The Tucson Mental Health Investigative Support Team (MHIST) Model: A prevention focused approach to crisis and public safety

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Dr. Balfour is employed by ConnectionsAZ, which operates the Crisis Response Center. Sgt. Winsky is employed by the Tucson Police Department. Sgt. Isely is employed by the Pima County Sheriff's Office.

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ABSTRACT

While Crisis Intervention Team (CIT) programs provide law enforcement with tools to respond to mental health crisis, they are focused on the emergency response. The Tucson Mental Health Investigative Support Team (MHIST) model was developed following the 2011 shooting of U.S. Representative Gabrielle Giffords in order to prevent crises and associated threats to public safety via earlier intervention. Through the creation of dedicated teams and close collaboration with the mental health system, the Tucson Police Department and Pima County Sheriff's Office MHIST program achieved a 90% service rate for civil commitment transport orders with zero uses of force, a significant decrease in SWAT deployments to suicide-related calls, and case examples of averted threats to public safety. This model can be implemented along with CIT and Mental Health First Aid programs, adding to the continuum of solutions available to law enforcement for addressing mental health needs in the communities they serve.

INTRODUCTION

On January 8, 2011, Jared Loughner opened fire into a crowded supermarket parking lot in Tucson, Arizona. The attack left six dead and thirteen wounded, including U.S. Representative Gabrielle Giffords, his intended target. The resulting investigation would reveal that Loughner had been displaying signs of deteriorating mental health but did not receive needed evaluation and treatment, despite multiple encounters with school officials, campus police, and local law enforcement.

The Tucson community reacted initially with grief, followed by shock and disbelief. Tucson already had in place many programs and practices that communities today are still struggling to implement in order to avoid such tragedies. Arizona's mental health system ranked seventh in the nation in per capita spending (Governing, 2010) and had been steadily improving since a 1981 lawsuit required the state to provide a full continuum of services to people with serious mental illness (NAMI, 2009). Its involuntary commitment laws are among the strongest on the books (Treatment Advocacy Center, 2016). Tucson area law enforcement agencies had built one of the oldest and most respected Crisis Intervention Team (CIT) programs in the nation, with both the Pima County Sheriff's Office

(PCSO) and Tucson Police Department (TPD) having already trained over a quarter of their officers and deputies in accordance with the Memphis model (Dupont, Cochran, & Pillsbury, 2007). Yet, something was missing. Although CIT provided the tools to help officers respond to a person in behavioral health crisis, it seemed that with additional efforts, some crises might be prevented altogether.

To address this need, both law enforcement agencies enhanced their CIT program via the addition of prevention-focused Mental Health Investigative Support Teams (MHIST). This study describes the development, associated outcomes, and dissemination of this model.

METHODS

Study Design

This nonrandomized, pre-post interventional study describes outcome measures before and after the implementation of improvements to law enforcement services for individuals with mental health needs. Administrative data and case reports were analyzed during the study period, which ranged from 2011 to the first two quarters of 2016. As a quality improvement effort, this project was exempt from Institutional Review Board review and did not require informed consent.

Study Setting and Population

Tucson and surrounding Pima County is the second-largest metropolitan area in Arizona with a population of 980,000, 520,000 of which reside within Tucson. Pima County, designated as the Tucson Metropolitan Statistical Area, is comprised of the following racial demographics: 74.3% White, 3.5% Black or African American, 3.3% American Indian, 2.6% Asian, 0.2% Pacific Islander, 12.3% other races, and 3.7% from two or more races. Those of Hispanic or Latino origin comprise 34.6% of the population. (US Census Bureau, 2010). TPD services the city of Tucson with a force of 900 sworn officers and 200 civilian personnel. PCSO services approximately 9,000 square miles of unincorporated Pima County with a department of 500 commissioned deputies and 960 civilian personnel.

Defining the Problem

The investigation following the January 8 shooting identified a need to prevent people with mental health needs from "falling through the cracks" in the future. CIT had ensured that officers responded appropriately to individuals in crisis and transported those who posed an imminent danger to self or others to safety. However, the ability to intervene prior to the point of crisis or imminent danger was lacking. Two target populations were identified:

1) Individuals already involved in the civil commitment process. In Arizona, law enforcement is required to transport individuals to a mental health facility when a non-emergent application for court-ordered evaluation has been filed with the court or when individuals under Involuntary Outpatient Commitment (IOC)/Assisted Outpatient Treatment (AOT) have had their outpatient status revoked due to treatment non-adherence or clinical decompensation. (These transports are distinct from emergency transports initiated by field officers during a mental health crisis when there is an imminent risk of harm.) Investigations performed at both departments revealed that these orders were treated like any other routine warrant and assigned based on geographical location without regard to whether the assigned officers and deputies had received CIT training. Oftentimes the arrival of a uniformed officer, even if CIT trained, escalated the situation. If the individual wasn't home or had relocated to another precinct, the order wasn't prioritized for follow-up. The service rate for these orders was not tracked at the time, but it was estimated that only 30% were served before the court's 14-day expiration period. For those that were served, the use of personnel lacking mental health training or interest in this work resulted in preventable uses of force. In addition, people who would not come out of their homes were often considered barricaded individuals requiring Special Weapons and Tactics (SWAT) team deployment.

2) Individuals unconnected or under-connected to the mental health system that had not yet reached the point of crisis or imminent danger. Both agencies discovered that they were receiving calls categorized as domestic violence, public nuisance, vagrancy, etc. in which the underlying issue was a mental health need. Without a centralized tracking mechanism, patterns of escalating behavior could not be identified and targeted for proactive intervention. Furthermore, if a mental health need was recognized, patrol officers and deputies did not always know what to do. While CIT helped officers respond appropriately in a crisis when there was clearly an imminent risk of

harm to self or others, more advanced knowledge of complex civil commitment statutes and close relationships with mental health professionals were needed to proactively address sub-threshold cases.

Creation of MHIST Teams

PCSO created the first MHIST in the mid 2013, led by a SWAT veteran with over 20 years of experience. TPD MHIST was created in early 2014, led by the department's CIT Coordinator. The two departments worked together to develop the model, which consisted of two components: 1) *Support/Transport* focusing on the civil commitment population, and 2) *Investigation* focusing on the under-connected/sub-crisis population.

When building the teams, their leaders looked for veteran officers, with CIT training and experience in the civil system, and without histories of discipline problems, excessive force, or customer service complaints. An oral exam was developed to ensure an understanding of the population to be served. All of the initially selected officers and deputies had family members with serious mental illness.

The teams grew throughout the study period. Currently, PCSO MHIST is comprised of one sergeant, two deputies, and two detectives; TPD MHIST is comprised of one sergeant, six officers, and three detectives. The officers and deputies focus on the Support/Transport function while the detectives perform the Investigative function.

Support/Transport Function

The Support/Transport function of MHIST focused on the transportation of individuals involved in the civil commitment process, specifically non-emergent applications for admission for court ordered evaluation and revocation of outpatient status for individuals on IOC/AOT. All transport orders were assigned to MHIST as a centralized point of accountability. Core elements of the new program were as follows:

- All orders served by highly trained personnel with an interest in doing this work.
- Setting a goal of 100% order completion to encourage officers/deputies to be proactive in finding individuals and making sure they don't fall through the cracks.

- Centralized tracking of all orders to allow the team to prioritize based on potential for escalating danger to self or others.
- Serving orders in plainclothes and unmarked cars to avoid escalation and stigma.
- Developing relationships and rapport with frequently served individuals, resulting in less uses of force.
- A cultural shift in the approach to barricaded individuals, relying on rapport and de-escalation before considering SWAT.
- Disseminating information about active orders and recommended interventions so that field officers/deputies who happened to come into contact with the individual would have the information needed to serve the order safely.

Investigation Function

The Investigation function focused on individuals who needed to be connected or re-connected to the behavioral health system before the situation escalated into a crisis or need for criminal justice involvement. Investigative functions focused on two types of cases:

1) Mental health calls in which there was a potential criminal component or threat to public safety (e.g. danger to others). If there was an ongoing criminal investigation, MHIST employed a two-pronged approach in which MHIST detectives work with both the mental health and criminal justice systems to facilitate an outcome that meets the needs of the individual while also addressing public safety concerns (Figure 1).

2) Non-criminal cases that would not normally be investigated but may, if analyzed for patterns, indicate a mental health need (e.g. so-called "nuisance" complaints such as vagrancy, suspicious persons, frequent callers, etc.). Mental health circumstance codes were added to flag cases for review (e.g. a field officer determines that no crime was committed but "something doesn't look right."). If a mental health need was identified, detectives began looking for potential supports in the community with whom to collaborate – families, co-workers, prior case managers if the person has disengaged from services, etc.

For high-risk individuals, MHIST flagged the individual's name file, sent out alerts, and included information to assist officers/deputies who happened to encounter the individual in the field (e.g. specific triggers that may worsen agitation).

Collaboration with behavioral health system partners

Information sharing: Initially, outpatient behavioral health providers were reluctant to discuss specific individuals due to concerns about information sharing and privacy. By working closely with the Regional Behavioral Health Authority, MHIST was able to convince service providers of their intent to facilitate connection to needed services and prevent arrest whenever possible. As a non-HIPAA covered entity, MHIST focused on sharing information with behavioral health providers rather than receiving it (Patrila & Fader-Towe, 2010). MHIST officers were able to convey important information that behavioral health providers may not otherwise have (e.g., living conditions, neighborhood/community factors, access to firearms, patterns of prior 911 calls or law enforcement contacts that did not result in behavioral health services, etc.). Some individuals developed rapport with MHIST team members and signed consents allowing MHIST to participate in multidisciplinary treatment team meetings.

Receiving facility: A crisis facility easily accessible to law enforcement is a core element of successful pre-booking jail diversion efforts (Steadman et al., 2001). For this reason, the Crisis Response Center (CRC) was built in late 2011 with county bond funds and provides psychiatric triage, urgent care, and 23-hour observation services for 12,000 adults and 2,400 children annually. It is located on the Banner University Medical Center South Campus within a complex that houses a crisis call center, civil commitment court, inpatient psychiatric facility, and hospital emergency department. As the law enforcement receiving facility, the CRC has a strict no-refusal policy for law enforcement, no behavioral health exclusionary criteria, and accepts over 400 mental health transports per month with a median officer turnaround time of less than 10-minutes (Balfour, Tanner, Jurica, Rhoads, & Carson, 2015). As MHIST developed, team members worked closely with the CRC, creating processes to communicate critically important information to CRC clinicians who must make a determination regarding disposition within 24 hours. Conversely, as MHIST does not employ its own clinical staff, CRC psychiatrists and social services staff are available 24/7 for telephonic consultation to MHIST.

Crisis Mobile Teams: Tucson and surrounding Pima County is serviced by 11 Crisis Mobile Teams (CMTs), dispatched by a 24/7 crisis call center. CMTs are available to collaborate with MHIST and field officers/deputies in assessment, stabilization, connection to services, and welfare/follow-up checks. Wait times are a potential deterrent to law enforcement's utilization of these services (Steadman, Deane, Borum, & Morrissey, 2000). To mitigate this risk, the call center created a dedicated law enforcement line that connects directly to supervisor, and CMTs are held to a performance standard of 30 minutes from dispatch to arrival, half that of the standard for community-initiated dispatches.

Leadership collaborations: MHIST represents law enforcement in stakeholder forums and operational workgroups, collaborating closely with leaders from various system partners, including the Regional Behavioral Health Authority, CRC, CMTs, behavioral health providers, and advocacy organizations.

Data Analysis

Data was compiled from TPD and PCSO logs and analyzed using Microsoft Excel. Given that the two agencies had different data systems, definitions, and tracking mechanisms, TPD and PCSO data were analyzed separately, and differences in methods are noted in the figure legends.

RESULTS

Transport orders (Figure 2). Neither agency tracked data related to transport orders prior to the implementation of MHIST; thus baseline data is not available. Post-implementation, TPD MHIST achieved a service rate of 89-92% on transport orders while PCSO MHIST achieved 90-100%. Both agencies achieved zero uses of force. Data shown includes non-emergent civil commitment transport orders only. In addition to the data shown in Figure 2, TPD provided an additional 4,136 (2014) and 3,753 (2015) emergency transports, while PCSO served an additional 3,580 (2014) and 4,741 (2016) court orders to individuals already admitted to mental health facilities.

SWAT calls for suicidal barricades (Figures 3A-B). The number of calls to TPD significantly decreased from a rate of 14 per year during the pre-test 2 years (10 in 2012 and 18 in 2013) to 3 per year during the post-test 2 years (2 in

2014 and 4 in 2015). (Two Counts Poisson Distribution Test (Kanji, 2006), Z = 3.77, 95% CI, $p < 0.0001$). The percentage of total SWAT calls due to suicidal barricades decreased from 5.9% in 2012 and 10.4% in 2013 to less than 2% (1.1% in 2014 and 1.3% in 2015). PCSO calls decreased by half (12 in 2013 vs. 6 in 2014). However, comparisons of the two years pre and post implementation failed to reach statistical significance, as 2012 had an unusually low number of calls. 2011 data is shown for comparison.

Officer-involved shootings (Figure 4). The number of officer-involved shootings and associated fatalities had begun trending down prior to the creation of MHIST, and this downward trend continued.

Mental Health Investigations (Figure 5). The number of assigned to detectives for investigation increased yearly as more detectives were added to the teams, with TPD assigning 295 cases in Q1-2 2016 and PCSO assigning 319 in 2015. The number of cases reviewed by TPD MHIST detectives increased to 2,961 in Q1-2 2016 as the program moved from a referral-based system to routine review of select circumstance codes, similar to the process in use by PCSO.

Case Examples (Table 1). Representative case examples illustrate successful resolutions in which individuals were connected to treatment while averting threats to public safety and criminal proceedings.

DISCUSSION

The Tucson MHIST model moves beyond crisis response towards a more proactive and preventative approach to mental health crises and public safety. This model achieves its primary goal of connecting people to needed mental health services as evidenced by a 90% completion rate for civil commitment transport orders and case examples in which potential threats to public safety were averted by instead connecting individuals to needed mental health services. Risk to both law enforcement and service recipients was improved with uses of force approaching zero. In addition, the decreased use of SWAT for suicide-related calls resulted in financial savings of approximately $10,000 for each averted incident. Limitations of this study include a lack of baseline data for measures that were not reliably tracked prior to the implementation of MHIST and differences in data collection methods between agencies.

Law Enforcement's Role in Civil Commitment Processes

Law enforcement is often tasked with transporting individuals under civil commitment orders, yet their role in these processes has not been well studied. The MHIST Support/Transport function demonstrates that with a dedicated team and single point of accountability, transport order service rates are high, uses of force are low, and SWAT deployments are decreased. This strategy becomes increasingly relevant as more localities adopt or strengthen IOC/AOT implementations. IOC/AOT can be an effective intervention for a subset of patients when accompanied by processes that ensure adequate treatment (Swartz et al., 2015). Recently enacted federal legislation has appropriated funding to implement new IOC/AOT programs ("Protecting Access to Medicare Act," 2014) and potentially more incentives may be realized with the passage of pending Congressional bills with IOC/AOT provisions ("Helping Families in Mental Health Crisis Act," 2016).

Preventing Criminal Justice Involvement and Critical Incidents

People with mental illness are more likely to be victims rather than perpetrators of violent acts (Choe, Teplin, & Abram, 2008). Nevertheless there are high-profile cases in which people with untreated illness do commit violent acts, and people with mental illness may represent a quarter of officer-involved shooting fatalities (Lowery et al., 2015). These events result in tragic consequences for all involved and further perpetuate the stereotypes of mentally ill people as inherently dangerous (Metzl & MacLeish, 2015). Furthermore, the disproportionate representation of people with mental illness in the criminal justice system has been identified as a public health crisis (Dumont, Brockmann, Dickman, Alexander, & Rich, 2012).

The MHIST Investigative function takes a unique approach to these problems. While law enforcement's role in preventing or mitigating criminal justice involvement is typically limited to pre-booking diversion at the point of the emergency response (Munetz & Griffin, 2006), MHIST moves "upstream" with interventions designed to prevent the situation from developing to the point of requiring an emergency response. By investigating "nuisance" cases typically marginalized by law enforcement, MHIST is often able to recognize emerging patterns and facilitate connection with the behavioral health system before the situation escalates to a crisis or more serious criminal act. In many cases, criminal activity is avoided altogether. When criminal charges are necessary, MHIST remains

involved, collaborating with both the courts and behavioral health system to assist both in making decisions that best balance the individual's treatment needs and public safety. In addition to case examples of averted crises, critical incidents such as officer-involved shooting fatalities and suicide-related SWAT deployments have decreased.

Relationship to CIT and Mental Health First Aid

MHIST is not intended to be a replacement for CIT but rather an additional component in a continuum of solutions. The Tucson Model supports the recommendations of CIT International and the National Council for Behavioral Health that all officers/deputies participate in an eight-hour Mental Health First Aid (MHFA) for Public Safety course to ensure a baseline level of competence throughout the organization. Then, a selective process identifies a critical mass officers/deputies for CIT training in order to ensure a safe and effective crisis response (CIT International, 2016). Finally, the highly specialized MHIST teams focus on the prevention of behavioral health crises and related threats to public safety (Figure 6).

In the Tucson Model, MHIST is responsible for organizing and facilitating both the CIT and MHFA training programs. Currently, over half of each agency is CIT trained, and MHFA has been incorporated into the training academy. MHIST team members serve as a resource for both CIT and non-CIT officers/deputies in the field who have questions or need help with complex cases. MHIST also supports the modern paradigm of community policing (President's Task Force on 21st Century Policing, 2015), as team members forge positive relationships with citizen, advocacy, business, behavioral health, and criminal justice system stakeholders.

Dissemination

The Tucson MHIST team leaders have begun to disseminate this model to other law enforcement agencies in Arizona and across the U.S. In Arizona, MHIST-like teams have or are in process of being implemented by the Phoenix Police Department (Cassidy, 2016), Pinal County Sheriff's Department, and others. Representatives from municipalities in other states have begun visiting Tucson to learn the model (Quigley, 2015) and the New York City Police Department has reported preliminary success in replicating components of the MHIST model (Tobin, 2015).

Conclusions

The Tucson MHIST model adds to the continuum solutions available for law enforcement to address the behavioral health needs of the community it serves. While CIT focuses on crisis response, MHIST is designed to facilitate earlier intervention such that behavioral health crises and threats to public safety can be avoided before the need for an emergency response.

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FIGURE CAPTIONS

Figure 1: The MHIST Investigative Process. A two-pronged approach is employed for cases with both mental health and criminal components. MHIST detectives provide information to both the criminal justice systems and the mental health system, including the civil commitment process when indicated, to support the development of outcome that meets the needs of the individual while also addressing public safety concerns.

Figure 2. Mental Health Pickup Orders: Service Rate and Use of Force. Bar graphs depict the numbers of civil commitment transport orders served by Tucson Police Department (A) and Pima County Sheriff's Office (B). TPD data is broken down by orders served by MHIST officers versus served by patrol officers, which was made possible by MHIST's inclusion of the outstanding order in the individual's name file. The remaining orders were verified quashed (rescinded) by the mental health provider or not served. Most of the not served were determined to be transient and had left the jurisdiction. The dotted line depicts the service rate (number served divided by the total number of orders received excluding those which were verified as quashed). The solid line depicts the number of uses of force while serving a transport order. For both agencies, use of force is defined as any of the following: officer involved shooting, Taser, impact weapon, chemical weapon, control hold, other less lethal weapon. Prior to the creation of MHIST, data related to mental health orders was not tracked by either agency and thus baseline data is not available. 2016 data includes Q1 and Q2 (Jan-Jun). PCSO MHIST began Q3 2013 and TPD MHIST began Q1 2014.

Figure 3. SWAT Calls for Suicidal barricade. Calls to the Tucson Police Department (3A) and Pima County Sheriff's Office (3B) SWAT teams to respond to a barricaded subject reported to be suicidal. Each SWAT call incurs a cost of approximately $10,000. There was a significant decrease in TPD suicidal barricade calls. PCSO calls decreased by half but comparisons of the two years pre and post implementation failed to reach statistical significance, as 2012 had an unusually low number of calls (2011 data is shown for comparison). Figures 3C and 3D show downward trends in the number of officer involved shootings and associated fatalities. 2016 data includes Q1 and Q2 (Jan-Jun). PCSO MHIST began Q3 2013 and TPD MHIST began Q1 2014.

Figure 4. Officer-Involved Shooting Fatalities. Officer-involved shooting fatalities were trending downward and continued to do so following the implementation of MHIST.

Figure 5. Mental Health Investigations. Number of cases reviewed and then either closed or assigned to a detective further investigation. The Pima County Sherriff's Office created a MHIST Circumstance Code and added their first detectives in 2014. Tucson Police moved from a referral based system to routine review of cases with specific circumstance codes in 2016. 2016 data includes Q1 and Q2 (Jan-Jun).

Table 1. Mental Health Investigation Representative Case Examples

Figure 6: The Tucson MHIST Training Model. All officers receive basic training in Mental Health First Aid (MHFA). Select officers receive intermediate Crisis Intervention Training (CIT) and focus on response to behavioral health crises. A specialized MHIST team receives advanced training and focuses proactive recognition, investigation, and prevention of potential behavioral health crisis and associated threats to public safety.

Figure 1: The MHIST Investigative Process.

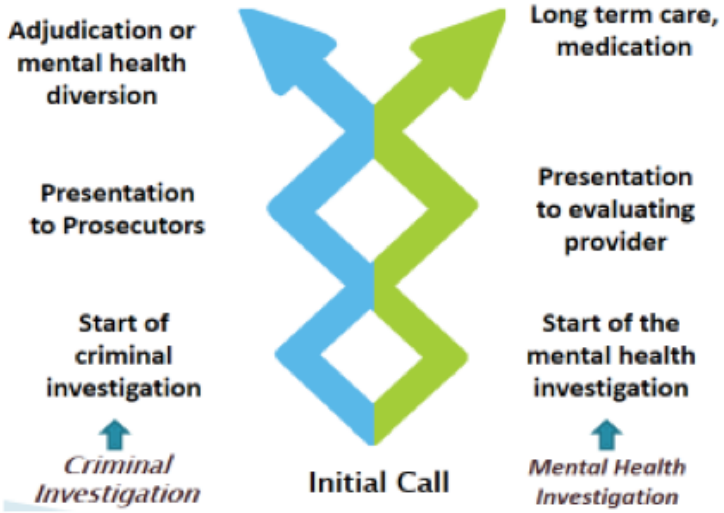

Figure 2. Mental Health Pickup Orders: Service Rate and Use of Force.

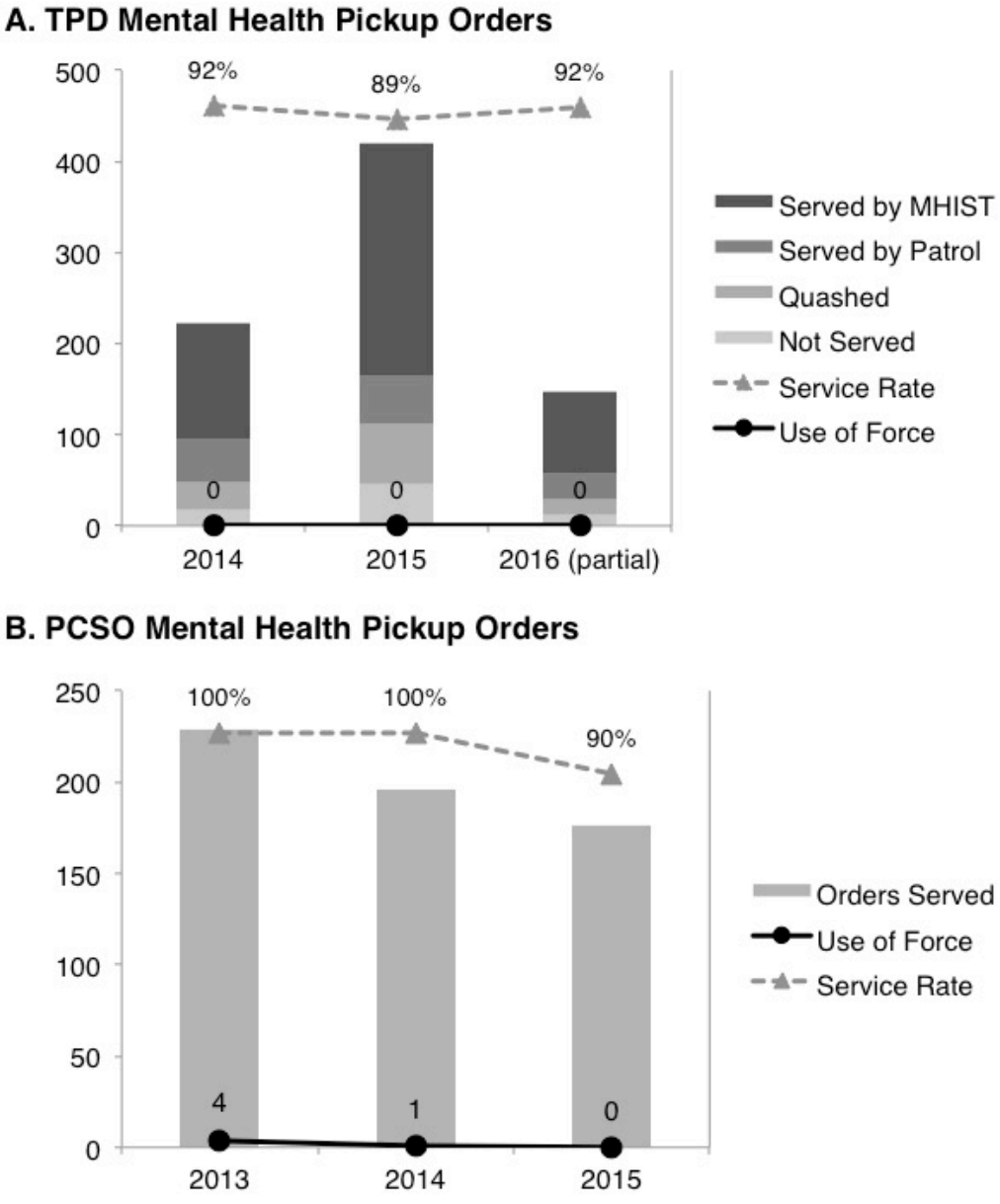

Figure 3. SWAT Calls for Suicidal Barricade

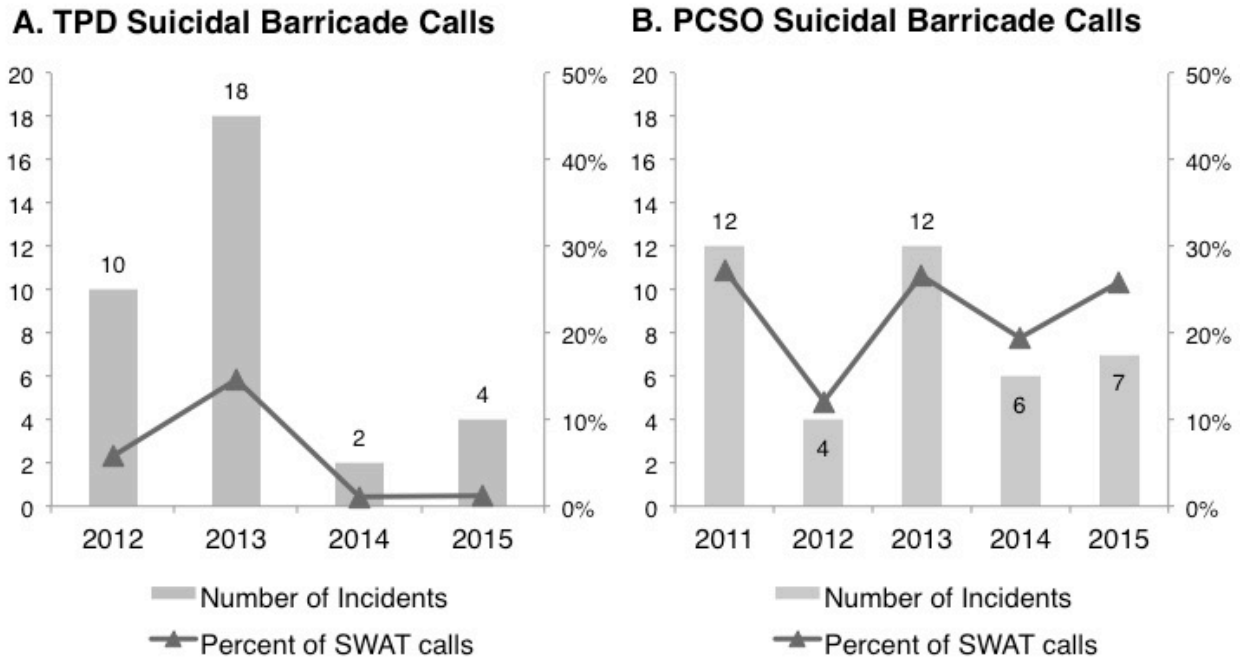

Figure 4. Officer Involved Shooting Fatalities

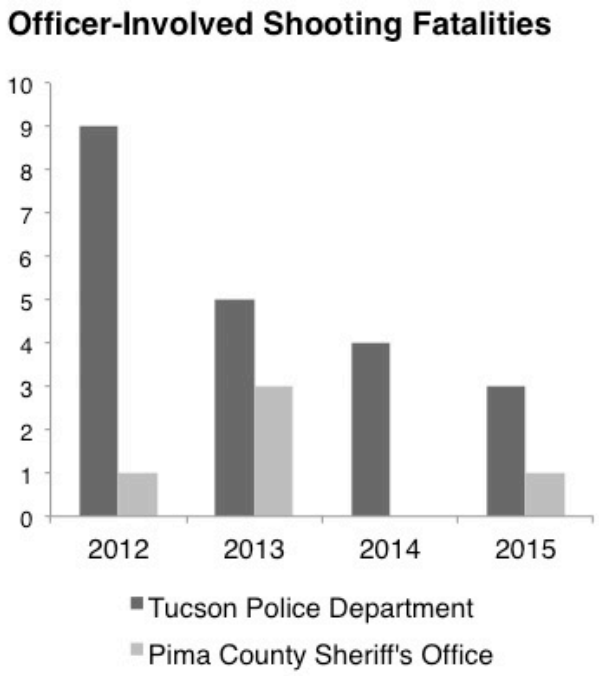

Figure 5. Mental Health Investigations.

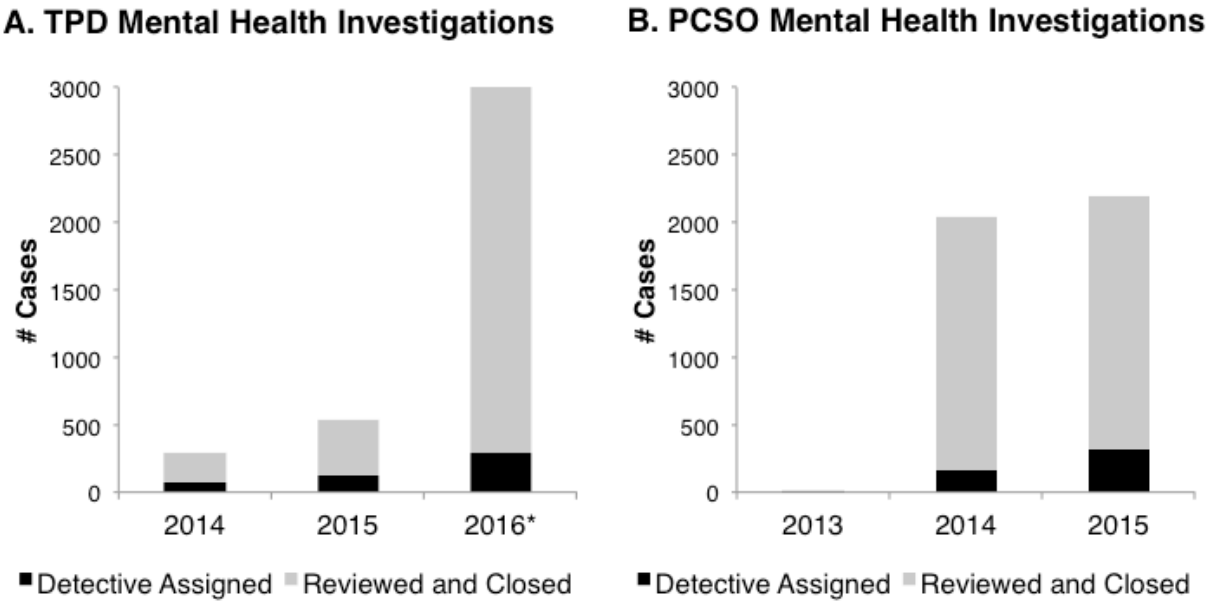

Table 1. Mental Health Investigation Representative Case Examples
Mr. J is a Marine veteran and an alternative student at a local community college. While using a computer at a campus library, he became frustrated when the librarian questioned whether he was an actual student. College police were summoned and escorted him off campus. Over the following weeks and months, Mr. J became fixated on this event and took his complaint to various officials, culminating in an email to his Congressman, threatening to "go Loughner." MHIST was activated and engaged with him with the help of a Crisis Mobile Team. He was transported to the Crisis Response Center and found to be suffering from severe PTSD. He was re-connected to services at the VA, where he had not been for over a year. Via the MHIST two-pronged investigative process, criminal proceedings were avoided. MHIST continues to regularly check on Mr. J, who remains engaged in treatment and is attending classes at the college. Mrs. P. had been recently fired from her job as a technician at an electronics manufacturing plant. Neighbors called 911 reporting various disturbances. MHIST reached out to her family and discovered she was purchasing firearms and making statements that she believed her co-workers had conspired to get her fired. With the help of a Crisis Mobile Team, MHIST safely facilitated her transport to the Crisis Response Center for psychiatric evaluation. In part due to the information MHIST collected, the CRC staff determined she was paranoid due to new onset bipolar disorder and had been planning a mass shooting at her former workplace. She was admitted for treatment via the civil commitment process. A mass casualty was averted without the need for criminal proceedings, and she is prohibited from possessing firearms per ARS 13-3101(A)(7).

Figure 6: The Tucson MHIST Training Model.