebooking jail diversion.

It is estimated that more than 2,700 police departments in the United States have implemented CIT (personal communication, Dupont R, July 2013). Given the very wide implementation and rapid growth of CIT in recent years, research on this police-based collaboration between the law enforcement, advocacy, and mental health systems is urgently needed (15). This study focused on how CIT training affected a number of key officer-level outcomes that likely underlie its broader beneficial effects. The purpose of this study was to document differences between officers with and without CIT training across six key constructs: knowledge about mental illnesses, attitudes about serious mental illnesses and their treatments, self-efficacy for deescalating crisis situations and making referrals to mental health services, stigmatizing attitudes toward persons with serious mental illnesses, deescalation skills, and referral decisions. We first assessed potentially important covariates by determining differences between the two groups in demographic characteristics, experience, and empathy. We then determined differences between the groups in regard to the six constructs of interest, taking into account the effects of covariates.

## Methods

### *Participants*

Police officers (N=586), including both CIT-trained (N=251) and traditional officers without CIT training (N=335), were recruited from six police departments in Georgia. As described in a companion article (16), each department had implemented CIT training of officers with local

instructors and a standardized 40-hour curriculum, which was developed and made available through a statewide CIT initiative (14). Self-selection (volunteering) for CIT specialization is commonly considered a core element of the CIT model. The percentage of participating CIT officers who reported having volunteered for CIT training (rather than having been assigned to it) ranged from 36% to 100% across the six departments (N=171, or 68% of the 251 CIT officers).

After hearing about the study through roll-call presentations, e-mail notices, flyers posted in department precincts, or word of mouth, officers with or without CIT training who were interested in participating called the research team to register for one of 34 proctored, group-based, in-depth survey administrations between April and October 2010. Between six and 29 officers participated in the survey groups. Officers took part during off-duty hours and were compensated to remunerate them for travel time to and from the assessment, approximately three hours of survey participation, and parking.

The mean  $\pm$  SD age of the 586 officers was  $37.0 \pm 8.7$  years. Participants had been officers for an average of  $10.0 \pm 7.7$  years. Nineteen percent of participants (N=114) were women. Sixteen percent (N=95) were high school graduates, 40% (N=237) had completed some college, 10% (N=58) had an associate's degree, 26% (N=150) had a bachelor's degree, 6% (N=34) had a master's degree, and 2% (N=12) did not specify. Thirty-five percent (N=203) self-identified as African American; 59% (N=347) as Caucasian and non-Hispanic; 3% (N=20) as Hispanic; and 1% each as Native American or Pacific Islander (N=8), Asian (N=4), or other or did not specify (N=4). Among the 251 CIT-trained officers, time since training varied from less than one month to more than seven years (median months since training was 22). For half of the CIT-trained officers (N=126), time since training was between seven and 36 months. For subsequent analyses, participants were coded 1–5 for the first to fifth quintiles of time since training.

### *Procedures and measures*

Survey administration required approximately three hours. About a third of the survey focused on demographic characteristics, experience, empathy, knowledge, and attitudinal factors. The remainder focused on attitudinal and behavioral responses to two vignettes, one written and one video, which were developed (the videos were professionally produced) specifically for this study. Groups of officers received one vignette in a video format and the other as a written script, in a counter-balanced manner. One vignette (4.2-minute video) depicted an agitated, disheveled, disorganized, and psychotic man digging through a trashcan outside a business establishment, with an officer arriving on the scene (herein called the "psychosis vignette"). The other vignette (2.5-minute video) presented an intoxicated and suicidal woman who was distraught because of a relationship break-up and who had locked herself in her home bathroom, with an officer arriving on the scene (the "suicidality vignette"). The study was approved by the Emory University Institutional Review Board, and participants provided written informed consent.

With regard to the in-depth assessment, all constructs were scored as the mean of items answered if responses were given for at least 75% of items, except for experience with mental health treatment and knowledge about mental illnesses. Reverse scoring was conducted as appropriate, so that higher scores for all measures represent more of the named attribute.

The first portion of the assessment included a number of measures not linked to vignettes. To assess experience with mental health treatment, three items asked whether the participant ("self"), a family member, or a friend had received or was now receiving mental health treatment and a fourth item asked whether the participant, a family member, or friend had volunteered or worked in the mental health field ("other"). We created an experience index, coded 0–5, to summarize these four items: 0 if the participant responded negatively to all four items (N=193, 33%), 1 for an affirmative response only for "other" (N=64, 11%), 2 for an affirmative

response for a friend but not for a family member or “self” (N=94, 16%), 3 for an affirmative response for a family member but not for friend or “self” (N=59, 10%), 4 for an affirmative response for both a family member and a friend (N=94, 16%), and 5 for an affirmative response for “self” (N=82, 14%).

The construct of empathy toward individuals with mental illnesses, which served as a potential personality-related covariate, was assessed with an adapted version of a nine-item measure (17). Respondents are asked to “indicate how much you feel each emotion toward people with mental illnesses”; each item (for example, compassion, disgust, and respect) is rated 0, not at all, to 10, extremely (Cronbach’s  $\alpha=.78$ ). To measure knowledge about mental illnesses, officers completed the 33-item Knowledge of Mental Illnesses Test (18), scored as the percentage of correct items.

Several measures were administered to thoroughly assess the construct labeled attitudes about mental illnesses and their treatments. The Opinions About Mental Illnesses Scale (19,20) consists of five subscales: authoritarianism (scored such that high scores indicate less authoritarianism), benevolence, mental hygiene, social restrictiveness, and interpersonal etiology (Cronbach’s  $\alpha=.69, .63, .42, .72$ , and  $.75$ , respectively). Two additional scales assessed attitudes about community mental health treatment facilities (21,22) and attitudes about psychiatric treatments more broadly, in addition to hospitals and community facilities (23) (Cronbach’s  $\alpha=.83$ , and  $.72$ ). The six reliable scales (excluding mental hygiene) were intercorrelated (mean  $r=.57$ , range $=.29-.67$ ). Accordingly, an “opinions about mental illnesses” variable was computed as the mean of these six scales (items for all scales were rated 1–6) (Cronbach’s  $\alpha=.84$ ).

All remaining measures were administered twice, linked to the two vignettes. Two rating scales pertained to the attitudes construct. The Attribution Questionnaire (24,25) consists of 21 items in six domains (for example, personal responsibility, pity, and anger). The 12-item Revised Causal Dimensions Scale (26–28) assesses causal attributions along four domains: external control, personal control, locus of

causality-internality, and stability. The latter two domains had unacceptably low internal consistency and were not considered further. The mean Cronbach’s  $\alpha$  for these eight attitudinal domains was  $.76$  when linked to the psychosis vignette (range $=.59-.87$ ) and  $.78$  with respect to the suicidality vignette (range $=.62-.87$ ).

The construct of self-efficacy for deescalating crisis situations and making referrals to mental health services was measured with a 16-item questionnaire that was rated on a 4-point scale, ranging from 1, not at all confident, to 4, very confident (23) (Cronbach’s  $\alpha=.94$  when linked to both vignettes). To measure the construct of stigma toward people with mental illnesses, we used two instruments—an adapted version of the Social Distance Scale and a semantic differential measure. On the former, participants rated their willingness to be close to (for example, live next door to) the individual depicted in the vignette on a 4-point scale, ranging from 1, very willing, to 4, very unwilling (23) (Cronbach’s  $\alpha=.92$  when linked to both vignettes). For the second stigma measure, respondents rated an average person, the man in the psychosis vignette, and the woman in the suicidality vignette on 12 semantic differentials (for example, valuable/worthless) using a rating scale from 1 to 7. The 12 items were scored so that higher values reflected more positive judgments (Cronbach’s  $\alpha=.86, .83$ , and  $.84$  for the three persons rated, respectively). A score reflecting total stigmatizing attitudes toward the man with psychosis was computed by subtracting the mean score on the psychosis vignette from the mean score for the average person; the same method was used for the suicidal woman. To make all values positive, 4 was added to each score, resulting in an index varying from just above 0 to just below 9.

Finally, the two constructs of deescalation skills and referral decisions were measured by two instruments designed specifically for this study and tested previously in an independent sample of nearly 200 officers (23). Both were eight-item instruments assessing officers’ opinions about the effectiveness of specific actions in the two situations depicted; responses were

rated on a 4-point scale ranging from 1, very negative, to 4, very positive.

### *Statistical analysis*

Because of the extent of the data deriving from these multiple measures, the large sample size, and the number of analyses, we used  $p \leq .01$  as the criterion for significance; effects significant at the  $.05$  but not at the  $.01$  level are referred to as marginal. Throughout, we present effect sizes as well as statistical significance (29). We used Cohen’s  $d$ , the standardized difference between two means (30), following Cohen’s criteria:  $.2$  is a small (weak) effect,  $.5$  is a medium (moderate) effect, and  $.8$  is a large (strong) effect.

## **Results**

### *Differences in characteristics, experience, empathy*

Officers with and without CIT training did not differ in age, race, years of education, or years of service as an officer. The proportion of women was about twice as high in the CIT-trained group (N=67, 27%, versus N=47, 14%; odds ratio [OR]=2.23,  $p<.001$ ). The groups also differed on the two additional potential covariates. Specifically, the mean scores for experience and empathy were higher for CIT-trained officers than for those without CIT training (experience, 2.4 versus 1.8 on a 0–5 scale;  $t=4.23$ ,  $df=584$ ,  $d=.35$ ,  $p<.001$ ; empathy, 6.8 versus 6.3 on a 0–10 scale;  $t=3.88$ ,  $df=583$ ,  $d=.33$ ,  $p<.001$ ).

### *Group differences in the six key constructs*

Group differences were examined with analyses of covariance that included age, gender, years served as an officer, years of education, the experience index, and empathy as covariates. Controlling for these covariates did not substantially change the findings of between-group differences that were found with  $t$  tests. The CIT-trained group differed consistently from the group without CIT training (Table 1). For example, the former group scored higher on knowledge and opinions about mental illnesses and lower on anger and fear attitudes.

Results for the 17 items constituting the attitudes construct (the first of

**Table 1**

Measures of six key constructs among officers with or without crisis intervention team (CIT) training

Variable <sup>a</sup>	Possible score range	With CIT training			Without CIT training			t	df	p	d <sup>b</sup>
		N	Score M	SD	N	Score M	SD				
Knowledge about mental illnesses	0–100	251	59	15	335	54	15	4.32	584	<.001	.36
Attitudes about mental illnesses and their treatments											
Opinions About Mental Illnesses Scale Attribution Questionnaire	1–6	249	4.24	.45	331	4.01	.40	6.44	578	<.001	.54
Personal responsibility (P)	1–9	249	2.54	1.30	332	2.96	1.49	-3.48	579	.001	-.29
Personal responsibility (S)	1–9	251	4.89	1.81	333	5.31	1.74	-2.88	582	.004	-.24
Pity (P)	1–9	249	6.35	1.72	331	5.71	1.82	4.23	578	<.001	.36
Pity (S)	1–9	250	5.91	1.74	333	5.57	1.78	2.28	581	.023	.19
Anger (P)	1–9	249	3.29	1.73	331	3.58	1.74	-2.02	578	.043	-.17
Anger (S)	1–9	251	3.13	1.66	333	3.54	1.79	-2.80	582	.005	-.23
Fear (P)	1–9	249	4.71	1.73	331	5.27	1.80	-3.76	578	<.001	-.32
Fear (S)	1–9	251	4.25	1.63	333	4.55	1.63	-2.16	582	.031	-.18
Help (P)	1–9	250	3.48	1.39	331	2.89	1.20	5.46	579	<.001	.46
Help (S)	1–9	251	4.99	1.80	333	4.62	1.69	2.52	582	.012	.21
Coercion-segregation (P)	1–9	249	4.77	1.76	332	5.62	1.64	-6.02	579	<.001	-.51
Coercion-segregation (S)	1–9	251	3.06	1.56	333	3.42	1.58	-2.73	582	.006	-.23
Revised Causal Dimensions Scale											
External control (P)	1–9	250	4.59	1.69	332	4.48	1.55	.76	580	.45	.06
External control (S)	1–9	251	4.73	1.64	333	4.60	1.63	.90	582	.37	.08
Personal control (P)	1–9	250	3.50	1.61	332	3.64	1.71	-1.04	580	.30	-.09
Personal control (S)	1–9	251	5.99	1.77	333	6.14	1.79	-1.00	582	.32	-.08
Self-efficacy											
Self-efficacy (P)	1–4	250	3.34	.44	332	3.05	.46	7.68	580	<.001	.64
Self-efficacy (S)	1–4	251	3.46	.42	333	3.31	.40	4.32	582	<.001	.36
Stigma											
Social distance (P)	1–4	250	2.43	.67	331	2.72	.65	-5.20	579	<.001	-.44
Social distance (S)	1–4	251	2.09	.68	333	2.29	.65	-3.66	582	<.001	-.31
Stigmatizing attitudes (P)	0–9	250	4.82	.84	330	4.92	.93	-1.34	578	.18	-.11
Stigmatizing attitudes (S)	0–9	244	4.65	.92	327	4.63	.96	.26	569	.80	.02
Deescalation skills											
Deescalation skills (P)	1–4	249	3.20	.36	332	2.97	.31	8.45	579	<.001	.71
Deescalation skills (S)	1–4	251	3.18	.32	333	3.05	.31	4.92	582	<.001	.41
Referral decisions											
Referral decisions (P)	1–4	249	3.46	.37	332	3.24	.39	6.78	579	<.001	.57
Referral decisions (S)	1–4	251	3.49	.36	333	3.33	.37	5.30	582	<.001	.44

<sup>a</sup> P, psychosis vignette; S, suicidality vignette<sup>b</sup> Cohen's d is the standardized difference between the means.

which is a mean of six scales) are shown in Table 1. Except for external and personal control items, differences were at least marginal for the remaining 13 items and significant ( $p < .01$ ) for nine. Among these nine items, the effect size was weak for seven and moderate for two (opinions about mental illnesses and coercion-segregation pertaining to psychosis). The consistent pattern of differences was not attributable to strong correlations among variables; the mean absolute correlation between variables for both the psychosis and suicidality vignettes was .16. Mean differences were greater for the psychosis vignette compared with

the suicidality vignette for five of six corresponding pairs (anger was the exception). Figure 1 displays absolute effect sizes for differences between CIT-trained officers and those without CIT training.

Regarding between-group differences for other key variables, differences were significant ( $p < .001$ ) for all except the stigmatizing attitudes scores derived from the semantic differential scales. For the variables that showed a significant difference, the effect size was weak for five and moderate for three (self-efficacy, deescalation skills, and referral decisions linked to the psychosis vignette). All correlations between correspond-

ing items across vignettes were strong (mean  $r = .64$ ; range = .57–.71), although mean differences were greater for the psychosis vignette than the suicidality vignette.

Quintile of time since training was largely unassociated with the variables listed in Table 1. Of 28 correlations, only the two involving deescalation skills (for both vignettes) were significant (for the psychosis vignette,  $r = .19$ ,  $p = .003$ ; for the suicidality vignette,  $r = .18$ ,  $p = .005$ ). Specifically, for the psychosis and suicidality vignettes, mean deescalation skills scores increased monotonically for the first through fifth quintiles of time since training, from 3.12 to 3.35 for



the psychosis vignette and from 3.10 to 3.26 for the suicidality vignette.

## Discussion

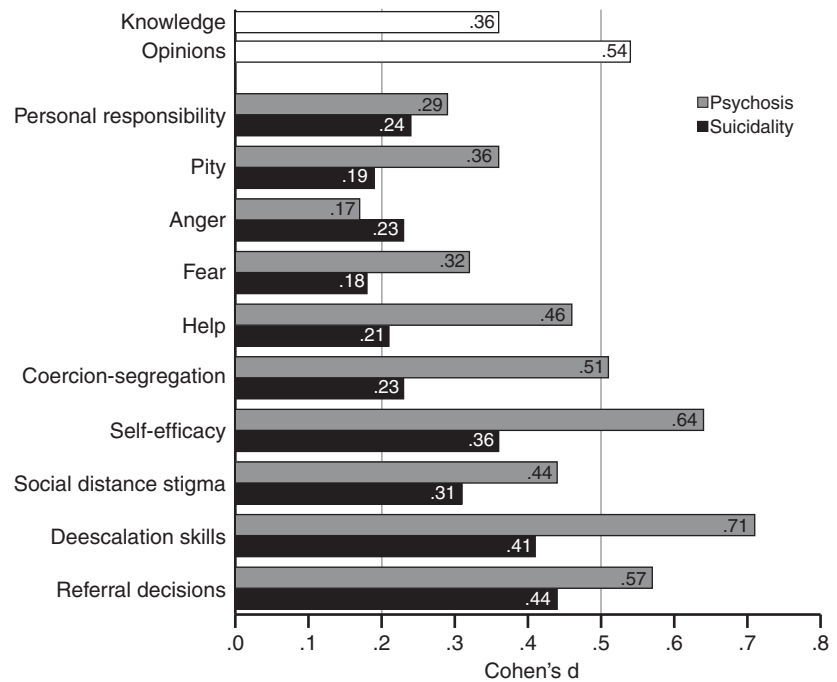
Even when the analyses controlled for covariates such as years of education, personal and family experience with mental health treatment, and empathy, CIT-trained officers had consistently better scores than officers without CIT training on knowledge, diverse attitudes toward serious mental illnesses and their treatments, self-efficacy, social distance stigma, deescalation skills, and referral decisions. Effect sizes for some of these—including self-efficacy, deescalation skills, and referral decisions pertaining to psychosis, which are arguably most central to the problems that CIT training seeks to address—were in the moderate range. Notably, given that officers had completed CIT training a median of 22 months before the research assessment, these findings are particularly impressive and confirm that previously reported improvements in knowledge, attitudes, stigma, and self-efficacy immediately after training (31,32) do, in fact, persist.

These results suggest that CIT is effective at the officer level. However, the more difficult task is to address the immediate, short-term, and perhaps even long-term outcomes of the individuals with whom officers interact, including improved safety and less use of force, fewer arrests (that is, prebooking jail diversion), enhanced case finding and referral, and improved mental health and criminal justice outcomes. It is also important to address the system-level effects of CIT (such as criminal justice cost savings).

Although each of our six key constructs is meaningful to CIT, deescalation skills are of particular importance because the “criminalization” of mental illnesses may be prominently related to impulsivity or emotionally motivated responses to perceived provocation (33), rather than to untreated symptoms alone (34). Thus deescalation may be critical to advancing jail diversion. Enhanced referral decisions, when joined with improvements in mental health services, represent a crucial officer-level outcome of CIT training. This is especially important with respect to arguments that “criminaliza-

**Figure 1**

Effect sizes for differences between officers with or without crisis intervention team training in responses to key construct measures<sup>a</sup>



<sup>a</sup> Effect sizes for knowledge and opinions about mental illnesses (top two bars) were not linked to the vignettes used in the assessment. Other bars pertain to variables linked to the psychosis or suicidality vignette. Only ten of the 13 vignette-linked variables that significantly differentiated the groups are shown. Effect sizes between .20 and .50 (vertical lines) are regarded as weak, and those between .50 and .80 as moderate.

tion” inappropriately blames officers, many of whom use arrest and detention as a “mercy booking” in an attempt to provide individuals with mental health services in jail because of the perceived unavailability or ineffectiveness of the mental health system (35).

We acknowledge several methodological limitations. First, all CIT-trained officers were from a single state, which relies on a relatively standardized CIT curriculum. However, Georgia’s CIT program is guided by the core elements of the CIT model (36), suggesting that results may be broadly generalizable. Second, whether enhanced knowledge and more positive attitudes toward people with serious mental illnesses affect encounter resolutions remains unknown. Self-report of deescalation skills and referral decisions is clearly only a proxy for actual behaviors during an interaction. Although we linked most of our measures to contextualized, realistic vignettes to optimize validity, we do not know whether the perceived enhanced deescalation skills translate

into safer resolutions of crises in the field.

## Conclusions

Improving police responses to persons with serious mental illnesses is now a national priority in the law enforcement and criminal justice sectors (37), as well as in the mental health community. CIT is a police-based approach to addressing this priority—one that is supported by mental health and advocacy groups. The use of mental health courts has recently been shown to be effective in terms of lower rearrest rates and fewer incarceration days (38). However, CIT represents a prebooking approach that may also have an impact on these and other outcomes. The findings reported here demonstrate that CIT training of police officers results in substantial and persisting improvements in officers’ knowledge, attitudes, and skills. Research should also address other outcomes that may accompany our documented officer-level findings, especially safer outcomes for both citizens and officers

(for example, less agitation and reduced use of force) and more appropriate dispositions in terms of both reduced arrests (that is, prebooking jail diversion) and enhanced case-finding and referral to mental health services, which are topics of the companion article (16). Such research would determine whether CIT is an effective mental health service augmentation beyond its now proven beneficial effects for officers.

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