The PII Solution to Mental Healthcare Delivery: Prevention, Intervention, and Integration

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EXECUTIVE SUMMARY

In this essay, the author proposes a new, integrated model for mental healthcare delivery called the PII solution, which builds on the successes of federal government programs and state initiatives. The PII solution includes prevention, intervention, and integration. As a community-centered approach, PII leverages existing programs in concert with new approaches to meet the diverse needs of patients with the spectrum of mental health disorders, from low risk to high risk. The PII solution can be applied to any subgroup in society to create a comprehensive plan to combat mental illness. In this essay, the author uses the PII solution to (a) build upon public–private partnership initiatives that have reduced emergency department utilization and costs for behavioral health patients, (b) improve law enforcement’s proficiency in identifying and deescalating situations involving potentially violent individuals with a serious mental illness, and (c) advocate for increased social responsibility of providers to ensure that mentally ill patients are receiving the right care in the right setting.

For more information about the concepts in this essay, contact Ms. King at miraking@gwu.edu. Ms. King is the first-place winner of the graduate division of the 2017 ACHE Richard J. Stull Student Essay Competition in Healthcare Management. For more information about this competition, contact Sheila T. Brown at (312) 424-9316. The author declares no conflict of interest. © 2017 Foundation of the American College of Healthcare Executives DOI: 10.1097/JHM-D-17-00075
INTRODUCTION

Comprehensive changes are needed in the way we perceive and deliver mental health services in the United States. We do not have a cohesive, sustainable, and adequate model of care, and millions of people who have mental illness remain without treatment. Our current healthcare system that is focused on acute care is failing to meet the unique needs of the mentally ill population. The number of psychiatric beds has dropped drastically over time, providers are in short supply, and disparities in access persist—all of which contribute to the current state of mental health service delivery. Mentally ill patients are left untreated, have worsening outcomes, and are more prone to be involved in violent acts.

By default, the burden to deal with this vulnerable population has fallen on the criminal justice system. Many patients with a serious mental illness (SMI) are in jails and prisons nationwide. Many mental illnesses are complex and require a multifaceted treatment approach that leverages the abilities of all stakeholders. This approach requires public–private partnerships developed through collaborative efforts with hospitals and the state to ensure that the right care is delivered to the right patient at the right time. Providers need to develop an increased sense of social responsibility to ensure that patients with an SMI receive care through a population health and coordinated care approach.

The PII framework—prevention, intervention, and integration—is an alternative model for the triage and care of mentally ill patients who face the risk of being incarcerated, as well as the reintegration of these individuals into society. The goals of the PII solution are to:

- reduce the number of people with an SMI in prisons and jails,
- increase the ability of law enforcement teams to recognize signs that someone may have a mental illness,
- successfully rehabilitate patients and reintegrate them into the community, and
- reduce emergency department (ED) utilization and costs attributed to SMI patients.

DEFINITION OF THE PROBLEM

This essay focuses on a category of mental illnesses known as a serious mental illness (SMI). The Substance Abuse and Mental Health Services Administration (SAMHSA, 2016) defines this as "a diagnosable mental, behavioral, or emotional disorder that causes serious functional impairment that substantially interferes with or limits one or more major life activities. SMIs include major depression, schizophrenia, and bipolar disorder, and other mental disorders that cause serious impairment." The Diagnostic and Statistical Manual of Mental Disorders provides DSM-IV Codes for the diagnosis of a full range of mental disorders, including SMI conditions.

In 2014, an estimated 9.8 million adults (4.1%) 18 years and older had an SMI (SAMHSA, 2016). SMI costs the United States $193.2 billion in lost earnings every year (U.S. Department of Health and Human Services, 1999). This tremendous economic loss does not take into account the cost of healthcare spending. The Agency for Healthcare Research and Quality (2006) reported that mental disorders were one of the five most costly conditions in the United States in 2006,
with care expenditures rising from $35.2 billion in 1996 to $57.5 billion in 2006. The data show that people with an SMI are more likely to be homeless, unemployed, or arrested, and their healthcare costs are high compared with costs for those without mental illness (Glaze & James, 2006).

CORPORATE CITIZENSHIP
Healthcare executives must position themselves as corporate citizens and act on their social responsibility to care for patients diagnosed with an SMI. This responsibility involves collaborating with the state and law enforcement to create public–private partnerships to ensure that patients receive the right care in the most appropriate, controlled, and safe environments. Hospital EDs, prisons, and jails are not appropriate settings in which to treat mental disorders; however, many SMI patients are in these facilities and do not receive the specialized treatment they need (Hackman et al., 2006).

Many patients with mental disorders end up becoming “superutilizers” of healthcare services. 40.7% of ED superutilizers are patients with an SMI diagnosis (Johnson et al., 2015). These patients are characterized by their frequent visits to the ED, long inpatient stays, and high costs for the healthcare organization. The estimated annual cost of untreated mental illnesses is $70 billion, which is more than the total direct costs of treating mental illnesses, approximately $55 billion a year (Bayer, 2005). The costs associated with untreated mental illnesses are attributed to overutilization of ED services, absenteeism from work, low productivity, and so forth. In 2010, the global cost of mental health conditions was estimated at $2.5 trillion; this cost is projected to surge to $6 trillion by 2030 (Bloom et al., 2011).

Many studies have identified an association between SMI and acts of violence (Treatment Advocacy Center, 2014a). The literature reveals that nonadherence with medication increases the violence risk (Witt, Van Dorn, & Fazel, 2013). Hence, violence can be deemed to be a probable symptom of SMI that can be diminished once the condition is treated. Often, SMI patients who have violent episodes find themselves entangled with the criminal justice system and are largely overrepresented in correctional institutions (Prins, 2011). Providers must seek to mitigate this serious health issue in the interest of this vulnerable group of patients. The healthcare field must improve access to treatment through public–private partnerships and community-based approaches that will bring care to patients to prevent harm to themselves or others and encounters with law enforcement.

A BRIEF HISTORY OF MENTAL HEALTH
Mental healthcare in the United States has a grim past characterized by overcrowded and understaffed asylums, controversial psychopharmacotherapy, and incarceration of patients with mental disorders. Before the 18th century, neither the medical profession nor society understood how to rehabilitate and care for mentally ill individuals (Public Broadcasting Service [PBS], 2012). Heavy stigmatization of mental illnesses was prevalent, and psychiatric patients were detained in jails, almshouses, and private homes without receiving appropriate treatment (PBS, 2012). The conditions to which they were subjected were so grievous that in the 1840s activist Dorothea Dix lobbied on behalf of the mentally ill after witnessing the dangerous and unhealthy conditions in which
many patients in Massachusetts lived (Parry, 2006). Dix observed that mentally ill men and women of all ages were “in cages, closets, cellars, stalls, pens! Chained, naked, beaten with rods, and lashed into obedience” (Dix, 1843). She presented these findings before the Massachusetts Legislature to make her case for state-supported care (U.S. History, 2016). Largely because of Dix’s efforts, the U.S. government agreed to fund the construction of 32 state psychiatric hospitals to institutionalize individuals who had a mental illness (Parry, 2006). However, although these institutions increased access to mental health services and lifted the burden off families, these facilities, termed asylums, became so overcrowded that living conditions declined to such an extent as to be described as “inhumane” (Michel, 1995). The accounts of abusive asylum conditions led to the “moral treatment” philosophy, which emphasizes the need for a compassionate-care, physician–patient relationship symbolized by the name change from asylum to hospital in 1892 (Bragg & Cohen, 2007).

The paradigm of mental health services shifted from an asylum-based model to a deinstitutionalized model that is community oriented and encompasses outpatient treatment (Novella, 2010). Deinstitutionalization can be defined as the “transfer of mentally disabled people from public or private institutions, such as psychiatric hospitals, back to their families or into community-based homes” (Stiker, & Rogers, 2013). Deinstitutionalization was codified by the Community Mental Health Centers Act of 1963 and facilitated by the development of antipsychotic drugs, which controlled symptoms to allow patients to live more successfully and independently (PBS, 2012). Many state psychiatric hospitals closed, which resulted in a decline in the number of institutionalized mentally ill people in the United States from a peak of 560,000 in the mid-1950s to just over 130,000 by 1980 (PBS, 2012).

The influx of mental health patients into jails and prisons has led many researchers and policymakers to delineate a linkage between deinstitutionalization and increased incarceration rates, a phenomenon known as transinstitutionalization (Prins, 2011). Per this theory, the effects of deinstitutionalization combined with the lack of adequate community-based mental healthcare programs have forced the criminal justice system to fill in the gap by using prisons and jails to provide a structured and highly supervised environment for a subset of the SMI population (Prins, 2011).

**The Current State of Mental Health**

Torrey, Kennard, Eslinger, Lamb, and Pavle (2010) conducted a study in which they found that more mentally ill people are in jails and prisons than in hospitals. The wave of deinstitutionalization across the nation may have resulted in a reversal of the initial progress toward increasing access to mental healthcare. Since the 19th century, the number of mentally ill people who are homeless and in jails has surged (Interlandi, 2012). Lamb and Weinberger (2005) stated that the number of state psychiatric hospital beds dropped from 339 in 1955 to 22 in 2000 per 100,000 people. The number of mentally ill inmates in local jails and prisoners in state and federal prisons per 100,000 people rose from 209 in 1978 to 708 in 2000 (Lamb & Weinberger, 2005).
A special report by the Bureau of Justice Statistics (Glaze & James, 2006) revealed that 56% of state prisoners, 45% of federal prisoners, and 64% of jail inmates had a mental health problem. The prevalence of an SMI such as major depression, schizophrenia, and bipolar disorder in U.S. jails has been estimated to be 14.5% for men and 31% for women (Steadman, Osher, Robbins, Case, & Samuels, 2009). According to Mental Health America (MHA, 2016), Arkansas, Mississippi, and Alabama have the highest rates of imprisonment and the lowest access to care. More than 57,000 people with mental health conditions are in prisons or jails in those three states alone (MHA, 2016).

Evidence shows that mentally ill inmates cost more than nonmentally ill inmates for a variety of reasons, including increased staffing needs (Torrey et al., 2010). For instance, in Broward County, Florida, a regular inmate costs the state $80 a day, whereas an inmate with a mental illness costs $130 a day (Treatment Advocacy Center, 2014b). In Texas prisons, the average prisoner costs the state about $22,000 a year, but costs for prisoners with mental illness range from $30,000 to $50,000 a year (Torrey et al., 2010).

According to MHA (2016), one in five adults experiences a mental health condition every year. One in 17 adults in the United States lives with an SMI such as schizophrenia or bipolar disorder. The stigma attached to mental illness is a major barrier to accessing mental health services. Other barriers to care are shortages in the number of accessible providers, facilities, and beds, as well as socioeconomic disparities and lack of education. These challenges are compounded for patients who have been detained.

**THE PII SOLUTION**

The PII solution is a holistic, integrated, and scalable solution that provides a framework for mental healthcare delivery (Figure 1).

**Prevention**

There is no health without mental health. Many governmental agencies and private organizations are dedicated to the prevention of mental health conditions through advocacy, evidence-based mental illness prevention programs, and increased access to social support services. Such programs have had positive effects on children and families by strengthening the social determinants of mental health (e.g., education, financial stability, safe communities; MHA, 2016). Organizations such as MHA, the National Alliance on Mental Illness, and the federal agency SAMHSA all work to improve the mental health of populations through education, advocacy, and

![Figure 1: The PII Solution: Prevention, Intervention, and Integration](image-url)
service. Their efforts are supported by legislative frameworks such as the National Mental Health Act (1946), California’s Laura’s Law (2002), and the Mental Retardation Facilities and Community Health Centers Construction Act (1963), which enable these organizations to fulfill their mandate. Evidence shows that patient education interventions can reduce ED use by 20%–80% (Center for Evidence-Based Policy, 2015).

The prevention strategy of the PII solution counters the stigma attached to mental illness and leverages these programs and organizations. The goals of the prevention strategy are to

- raise awareness in communities that have high crime rates,
- direct residents to supportive resources that can improve the social determinants of health,
- coordinate efforts among organizations to roll out a robust mental health prevention campaign in communities,
- combat the stigma of mental illnesses through success stories of people who have overcome the illness,
- incorporate mental health education into school curricula, and
- reduce overutilization of ED services by directing patients to other resources.

Counties can seek the assistance of these mental health organizations to plan a robust prevention campaign in their communities by highlighting the prevalence of mental illness, especially among inmates and prisoners. The intent is to educate the public about the signs and symptoms of mental illnesses and to encourage family members to seek help for loved ones who may be exhibiting signs so that they do not have encounters with the criminal justice system.

Some key performance metrics that demonstrate the success of prevention initiatives are the following:

- A reduction in the number of mentally ill people in prisons and jails
- An increase in the number of people seeking mental health treatment in inpatient and outpatient facilities
- Increased engagement by families and communities in restoring the mental health of loved ones
- An increased number of community-run mental health programs
- A reduction in the percentage of superutilizers of healthcare who have mental disorders
- Increased cost savings from reduced numbers of SMI patients treated in the ED

**Intervention**

In most states, there is no concerted effort between law enforcement and healthcare providers to properly triage 911 calls. Ten percent of all emergency calls to police involve individuals with an SMI (Watson & Fulambarker, 2012). Police officers are not adequately trained to readily distinguish between someone with an SMI who is violent and someone who has criminal intent and is violent (Rothkopf, 2014). Surveys of officers confirm that they need more training to respond to mental health crises (Wells & Schafer, 2006). Consequently, there has been a spike in the number of people with mental illnesses who have been placed in jails and prisons for deviant behavior during the past century. To effectively triage these
hard-to-decipher mental health cases, I propose that states adopt the following three tiered strategies to reduce the arrest and incarceration rates among mentally ill people:

1. Adopt the Psychiatric Emergency Response Team (PERT) to accompany law enforcement officers to better triage mental health cases (San Diego County Mental Health, 2016).
2. Adopt the Crisis Intervention Team (CIT) model of police response to mental health crises (Watson & Fulambarker, 2012).
3. Use assisted outpatient treatment (AOT) to treat and rehabilitate people back into the community (Treatment Advocacy Center, 2011).

These strategies aim to help law enforcement identify and effectively respond to situations involving individuals who are suspected of being mentally ill or are verifiably mentally ill and other people in crisis. The goal is to avoid unnecessary violence and potential civil litigation, as well as to ensure that proper medical attention is provided (Albuquerque Police Department, 2013). Studies have shown that prehospital diversion interventions have reduced ED use by 7% (Center for Evidence-Based Policy, 2015). Some key performance indicators to measure the success of the intervention strategies are the

1. number of new PERT units per jurisdiction per year,
2. number of new CIT programs implemented per jurisdiction per year,
3. number of deescalated events reported by the PERT unit,
4. number of states that enact the AOT,
5. percentage of inmates and prisoners with a mental illness, and
6. percentage ED utilization by SMI patients.

**PERT Model**

San Diego County, California, uses a collaborative model of law enforcement and health professionals to respond to emergency calls and identify and deescalate mental health cases. PERT pairs licensed mental health clinicians with uniformed law enforcement officers or deputies to “evaluate the situation, assess the individual’s mental health condition and needs, and, if appropriate, transport [the] individual to a hospital or other treatment center, or refer him/her to a community-based resource or treatment facility” (County of San Diego Health and Human Services Agency, 2016). The officers do not receive training themselves but rely on the expertise of the accompanying clinician.

I believe the PERT model should become a standard component of every law enforcement jurisdiction in counties. PERT units should be expanded to provide 24/7 coverage to meet the specific needs of jurisdictions. Although no longitudinal studies have been conducted to provide quantitative evidence of its success, PERT teams are known to be critical to directing people in need to mental health resources and treatment (Álvarez, 2015).

**CIT Model**

Building on the PERT model is the CIT model, which encompasses more than adding clinicians to work alongside law enforcement officers. The CIT program trains officers to appropriately triage mental health cases. The primary goals of the model are “to increase safety in encounters
and when appropriate, divert persons with mental illnesses from the criminal justice system to mental health treatment” (Watson & Fulambarker, 2012, p. 2). In the CIT model, officers volunteer to receive 40 hours of training in signs and symptoms of mental illnesses, mental health treatment, co-occurring disorders, legal issues, and de-escalation techniques (Watson & Fulambarker, 2012).

An overview of CIT should be included in the initial training of all law enforcement officers, and a full CIT training program should be offered to officers who want to become certified. States that wish to implement the CIT model must develop dispatch protocols, because emergency communications (911 dispatch) is generally a separate agency or department operated independently of the police department (Watson & Fulambarker, 2012).

In Memphis, evidence suggests that the CIT program reduced arrests and increased safety and diversion to mental health services (Dupont & Cochran, 2000). According to Watson and Fulambarker (2012, p. 1), the CIT model has “been successfully utilized in many law enforcement agencies worldwide and is considered a ‘best practice’ model in law enforcement.”

**AOT Model**

AOT is the final stage of the intervention strategy. Also known as “involuntary outpatient treatment” or “outpatient commitment,” AOT is a court-supervised treatment in the community (Treatment Advocacy Center, 2016). AOT’s aim is to ensure that people with an SMI who are at high risk of self-harm or harming others adhere to treatment regimens in the community. AOT also helps to make sure that individuals with an SMI who are released from hospitals, jails, or prisons receive the treatment they need to avoid relapse (Torrey et al., 2010). Individualized care plans are developed by physicians for patients and typically include case management, personal therapy, medication, and other tools known to promote recovery (Treatment Advocacy Center, 2016).

AOT has been proven to be highly effective in reducing arrest rates of the mentally ill (Torrey et al., 2010). In North Carolina, a one-year study of outpatient commitment showed that among a subgroup with a history of hospitalizations who had also been arrested or who had been violent, the arrest rate was 47% for those in the control group, 44% for those with brief outpatient commitment, and 12% for those with extended outpatient commitment (Swanson, et al., 2001). AOT can help reduce incarceration. Several studies have also documented that AOT can reduce hospitalizations and the cost of care for mentally ill patients. In a 6-month AOT study in New York, the hospitalization rate dropped from 74% to 36% (Esposito, Geller, & Ragosta, 2012).

Apart from Connecticut, Maryland, Massachusetts, and Tennessee, every state and the District of Columbia have enacted laws to authorize the use of AOT (Treatment Advocacy Center, 2016). I recommend that these states enact AOT laws to ensure that the high-need subset of the population receives mental health treatment. The Treatment Advocacy Center (2016) stated that the “Department of Justice, Office of Justice Programs and SAMHSA have deemed AOT to be an evidence-based practice, and its use has been endorsed by the American Psychiatric Association, American College of
Emergency Physicians, International Association of Chiefs of Police, National Sheriffs’ Association and National Alliance on Mental Illness.”

Integration
Integration, the third strategy in the PII solution, serves to create a continuum of care and reintegrate patients with SMI into the community after they have been discharged from the hospital or released from prisons or jails. To accomplish this, telehealth can be leveraged to monitor patients at a lower cost while they receive case management interventions in the community. Telehealth can help bring the provider to the patient and improve access to care. Studies have shown that telehealth results in cost savings for office visits, ED visits, and hospitalizations (Choudhry, Milstein, & Gagne, 2015).

In addition, a database serving as a referral system should be created at the county level. This system has predictive analytic capabilities and also tracks SMI patients and notifies their providers whenever they have an encounter with law enforcement or the healthcare system. This monitoring capability will allow healthcare providers to maintain a relationship with the patient and provide the support needed to reintegrate them into the community. The referral system should match patients to mental health organizations and resources in the community based on their particular needs. Such a system can be modeled after the National Mental Health Database System, which is used to store data about veterans who are treated for post-traumatic stress disorder (U.S. Department of Veterans Affairs, 2015). The data analytics capability of such a system will help to advance population health initiatives and provide insight into mental health behavior and patterns that can advance research on mental illnesses.

Law enforcement and PERT units can also use such a system to direct patients to appropriate AOT facilities, mental health resources, inpatient facilities with available beds, and outpatient facilities in their communities. The referral system bridges the gaps between the patient, provider, and mental health services to create a continuum of care based on accurate and real-time data. This information should feed into a national data bank, with the ultimate goal of providing a complete picture of the mental health landscape on a national level.

Conclusion
Many people who have an SMI find themselves locked in correctional institutions owing to a combination of factors, including the lasting effects of the deinstitutionalization of mental health services in the 20th century. This deinstitutionalization widened the access gap to mental healthcare by reducing the number of state inpatient mental health facilities. Prisons and jails, which provide a highly supervised and structured environment, became a replacement for these healthcare institutions. People who have an SMI require a controlled environment for treatment. Although prisons and jails provide a controlled environment, they are no place for patients to receive holistic and specialized care. A large percentage of them are, in fact, mentally ill and deteriorate while detained or when released because of the lack of access to care and the inability to rehabilitate. Healthcare providers must find ways to meet the needs of SMI
patients and prevent avoidable detain-
ment that occurs as a result of violent, un-
treated mental health episodes.

This essay presents a model of mental healthcare delivery called the PII solution, which coordinates prevention, intervention, and integration strategies to meet the needs of the mentally ill population through public–private partnerships and heightened corporate citizenship. Healthcare providers and others can use the PII solution to serve the marginalized population of individuals who have an SMI and are at a high risk of becoming detained and those who need to be reintegrated into society. For the prevention strategy, I recommend a robust educational cam-
paign in which local mental health organi-
zations collaborate to combat the stigma of mental illness to help people in need seek treatment.

Three intervention strategies were de-
tailed with the goal of reducing the incar-
ceration rates of mentally ill people. Law enforcement should implement PERT, and officers should be offered the oppor-
tunity to receive CIT training. States need to enact and provide support for the AOT laws. Finally, integration is the last strategy of the PII solution, and it encompasses telehealth and a referral system to create a continuum of care for each SMI patient. The data generated can also further popu-
lation health initiatives and research into mental illness.

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