



Policing: An International Journal of Police Strategies & Management

Left alone when the cops go home: evaluating a post-mental health crisis assistance program

Luke Bonkiewicz Alan M. Green Kasey Moyer Joseph Wright

Article information:

To cite this document:

Luke Bonkiewicz Alan M. Green Kasey Moyer Joseph Wright , (2014), "Left alone when the cops go home: evaluating a post-mental health crisis assistance program", Policing: An International Journal of Police Strategies & Management, Vol. 37 Iss 4 pp. 762 - 778

Permanent link to this document:

<http://dx.doi.org/10.1108/PIJPSM-04-2014-0035>

Downloaded on: 13 November 2014, At: 02:58 (PT)

References: this document contains references to 32 other documents.

To copy this document: permissions@emeraldinsight.com

The fulltext of this document has been downloaded 12 times since 2014*

Users who downloaded this article also downloaded:

Rick Ruddell, Savvas Lithopoulos, Nicholas A. Jones, (2014), "Crime, costs, and well being: policing Canadian Aboriginal communities", Policing: An International Journal of Police Strategies & Management, Vol. 37 Iss 4 pp. 779-793 <http://dx.doi.org/10.1108/PIJPSM-01-2014-0013>

Brian Lockwood, (2014), "What clears burglary offenses? Estimating the influences of multiple perspectives of burglary clearance in Philadelphia", Policing: An International Journal of Police Strategies & Management, Vol. 37 Iss 4 pp. 746-761 <http://dx.doi.org/10.1108/PIJPSM-01-2014-0011>

Daniela Acquadro Maran, Antonella Varetto, Massimo Zedda, Monica Francini, (2014), "Stress among Italian male and female patrol police officers: a quali-quantitative survey", Policing: An International Journal of Police Strategies & Management, Vol. 37 Iss 4 pp. 875-890 <http://dx.doi.org/10.1108/PIJPSM-05-2014-0056>

Access to this document was granted through an Emerald subscription provided by

Token:JournalAuthor:A527457C-1FF6-4350-A0DC-FBE490F0C575:

For Authors

If you would like to write for this, or any other Emerald publication, then please use our Emerald for Authors service information about how to choose which publication to write for and submission guidelines are available for all. Please visit www.emeraldinsight.com/authors for more information.

About Emerald www.emeraldinsight.com

Emerald is a global publisher linking research and practice to the benefit of society. The company manages a portfolio of more than 290 journals and over 2,350 books and book series volumes, as well as providing an extensive range of online products and additional customer resources and services.

Emerald is both COUNTER 4 and TRANSFER compliant. The organization is a partner of the Committee on Publication Ethics (COPE) and also works with Portico and the LOCKSS initiative for digital archive preservation.

*Related content and download information correct at time of download.



Left alone when the cops go home: evaluating a post-mental health crisis assistance program

Luke Bonkiewicz

Lincoln Police Department, Lincoln, Nebraska, USA

Alan M. Green and Kasey Moyer

Mental Health Association-Nebraska, Lincoln, Nebraska, USA, and

Joseph Wright

Lincoln Police Department (ret.), Lincoln, Nebraska, USA

Abstract

Purpose – The purpose of this paper is to evaluate a police department's Post-Crisis Assistance Program (PCAP) for consumers who experienced a police-abated mental health crisis. The authors analyzed three questions: First, does PCAP reduce a consumer's future mental health calls for service (CFS)? Second, does PCAP reduce a consumer's odds of being arrested? Third, does PCAP reduce the odds of a consumer being taken into emergency protective custody (EPC)?

Design/methodology/approach – The authors use propensity score matching to analyze data from a sample of individuals ($n = 739$) who experienced a police-abated mental health crisis.

Findings – The authors find that PCAP consumers generated fewer mental health CFS, were less likely to be arrested, and were less likely to be taken into EPC than non-PCAP consumers six months following a police-abated mental health crisis.

Research limitations/implications – The research only examined outcomes six months after a mental health crisis. The authors encourage future research to examine whether the benefits of PCAP persist over longer periods of time.

Practical implications – The study demonstrates that partnerships between police departments and local mental health groups can help police officers better serve citizens with mental health conditions.

Originality/Value – To the knowledge, this is the first study to evaluate the impact of a PCAP for citizens experiencing police-abated mental health crises.

Keywords Police, Mentally ill, Peer-support

Paper type Research paper

Introduction

Historically, police officers have had three options when encountering a mentally ill individual (hereafter referred to as a “consumer of mental health services,” or simply, “consumer”)[1]. If the consumer's behavior causes only a minor disturbance, an officer might informally handle the incident, such as calming the person or escorting them to a more appropriate location. If the consumer's conduct is seriously disruptive and violates a law, an officer might arrest the individual and lodge him or her in jail. Finally, if the consumer is suicidal, homicidal, or simply unable to care for him or herself, an officer can place the individual in emergency protective custody (EPC) (depending on each jurisdiction's legal standards and practices) and transport the person to a mental health facility.



Advances in mental health research and law enforcement training have improved encounters between police officers and consumers. Specifically, the advent of crisis intervention training (CIT) has educated police officers about mental illnesses, taught officers to recognize the symptoms of a mental health crisis, and trained officers to deescalate and counsel individuals in such incidents (Cochran and Borum, 2000; Teller *et al.*, 2006).

However, extant research and current law enforcement practices have largely focussed on in-progress mental health incidents, devoting less attention to assisting consumers once the police resolve the crisis. In other words, when the police depart, consumers are frequently left to seek out mental health services (including medications and therapy) without any assistance.

Prompt post-crisis assistance may help consumers secure mental health services and develop a long-term mental health plan, thereby reducing the likelihood of future crises. Our paper introduces an innovative, collaborative response – called post-crisis assistance program (PCAP) – in which officers can refer consumers to a mental health organization following a mental health call for service. Using propensity score matching, we find that PCAP consumers generated fewer mental health calls for service (CFS), were less likely to be arrested, and were less likely to be taken into EPC than non-PCAP consumers in the six months following a mental health crisis. We discuss how law enforcement agencies can partner with mental health groups and organizations to implement similar programs.

Literature review

Society has given the police both the authority and responsibility to intervene when an individual experiences a mental health crisis (Lamb *et al.*, 2002). First, the police are responsible for maintaining order and safety, and second, the doctrine of *parens patriae* requires the state to care for individuals who cannot take care of themselves. This class typically includes juveniles or the disabled, but it also includes individuals who live with a mental illness, in particular, those experiencing an acute mental health crisis. Crises can range from passive, non-threatening behavior (such as walking down the middle of a street or conversing about auditory or visual hallucinations) to aggressive, violent behavior (such as screaming at bystanders, attacking other citizens, or self-harm). Regardless of the nature of the crisis, society expects the police to respond to and resolve such incidents.

Officers have generally had three options when responding to a mental health call for service: an officer can handle the incident informally, arrest and lodge the individual, or transport the individual to a mental health facility. Upon contacting the consumer, a police officer performs what Bittner (1967) called “psychiatric first-aid” to determine what option is appropriate, even though many officers have historically lacked significant education and training regarding mental illnesses (Borum, 2000).

Police officers resolve most mental health incidents informally, often by simply talking to consumers who pose no threat to the community (Teplin, 2000; Finn and Sullivan, 1988). These might be consumers who converse with voices only they can hear, claim that their neighbors are interfering with their brain waves, or become lost after wandering away from home. In these cases, officers may calm the individual, drive him or her home, or contact friends to assume responsibility for the person.

If an individual’s behavior is seriously disruptive or threatens others, an officer may arrest, charge, and place the individual in jail. One example might be an individual with untreated schizophrenia who hears voices and begins attacking family members

with a knife. The consumer might be experiencing a crisis, but the immediate need to protect citizens trumps the need to address the subject's mental health condition.

Still, police officers may arrest and jail individuals who do not necessarily pose a threat to the community. Officers sometimes resort to arrest when the consumer's disruptive behavior surpasses a neighborhood's level of tolerance, when the officer believes the consumer would continue to cause problems if not arrested, or when the officer believes no other alternatives are available (Teplin, 2000; Ogloff and Otto, 1989). Some have deemed these practices "the criminalization of the mentally disordered behavior," a by-product of deinstitutionalizing the mentally ill in the 1960s-1970s (Abramson, 1972). Moreover, these changes, as well as poor collaboration between law enforcement and mental health organizations, may have contributed to high arrest rates among consumers and the high percentage (16 percent) of jail and prison inmates diagnosed as mentally ill (Ditton, 1999; Perez *et al.*, 2003).

Finally, police officers may also take consumers into EPC and transport them to a mental health facility. In general, eligible EPC candidates must have a mental health condition or substance dependency, and must also be an imminent danger to themselves or others, or unable to care for themselves.

As officers consider these three options, they are keenly aware that consumers experiencing a crisis can become irrational, aggressive, or violent. However, mental illness is not the singular factor determining an officer's use of force decision. Rather, police research indicates a more nuanced relationship between a suspect's conduct and the likelihood of arrest and use of force.

Although some research has found a positive relationship between the mental health of a subject and the use of force by an officer (Kesic *et al.*, 2013), other research has found that the police may be less likely to arrest consumers than non-disordered subjects (Engel and Silver, 2001). In other words, mental illness may be a protective factor against arrest and use of force. Recent use of force research suggests that when officers arrive at potentially violent CFS, officers use less force than during confrontations on CFS involving property crimes (MacDonald *et al.*, 2003). It may be that when police officers expect physical non-compliance during a potentially volatile call for service (i.e. a domestic disturbance or a report of mentally disturbed individual), they are able to resolve the confrontation more rapidly and with lower levels of force. More importantly, CIT-trained officers may be less likely to use force against consumers in crisis, instead opting to negotiate with or "talk down" a consumer (Morabito *et al.*, 2012).

In response to these findings, researchers, and police departments have developed various forms of CIT to improve interactions between officers and consumers. These programs teach officers about mental illnesses, train them how to assist consumers in crisis, and in turn, may decrease the level of force needed to resolve an incident (Teller *et al.*, 2006). Law enforcement agencies hope this knowledge and training will help officers deescalate a consumer in crisis, use the minimum amount of force necessary to resolve the incident, and connect consumers to appropriate services. Additionally, some departments have augmented officer training by establishing specialized mobile mental health crisis teams that respond with officers on mental health CFS (Deane *et al.*, 1999).

Research suggests that CIT programs have improved relationships between consumers and the police, as well as helped consumers in crisis access mental health services (Watson, 2010; Teller *et al.*, 2006). Studies have also found that CIT improves officer attitudes regarding aggressiveness in consumers and decreases the stigma and

social distance toward those with mental health conditions (Compton *et al.*, 2006; Bahora *et al.*, 2008). Finally, some research has found that CIT may reduce officers' use of force against consumers during crises (Compton *et al.*, 2011; Watson, 2010).

Left alone when
the cops go home

Although CIT has proven effective in resolving acute mental health crises, both law enforcement agencies and mental health organizations have devoted less attention to contact with consumers after the crisis. In other words, when the police officer and mental health crisis team member go home, the consumer often attempts to obtain services without any assistance. For a consumer with untreated depression, anxiety, or schizophrenia, obtaining mental health services without help can be supremely challenging. Regardless of whether officers informally handle a crisis, arrest the consumer, or place the consumer in EPC, post-crisis assistance might help consumers obtain services, and in turn, reduce future mental health crises and contact with the police.

765

PCAP: complementing CIT programs

The Lincoln, Nebraska (USA) Police Department (LPD) is staffed with 325 police officers and serves a community of approximately 265,000. Each year, LPD conducts around 2,500 mental health investigations, incidents in which officers determine if consumers pose a danger to themselves or others[2]. The great majority of these investigations originate when a member of the public contacts the police about a crime, disturbance, trouble with a family member, or similar event. A much smaller number of these investigations originate when an officer makes a direct observation of a person in such a crisis. Mental health investigations are considered crises because either the consumer or a concerned citizen has contacted LPD to report unusual or dangerous behavior indicative of a mental health crisis. These situations differ from when an officer might contact a consumer who is reporting a crime, for instance, but is not experiencing a mental health crisis.

LPD recognizes that assisting consumers in crisis requires not only educating and training officers about mental health issues, but also collaborating with mental health organizations. LPD has partnered with the Mental Health Association (MHA) of Nebraska to create a PCAP for consumers. The goal of this program is to make consumers aware of available mental health services following a mental health crisis, and in turn, avert future crises requiring law enforcement involvement.

Specifically, if LPD police officers encounter individuals whom they believe have an untreated or undiagnosed mental health condition, or consumers experiencing a mental crisis, they can refer the individual to MHA after the incident. Notably, police officers can contact and make a referral for any consumer in crisis, regardless of whether the consumer attempted suicide, became the victim of a crime, or was the suspect in a crime. Per LPD policy, police officers must document a mental health investigation when an individual appears to be experiencing any mental health crisis, even if the officer encounters the consumer as a victim or suspect during a criminal investigation.

An officer refers a consumer by sending an e-mail to MHA that describes the incident, describes the relevant mental health issues, and lists the individual's contact information. Data-sharing between criminal justice agencies and public health agencies is critical for collaborative community programs (Wolff, 1998), such as re-entry for prisoners with mental health conditions (Draine *et al.*, 2005). Specifically, the data-sharing mechanism between LPD and MHA consists primarily of officers' e-mailing referrals to MHA. If MHA has additional questions about the individual's

behavior or background, they can contact the officer for further information. This agreement allows the exchange of information between LPD and MHA to facilitate an informed, cooperative response for consumers in crisis.

Following an officer's referral, MHA then sends a "peer-specialist" to contact the consumer in person within 24-48 hours and offer non-clinical services. Peer-specialists are consumers themselves who have developed long-term mental health plans. The fact that they live with many of the mental health conditions as individuals in crisis gives them considerable credibility when they initiate contact with consumers, especially those consumers who suspect authority figures are trying to control, drug, or institutionalize them.

PCAP is both free and voluntary. When peer-specialists initiate contact, they make the consumer aware of any mental health services relevant to the consumer's needs. Although peer-specialists do not offer clinical assistance (such as diagnosing a condition or recommending a doctor), they routinely aid consumers by helping them identify issues and needs contributing to crises, find mental health professionals (such as therapists or psychiatrists, if requested by the consumer), secure employment, find housing, and obtain substance abuse resources. For example, peer-specialists might help consumers find a support group or develop a Wellness Recovery Action Plan, strategies designed to improve consumers' mental health symptoms, recovery, and physical health (Copeland, 2002; Cook *et al.*, 2009). Some research suggests that consumers experiencing psychiatric distress view such non-clinical alternatives as more helpful and positive than traditional methods, such as hospitalization (Shattell *et al.*, 2014).

The following example demonstrates how an officer might encounter and refer a consumer to MHA. Officers responded to a report of a possibly suicidal adult male. Upon contacting the person, the officers learned that the consumer lived with depression and bipolar disorder, and had not been taking his medications. However, the consumer denied having any suicidal or homicidal thoughts, and he did not appear to be a danger or nuisance to the public. Officers did not have the authority to arrest the consumer for any crime, nor did they have sufficient legal basis to take the individual into EPC. Normally, an officer and/or CIT responder would handle the situation informally, perhaps counseling the individual about seeking treatment, and then depart.

LPD officers, however, have the option of referring the individual to MHA. After ensuring the male with depression and bipolar disorder was not a danger to himself or others, the LPD officer then shared this information with MHA via an e-mail referral. After receiving the e-mail, MHA deployed a peer-specialist to contact the consumer the next day[3]. The peer-specialist contacted the consumer and learned that the consumer had stopped taking his medications because of the side effects. The consumer also explained he did not have transportation to his doctor's office. The peer-specialist helped the consumer make a doctor's appointment about getting his medications changed, and also arranged transportation for the consumer. It is not uncommon for peer-specialists to drive consumers to mental health professionals so they can receive treatment.

We believe PCAP can benefit both consumers and law enforcement. Many consumers in crisis are not receiving therapy or medications, or are experiencing an unexpected life event, such as the death of a loved one. Peer specialists can help connect consumers to doctors, pharmacies, or therapists, and in general, help consumers take the first step toward developing a long-term mental health plan. In turn, if consumers are treating their mental health conditions and developing

long-term coping strategies, they might generate fewer mental health CFS, be less likely to be arrested, and be less likely to be taken into EPC.

Left alone when
the cops go home

Data

The paper addresses three critical questions. First, does PCAP contact – defined as an individual being contacted and counseled by a peer specialist following a mental health crisis – reduce future mental health CFS? Second, does PCAP contact reduce the odds of future arrests? Third, does PCAP contact reduce the odds of future EPCs?

To answer these questions, we gathered data from consumers who were contacted by police during mental health investigations at an interval six months after the contact. As noted, an officer completed a mental health investigation because someone notified police about an individual experiencing some kind of mental health crisis (e.g. a suicide attempt, acting out, self-reported requests for assistance by consumers). We created a database containing biographical profiles of the subjects of mental health investigations using data from LPD's local database, as well as the Nebraska Criminal Justice Information System.

LPD's database contains extensive information about individuals due to many different types of police-citizen contacts. LPD's files include individuals who have reported a crime, been cited or arrested for a crime, or been listed as an involved party in any kind of report (including a mental health investigation). This system also contains biographical information based on the individual's driver's license or state identification card. We identified consumers who were the subject of a mental health investigation between August of 2012 and December of 2012, and created consumer profiles based on the following variables.

Date of mental health crisis

We used the date of the individual's first (or only) mental health investigation in our timeframe. Using this date, we gathered information about the consumer's behavior six prior to and six months following the incident. This incident may have been a suicide attempt, a threatened attempt, or simply a welfare check involving a consumer in crisis. In each case, an officer completed a mental health investigation and corresponding report.

Biographical data

We coded for consumer's race, gender, age at the time of the mental health investigation, and transient status at the time of the mental health investigation.

Referral status

Using data collected by MHA, we also coded for whether the individual had been referred to MHA and contacted by a peer-specialist. We only measured the intended attempt to treat, meaning that we coded for whether an individual was contacted by a peer-specialist, regardless of whether that consumer declined peer-specialist assistance[4]. Peer-specialists did not contact some consumers because they were transients and unable to be located. Additionally, some consumers were contacted during multiple mental health investigations and referred more than once. We used the date of the first mental health referral as the incident date.

Mental health conditions

LPD trains officers to ask specific questions during a mental health investigation, including queries about the consumer's mental health conditions, if the consumer is

taking medications, and what doctor treats the consumer. Officers then record this information in their mental health investigation reports. We accessed these reports, as well as prior mental health investigation reports, to learn about the consumers' mental health conditions. We coded if the mental health investigation noted that the consumer reported living with the following mental health conditions: depression, anxiety disorder, paranoid personality disorder, schizophrenia, bipolar disorder, and post-traumatic stress disorder (PTSD).

Referring officer characteristics

It is possible that the officer who contacts a consumer in crisis might also affect PCAP contact. Since the relationship between officer characteristics and PCAP contact is still unknown, we attempted to include as many officer variables as possible, including the referring officer's age, gender, years of service, and whether officer completed any type of CIT training prior to the incident. We recognize that some officer characteristics remain unmeasured, such as an officer's beliefs toward consumers or an officer's personal experience with mental health conditions.

Mental health CFS history

We searched LPD's data and recorded how many times an individual was ever the subject of a mental health call for service. This variable also includes mental health investigations in which the individual was not considered a candidate for EPC, investigations in which the officer placed the consumer in EPC, and attempted suicide investigations. We also created an additional variable that reflected mental health CFS in the six months following the incident date.

Criminal history

We searched LPD's data and the Nebraska Criminal Justice Information System for consumers' criminal histories. We excluded traffic citations and coded for a consumer's total number of combined misdemeanor and felony arrests. Similar to our mental health history variable, we created a variable that reflected a consumer's number of arrests in the six months following the incident date.

EPC

We researched consumer's mental histories and recorded how many times the individual had ever been taken into EPC. We also created a variable for how many times an individual had been taken into EPC in the six months following the incident date. Table I describes the variables and their summary statistics.

We recognize there are limitations to these data. For example, it's possible that a consumer could have had a mental health crisis or been taken into EPC in another city. It is also possible that a consumer could experience a mental health crisis which is not reported to law enforcement. Our search would not capture these incidents and reflects a larger, common data collection issue, namely, we can only code variables based on reported data (e.g. arrests and mental health investigations within LPD's jurisdiction). Notably, the consumers in our sample maintained local addresses throughout the time period in which we gathered data, suggesting that they resided and conducted their affairs in Lincoln throughout the observed timeframe[5].

We also recognize that a larger sample taken across a larger time frame might yield different results. Our sample consists of 166 consumers were contacted and counseled by peer-specialists (PCAP consumers) and 573 consumers who were not contacted and

Variable	Description	Coding	PCAP consumer	Non-PCAP consumer	Left alone when the cops go home
<i>Dependent variables</i>					
Mental health CFS	Number of mental health calls for service generated by consumer six months after mental health crisis	Continuous	0.4	1.4	
Arrest	Was the consumer arrested in the six months following the mental health crisis?	0 = No, 1 = Yes	0.44	0.81	
EPC	Was the consumer taken into emergency protective custody in the six months following the mental health crisis?	0 = No, 1 = Yes	0.05	0.19	
<i>Independent variables</i>					
Age	Consumer's age at time of mental health crisis	Continuous	36.7	36.1	
Gender	Consumer's gender	0 = female, 1 = male	0 = 55%, 1 = 45%	0 = 49%, 1 = 51%	
Transient	Did consumer report transient status at time of mental health crisis?	0 = No, 1 = Yes	0 = 80%, 1 = 20%	0 = 83%, 1 = 17%	
Race	Consumer's race	1 = White 2 = Black 3 = Asian 4 = Hispanic 5 = Other	White = 95.3% Black = 1.6% Asian = 0.2% Hispanic = 0.7% Other = 2.3%	White = 62.1% Black = 9.6% Asian = 10.8% Hispanic = 7.2% Other = 10.2%	
Depression	Did consumer report diagnosis of Depression?	0 = No; 1 = Yes	0.53	0.44	
Anxiety disorder	Did consumer report diagnosis of Anxiety Disorder?	0 = No; 1 = Yes	0.23	0.20	
Paranoid disorder	Did consumer report diagnosis of Paranoid disorder?	0 = No; 1 = Yes	0.24	0.15	
Schizophrenia	Did consumer report diagnosis of Schizophrenia?	0 = No; 1 = Yes	0.22	0.17	
Bipolar disorder	Did consumer report diagnosis of Bipolar Disorder?	0 = No; 1 = Yes	0.30	0.37	
PTSD	Did consumer report diagnosis of PTSD?	0 = No; 1 = Yes	0.16	0.16	
Prior arrests	No. of prior arrests	Continuous	0.75	0.87	
Prior mental health CFS	No. of prior mental health CFS	Continuous	4.1	4.6	
Officer gender	Gender of officer contacting consumer	0 = female, 1 = male	0 = 30%, 1 = 70%	0 = 26%, 1 = 74%	
Officer's age	Age of officer contacting consumer	Continuous	28.1	28.7	
Officer's experience	Years of officer's law enforcement experience	Continuous	6.9	6.4	
Officer's training	Did officer complete CIT-based training prior to incident?	0 = No, 1 = Yes	0 = 35%, 1 = 65%	0 = 20%, 1 = 80%	

Table I.
Descriptive statistics
for dependant and
independent
variables ($n = 739$)

counseled by peer-specialists (non-PCAP consumers) between July-December of 2012. However, we can think of no reason why this six-month sample of individuals would be theoretically or statistically different than any other randomly selected group of consumers.

Method of analysis

When MHA initiated the mental health referral program, LPD attempted to raise awareness of the program through department e-mails and word-of-mouth. The fact that only some officers heard about and used the referral program during our data collection period affects our method of analysis. Specifically, we do not know why some consumers received referrals and others did not, nor do we know why peer-specialists were able to make contact with some consumers and not others. It is possible that many officers did not refer consumers because they simply weren't aware of the program or how to make a referral prior to being trained. It is also possible that peer-specialists were unable to contact some consumers due to their transient status or because consumers provided incorrect contact information. Overall, however, we cannot be sure that selection into PCAP was random.

Therefore, we take an epidemiological perspective, considering PCAP contact to be a treatment condition which can be analyzed using propensity score matching. Propensity score matching uses observed covariates to estimate an individual's propensity to be selected into the treatment condition (Rosenbaum and Rubin, 1983; Becker and Ichino, 2002). This method then creates a treated and untreated group of respondents by balancing their background characteristics, meaning that we can compare treated and untreated individuals who have similar propensities to receive the treatment.

In this case, we estimate a consumer's propensity to receive PCAP contact. More specifically, we estimate a consumers' propensity to be contacted and counseled by a peer-specialist following a mental health crisis (treatment group), and then compare this group to consumers who experienced a mental health crisis but were not contacted and counseled by a peer-specialist (control group). To our knowledge, no prior research exists on estimating an individual's chances of being selected into a post-mental health crisis assistance program, and there may be several covariates important to selection into MHA's PCAP.

First, we include standard biographical variables of age, gender, and race. We also include several mental health conditions self-reported to the police officer conducting the mental health investigation, including depression, anxiety disorder, paranoid personality disorder, schizophrenia, bipolar disorder, and PTSD. We include these because different mental health conditions might increase the chances of a referral. For instance, officers might be more likely to refer a case of untreated schizophrenia compared to a case involving an anxiety attack, even though both incidents are legitimate referral candidates. Moreover, peer-specialists may be more successful contacting and counseling consumers with certain mental health conditions. Research has shown that consumers' perceptions of different mental health conditions may affect their help-seeking attitudes (Leong and Zachar, 1999).

Our selection equation also includes the number of mental health CFS a consumer has generated. These calls include mental health investigations, attempted suicides, and welfare checks which have been documented because the consumer's behavior was disturbing or threatening enough that someone contacted the police. Similarly, we include the number of times an individual has been arrested. We include these

measures because if an individual is known to the police as a repeat contact (a “frequent flier”), an officer might be more likely to refer the individual or offer assistance in an effort to reduce the repetitive nature of these contacts. On the other hand, an officer might be less likely to make a referral because such an individual could be considered problematic and unworthy of assistance. Finally, we include variables involving the referring officer’s characteristics.

Formally, the propensity score model which estimates selection into PCAP contact can be expressed as:

$$p(PCAP) = Pr(T_i = 1|X_i)$$

where $T_i = 1$ if an individual was referred and then contacted by a peer-specialist, and X_i is a vector of covariates for individual i that predict PCAP contact or may be confounding variables affecting the relationship between PCAP contact and our three outcomes measured six months after treatment for a consumer, namely, the number of mental health CFS generated, the odds of being arrested, and the odds of being taken into protective custody (EPC). Our vector of covariates includes age, gender, and race as biographical variables; depression, anxiety disorder, paranoid personality disorder, schizophrenia, bipolar disorder, and PTSD as self-reported mental health conditions; the number of times a consumer has been arrested; the number of mental health CFS a consumer has generated; referring officer’s age, gender, years of law enforcement experience, and prior CIT training.

Our method uses the aforementioned covariates to create a propensity score between 0 and 1 for each unit. After the propensity score is calculated, we use a matching algorithm to pair a PCAP consumer with a non-PCAP consumer. After these matched treatment and control groups are created, we can analyze the effect of PCAP contact on the number of post-crisis mental health CFS, the odds of future arrests, and the odds of future EPCs.

The goal of a matching procedure is to balance the treatment and control group, thereby reducing selection bias, and there are several matching procedures which pair treatment and control cases differently (Becker and Ichino, 2002; Baser, 2006). To ensure that our substantive findings are robust, we employ four different matching techniques, each which attempts to compensate for the weaknesses of its counterparts: one-to-one nearest neighbor matching without replacement, kernel matching, radius matching, and stratification matching. We briefly describe each method[6].

Nearest-neighbor matching identifies the propensity score of a PCAP consumer with a non-PCAP consumer whose propensity score is closest to the treated unit. A non-PCAP consumer cannot be matched to more than one PCAP consumer. After pairing the treated and untreated units, the matched sample is homogeneous regarding factors that predict PCAP contact, differing only on whether consumers were actually PCAP contacts. Based on the model’s theoretical assumptions, PCAP contact can now be treated as if it occurred at random, and thus, any differences in outcomes can be viewed as the treatment effect of PCAP contact.

The radius method matches establishes a range (“radius”) in which a treated unit can only be paired with a control unit that falls within this defined zone. As the size of the radius decreases, the quality of matched treated and control units increases. We use a radius of 0.001 to ensure that the treatment and control units share very similar propensity scores.

Left alone when
the cops go home

Kernel matching accounts for the differences in propensity scores by weighting the difference in scores between treated and control units. Weighting ensures that control group units who are nearest to the treated units contribute more to the overall treatment effect compared to those control units whose propensity scores differ greatly from the treatment units.

The stratification matching method first divides the range of propensity scores into intervals. The treated and control units in each interval have the same propensity score, on average. Next, the difference in average outcomes of the treated and control units is calculated within each interval. Finally, the treatment effect is obtained by averaging the intervals' treatment effects using weights based upon the distribution of the treated units across the intervals.

Our model specifications featured bootstrapped standard errors and 1,000 repetitions. We also restricted our model to the region of common support. The balancing property was satisfied. We present findings from each matching technique to evaluate the consistency of our findings across multiple matching algorithms (Table II).

Findings

We suggest that individuals reporting some mental health conditions and those with longer arrest records affected PCAP contact, an issue we address in the discussion, as well as leave for future research to more fully examine.

Table III shows the results of the four matching techniques estimating the effect of PCAP on our three outcomes. We first examined whether PCAP contact affects the number of future mental health CFS following contact and counseling with a peer-specialist. The results show that PCAP contact decreased mental health CFS

Variable	b	SE	Odds Ratio
Age	0.02	0.01	1.01
Gender	-0.21	0.21	0.81
Transient	0.10	0.31	1.11
Black	0.75*	0.29	2.12
Asian	0.59	0.40	1.80
Hispanic	0.78	0.99	2.18
Other	0.64	0.41	1.90
Depression	0.58*	0.19	1.79
Anxiety disorder	-0.19	0.31	0.83
Paranoid disorder	0.79*	0.33	2.20
Schizophrenia	0.48*	0.2	1.62
Bipolar disorder	-0.41	0.25	0.66
PTSD	0.31	0.24	1.36
Prior arrests	-0.31*	0.11	0.73
Prior mental health CFS	0.06	0.05	1.06
Officer's gender	-0.07	0.16	0.93
Officer's age	0.11	0.08	1.12
Officer's experience	0.19	0.15	1.21
Officer's CIT training	0.20	0.11	1.22
Constant	-1.56	0.45	

Table II. Logistic regression model predicting PCAP contact

Note: * $p > 0.05$

by approximately one call for service (-1.01 , -0.92 , -0.91 , and -0.88 ; $p < 0.05$). This result may sound minimal, but the average number of post-crisis mental health CFS was 1.2, with a standard deviation of 1.3, meaning that PCAP contacts decreases mental health CFS by nearly one standard deviation.

Next, we examined the average effect of PCAP contact on the odds of a consumer being arrested six months after a mental health crisis. Table III shows that three of the four estimators produced statistically significant results (-0.21 , -0.31 , and -0.21 ; $p < 0.05$), with a fourth matching estimator displaying a result trending in the expected direction and approaching statistical significance (-0.15 ; t -value -1.67). These results indicate that PCAP contact decreases the odds of being arrested in the six months after a crisis by between 19-27 percent.

Our last query investigated whether PCAP contact decreased the likelihood of being taken into EPC six months after a mental health crisis. Table III shows that PCAP contact modestly decreased the odds of an EPC by between 9-17 percent (-0.19 , -0.16 , -0.15 , and -0.09 ; $p < 0.05$). These results are more substantial than the numbers indicate. When an LPD officer conducts a mental health investigation and finds that a consumer meets the criteria for EPC, the officer does not necessarily always take the consumer into custody. Rather, after speaking with the consumer, the officer might drive the individual to a mental health facility and allow the consumer to self-admit. In other words, although officers might contact many individuals who meet the EPC criteria, they may only take into custody those qualified consumers who refuse to self-admit or are unable to care for themselves[7]. When this result is viewed together with PCAP's negative impact on mental health CFS, we believe this finding implies that PCAP decreases not only EPCs, but also incidents in which consumers meet the criteria for EPC but are allowed to self-admit.

We recognize there are weaknesses to our propensity score approach, such as potential unobserved heterogeneity or "hidden bias" (Rosenbaum, 2002). There may be unknown variables that could affect selection into the treatment condition, i.e. PCAP contact, namely, whether consumers were prescribed or taking their medications before their mental health crisis, or whether consumers were seeing a mental health professional prior to contact with law enforcement. We do not have a measure for substance abuse, though a review of the police reports indicates that the majority of consumers were either exhibiting symptoms of substance dependency or reported a history of substance abuse. Also, if an officer did not refer a consumer, that individual could not have been a PCAP consumer, and some might argue that our selection equation needs to include factors influencing an officer's decision to refer a consumer, such as officer attitudes or beliefs.

Unfortunately, due to data limitations, we were unable to adequately address these issues. Regarding the mental health-substance abuse link, we note that both past and

Left alone when
the cops go home

Matching estimator	OUTCOMES								
	Mental Health CFS			Odds of Arrest			Odds of EPC		
	ATT	SE	<i>t</i> -value	ATT	SE	<i>t</i> -value	ATT	SE	<i>t</i> -value
Nearest Neighbor	-1.01^*	0.25	-4.04	-0.15	0.09	-1.67	-0.19^*	0.05	-3.80
Kernel	-0.92^{**}	0.11	-8.36	-0.21^*	0.05	-4.20	-0.16^*	0.04	-4.00
Radius	-0.91^*	0.29	-3.14	-0.31^*	0.14	-2.21	-0.15^*	0.07	-2.14
Stratified	-0.88^{**}	0.15	-5.87	-0.21^*	0.09	-2.33	-0.09^*	0.04	-2.25

Note: $*p > 0.05$, $**p > 0.01$

Table III.
Effects of PCAP on mental health CFS, Odds of Arrest, and odds of EPC six months after contact

current research has grappled with this comorbidity issue. Studies find that consumers have higher rates of alcohol and drug abuse compared to the general population, and over half of individuals reporting a mental health condition also report illegal substance abuse (Cuffel, 1996). Regarding the issue of why an officer might refer a consumer, our pilot study does not have data tapping factors such as officer beliefs or attitudes toward consumers.

However, we tested the robustness of PCAP's effect on our three outcomes by over and underestimating the treatment effect, and then evaluating if the results are sensitive to possible deviations from the unconfoundedness assumption. Put another way, we wanted to ascertain how much an unobserved variable can influence the selection process before invalidating our substantive analysis (Becker and Caliendo, 2007). Our sensitivity analyses showed remarkable robustness ($\gamma = 1.65$; $p = 0.06$), indicating that the treatment effect of PCAP remains statistically significant, even in the presence of considerable unobserved bias. While there still may be unobserved variables which we cannot account for (e.g. substance abuse or police officer referral discretion), our post-matching analysis suggests that our substantive findings – that PCAP decreases mental health CFS, as well as the odds of future arrests and future EPCs – remain robust against possible confoundedness deviations.

Discussion

In the last few decades, law enforcement agencies have improved their response to individuals experiencing a mental health crisis. Programs such as CIT have improved officers' knowledge about mental illnesses and how to assist individuals in psychiatric distress. However, researchers and practitioners have focussed less attention on assistance programs for consumers following police-abated mental health incidents. We believe that a PCAP can substantially assist consumers by connecting them to mental health services and developing long-term mental health plans.

Our paper has detailed an innovative PCAP that uses peer support to assist consumers following an incident of psychiatric distress. This program deploys peer-specialists to aid consumers after a mental health crisis. Peer-specialists offer various types of non-clinical assistance. The goal is to provide consumers with the knowledge, skills, and resources necessary to gain and maintain their mental well-being, and in turn, reduce the likelihood of invasive, expensive medical services (e.g. EPC), future mental health CFS, and contacts with the police (e.g. arrests). Our analysis found that in the six months following a mental health crisis, PCAP consumers generated fewer mental health CFS, were less likely to be arrested, and were less likely to be taken into EPC than non-PCAP consumers.

More research is needed to study certain questions which our pilot study could not fully address. First, it is important to know what other factors motivate PCAP contact. For example, certain variables unmeasured in this study might influence an officer's decision to refer a consumer to PCAP, such as an officer's attitudes or beliefs regarding consumers. Research that analyzes other factors, such as type of mental health condition, is also needed, as are studies that examine what influences a consumer to accept assistance from a peer-specialist. In addition, we measured outcomes six months after a consumer's mental health crisis. We do not yet know if the effect of PCAP contact on future arrests, mental health CFS, and future likelihood of EPCs continues beyond six months.

Finally, approximately one-fourth of PCAP consumers received more than one referral and subsequent contact from a peer-specialist due to recurrent mental health

crises. We estimated outcomes based on the first mental health crisis and referral[8]. Due to data limitations involving the time frame studied, we do not know the impact of multiple referrals. It may be that consumers require at least two referrals and contact by peer-specialist to effect sustained change beyond several years.

Left alone when
the cops go home

In spite of these weaknesses, we believe our PCAP holds several benefits for law enforcement agencies, mental health organizations, and consumers. In terms of cost reduction, police departments should experience savings in the form of decreased CFS and arrests involving consumers. Hospitals may likewise experience savings as a result of fewer EPCs, as well as decreased cases of uncompensated services.

775

More importantly, consumers may experience improvements in their quality of life. For example, if peer-specialists are able to assist consumers before their mental health conditions worsen (thereby creating future incidents and contacts with law enforcement) then consumers may have a better chance of receiving outpatient psychiatric services, staying in their homes, remaining connected to friends and family members, and maintaining employment.

We offer the following suggestions for police departments and communities seeking to implement similar PCAPs. First, police department should continue to train their officers to recognize the symptoms of a mental health crisis, as well as how to de-escalate and assist consumers experiencing psychiatric distress. CIT remains a proven tool for educating and training police officers, and PCAPs can complement this approach to resolving mental health crises. Police departments should consider implementing the referral program as a part of their standard operating procedures for mental health calls. Such a practice would ensure that officers are educated about the program, how to make a referral, and how it can reduce future CFS.

Second, police departments must be willing to work with outside community agencies. LPD has improved its response to mental health CFS by collaborating with the city hospitals, MHA, and several smaller mental health advocacy groups. Instead of resolving mental health incidents when they require police response, LPD uses its PCAP to prevent consumers from reaching the crisis stage.

In sum, PCAP offers law enforcement and their communities an important resource for assisting consumers in crisis. We believe that further research can improve PCAP contact rates and further reduce mental health CFS, EPCs, and overall, contact with police.

Notes

1. We believe the term “consumer” is more accurate and less stigmatizing than “mentally ill” or “mental subject.” Consumer is also the term used by the US. Substance Abuse and Mental Health Services Administration.
2. This number does not include other calls for service (e.g. domestic disturbances or public intoxications) in which officers might also contact consumers.
3. Peer specialists do not contact consumers in acute crisis or deemed dangerous to themselves or others.
4. 80 percent of consumers contacted by peer-specialists accepted assistance.
5. We removed individuals from the sample who were arrested and sentenced to jail or prison time, were committed to a mental health facility, or had successfully completed suicide.
6. For a complete discussion of matching techniques, including each method’s strengths and weaknesses, we refer readers to Becker & Ichino, 2002.

7. We do not have data on how many consumers met the criteria for EPC, but were not taken into custody by officers because the individual opted to self-admit into a mental health facility.
8. In subsequent analyses, we excluded these individuals, re-analyzed the sample, and found no substantive differences.

References

- Abramson, M.F. (1972), "The criminalization of mentally disordered behavior possible side-effect of a new mental health law", *Psychiatric Services*, Vol. 23 No. 4, pp. 101-105.
- Bahora, M., Hanafi, S., Chien, V. and Compton, M. (2008), "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*, Vol. 35 No. 3, pp. 159-167.
- Baser, O. (2006), "Too much ado about propensity score models? Comparing methods of propensity score matching", *Value in Health*, Vol. 9 No. 6, pp. 377-385.
- Becker, S.O. and Caliendo, M. (2007), "Sensitivity analysis for average treatment effects", *The Stata Journal*, Vol. 7 No. 1, pp. 71-83.
- Becker, S.O. and Ichino, A. (2002), "Estimation of average treatment effects based on propensity scores", *Stata Journal*, Vol. 2 No. 4, pp. 358-377.
- Borum, R. (2000), "Improving high risk encounters between people with mental illness and police", *Journal of the American Academy of Psychiatry and the Law*, Vol. 28 No. 3, pp. 332-337.
- Bittner, E. (1967), "Police discretion in emergency apprehension of mentally ill persons", *Social Problems*, Vol. 14 No. 3, pp. 278-292.
- Cochran, S.D. and Borum, R. (2000), "Improving police response to mentally ill people", *Psychiatric Services*, Vol. 51 No. 10, pp. 1315-1316.
- Compton, M., Esterberg, M., McGee, R., Kotwicki, R. and Oliva, J. (2006), "Brief reports: crisis intervention team training: changes in knowledge, attitudes, and stigma related to schizophrenia", *Psychiatric Services*, Vol. 57 No. 8, pp. 1199-1202.
- Compton, M.T., Demir Neubert, B.N., Broussard, B., McGriff, J.A., Morgan, R. and Oliva, J.R. (2011), "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*, Vol. 37 No. 4, pp. 737-745.
- Cook, J., Copeland, M.E., Hamilton, M., Jonikas, J., Razzano, L., Floyd, C., Hudson, W., Macfarlane, R. and Grey, D. (2009), "Initial outcomes of a mental illness self-management program based on wellness recovery action planning", *Psychiatric Services*, Vol. 60 No. 2, pp. 246-249.
- Copeland, M.E. (2002), "Wellness recovery action plan: a system for monitoring, reducing and eliminating uncomfortable or dangerous physical symptoms and emotional feelings", *Occupational Therapy in Mental Health*, Vol. 17 Nos 3-4, pp. 127-150.
- Cuffel, B.J. (1996), "Comorbid substance use disorder: prevalence, patterns of use, and course", *New Directions for Mental Health Services*, Vol. 70 No. 10, pp. 93-105.
- Deane, M.W., Steadman, H.J., Borum, R., Veysey, B.M. and Morrissey, J.P. (1999), "Emerging partnerships between mental health and law enforcement.", *Psychiatric Services*, Vol. 50 No. 1, pp. 99-101.
- Ditton, P.M. (1999), *Special Report on the Mental Health and Treatment of Inmates and Probationers*, US Department of Justice, Bureau of Justice Statistics, Washington, DC.

- Draine, J., Wolff, N., Jacoby, J.E., Hartwell, S. and Duclos, C. (2005), "Understanding community re-entry of former prisoners with mental illness: a conceptual model to guide new research", *Behavioral Sciences & the Law*, Vol. 23 No. 5, pp. 689-707.
- Engel, R. and Silver, E. (2001), "Policing mentally disordered suspects: a re-examination of the criminalization hypothesis", *Criminology*, Vol. 39 No. 10, pp. 225-252.
- Finn, P.E. and Sullivan, M. (1988), *Police Response to Special Populations: Handling the Mentally Ill, Public Inebriate, and the Homeless*, National Institute of Justice, Research in Action Series, Washington, DC.
- Kesic, D., Thomas, S.D.M. and Ogloff, J.R.P. (2013), "Estimated rates of mental disorders in, and situation characteristics of, incidents of non-fatal use of force by police", *Social Psychiatry and Psychiatric Epidemiology*, Vol. 48 No. 2, pp. 225-232.
- Lamb, H.R., Weinberger, L.E. and DeCuir, W.J. (2002), "The police and mental health", *Psychiatric Services*, Vol. 53 No. 10, pp. 1266-1271.
- Leong, F.T.L. and Zachar, P. (1999), "Gender and opinions about mental illness as predictors of attitudes toward seeking professional psychological help", *British Journal of Guidance and Counselling*, Vol. 27 No. 1, pp. 123-132.
- MacDonald, J.M., Manz, P.W., Alpert, G.P. and Dunham, R.G. (2003), "Police use of force: examining the relationship between calls for service and the balance of police force and suspect resistance", *Journal of Criminal Justice*, Vol. 31 No. 2, pp. 119-127.
- Morabito, M.S., Kerr, A.N., Watson, A., Draine, J., Ottati, V. and Angell, B. (2012), "Crisis intervention teams and people with mental illness exploring the factors that influence the use of force", *Crime & Delinquency*, Vol. 58 No. 1, pp. 57-77.
- Ogloff, R.P. and Otto, R.K. (1989), "Mental health interventions in jails", in Keller, P. and Heyman, S.S. (Eds), *Innovations in Clinical Practice*, Professional Resource Exchange, Sarasota, FL, pp. 1-17.
- Perez, A., Leifman, S. and Estrada, A. (2003), "Reversing the criminalization of mental illness", *Crime and delinquency*, Vol. 49 No. 1, pp. 62-78.
- Rosenbaum, P.R. (2002), *Observational Studies*, 2nd ed., Springer, New York, NY.
- Rosenbaum, P.R. and Rubin, D.B. (1983), "The central role of the propensity score in observational studies for causal effects", *Biometrika*, Vol. 70 No. 1, pp. 41-55.
- Shattell, M.M., Harris, B., Beavers, J., Tomlinson, S.K., Prasek, L., Geevarghese, S., Emery, C.L. and Heyland, M. (2014), "A recovery-oriented alternative to hospital emergency departments for persons in emotional distress: the living room", *Issues in Mental Health Nursing*, Vol. 35 No. 10, pp. 4-12.
- Teller, J.L.S., Munetz, M.R., Gil, K.M. and Ritter, C. (2006), "Crisis intervention team training for police officers responding to mental disturbance calls", *Psychiatric Services*, Vol. 57 No. 2, pp. 232-237.
- Teplin, L.A. (2000), "Keeping the peace: police discretion and mentally ill persons", *National Institute of Justice Journal*, No. 10, pp. 9-15.
- Watson, A.C. (2010), "Research in the real world: studying Chicago police department's crisis intervention team program", *Research on Social Work Practice*, Vol. 20 No. 5, pp. 536-543.
- Wolff, N. (1998), "Interactions between mental health and law enforcement systems: problems and prospects for cooperation", *Journal of Health Politics, Policy and Law*, Vol. 23 No. 1, pp. 133-174.

About the authors

Luke Bonkiewicz is a Police Officer for the Lincoln Police Department. He has published research on drug markets, law enforcement's role in disasters, and how police officers interact with the

mentally ill. Luke Bonkiewicz is the corresponding author and can be contacted at: lukebonk@hotmail.com

Alan M. Green and Kasey Moyer are the Executive and Associate Directors for the Mental Health Association of Nebraska, an organization offering outreach to mental health consumers and resources to advocacy groups.

Joseph Wright is a former Lincoln Police Department Captain and current Director of Security for the Lincoln Public School. Captain Wright was instrumental in helping the Lincoln Police Department and Mental Health Association collaborate to better assist mental health consumers.