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Gala True

Department of Veterans Affairs, South Central Mental Illness Research Education and Clinical Center

Rosemary Frasso

Thomas Jefferson University

Sara W. Cullen

University of Pennsylvania

Richard C. Hermann

Tufts University

Steven C. Marcus

University of Pennsylvania

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Adverse Events in Veterans Affairs Inpatient Psychiatric Units: Staff Perspectives on Contributing and Protective Factors

Gala True, PhD¹, Rosemary Frasso, PhD², Sara Cullen, PhD³, Richard C. Hermann, MD, MS⁴, and Steven Marcus, PhD³

¹School of Medicine, Tulane University, New Orleans, LA

²School of Population Health, Jefferson University, Philadelphia, PA

³School of Social Practice & Policy, University of Pennsylvania, Philadelphia, Pennsylvania

⁴Tufts University School of Medicine, Boston, Massachusetts

Abstract

Objectives—This study sought to identify risk factors and protective factors in hospital-based mental health settings in the Veterans Health Administration (VHA), with the goal of informing interventions to improve care of persons with serious mental illness.

Methods—Twenty key informants from a stratified sample of 7 VHA inpatient psychiatric units were interviewed to gain their insights on causes of patient safety events and the factors that constrain or facilitate patient safety efforts.

Results—Respondents identified threats to patient safety at the system-, provider-, and patient-levels. Protective factors that, when in place, made patient safety events less likely to occur included: promoting a culture of safety; advocating for patient-centeredness; and engaging administrators and organizational leadership to champion these changes.

Conclusions—Findings highlight the impact of systems-level policies and procedures on safety in inpatient mental health care. Engaging all stakeholders, including patients, in patient safety efforts and establishing a culture of safety will help improve the quality of inpatient psychiatric care. Successful implementation of changes require the knowledge of local experts most closely involved in patient care, as well as support and buy-in from organizational leadership.

Keywords

inpatient psychiatry; mental health care; patient safety

All correspondence should be directed to Gala True at Tulane University, School of Medicine (address: 1430 Tulane Ave., SL-16, New Orleans, LA 70112; telephone: 504-988-3474; Jennifer.True2@va.gov).

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Disclosures

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1. INTRODUCTION

Adverse events occurring in inpatient psychiatric care settings make substantial contributions to mortality, morbidity, and health care costs.¹⁻³ However, there is a limited understanding of what contributes to patient safety events that occur in the inpatient mental health care setting and how to best prevent them.

Much of the existing research on patient safety in mental health care has focused on describing and quantifying the most common types of errors or adverse events, such as medication errors,⁴ adverse events,⁵ self-harm,⁶ falls,⁷ and violence.^{8,9} These and other studies have also identified some of the patient,⁷ provider and unit⁵ factors that contribute to causing the events. For example, a recent Finnish study, comprised of semi-structured interviews with nurses in two psychiatric hospitals noted the crucial role of the care environment and adequate staffing resources.¹⁰ Exploratory interviews with key informants in the psychiatric unit at two Pennsylvania hospitals established a preliminary typology of some of the contextual factors influencing safety events, including provider communication, staff experience, stigma toward psychiatric patients, and patient medical comorbidity.¹¹ While these studies have contributed to our understanding of patient safety in hospital-based mental health care, what remains missing from the literature is a unified focus on how patient, provider and system factors interrelate and more importantly, how they can be appropriately considered when planning interventions to reduce patient safety events.

There are more than 100,000 discharges annually from inpatient psychiatric units within the Veterans Health Administration (VHA), one of the largest integrated health care systems in the country.¹² Using qualitative methods, we conducted interviews with key informants in a targeted sample of VHA hospitals with inpatient psychiatric units. The specific aim of the study was to identify risk factors and protective factors, along with the mechanisms by which they relate to patient safety events in this setting in order to inform interventions geared toward improving quality of care for persons with serious mental illness.

2. METHODS

2.1 Study Sites and Key Informants

We selected an initial stratified random sample including 8 out of 105 inpatient psychiatric units in VHA acute care medical centers by creating four quartiles based on the number of annual inpatient psychiatric discharges in each facility (range 293–2893) and selecting two sites from each quartile. Two sites declined to participate and were replaced with new random selections from the same quartile. One facility was ultimately not able to participate before the end of the study period. While site selection was random, all five regions of the continental United States were represented, with one site in the Northeast, one in the Southeast, two in the Midwest, two in the West, and one in the Southwest. At participating sites, we first interviewed the medical director from each unit and then asked him or her to identify additional key informants (e.g. nurse manager, staff nurses) at their facility with experience in administration and frontline psychiatric patient care. All participants were selected based on their ability to provide first-hand knowledge and unique clinical insight on the nature, cause and preventability of patient safety events occurring in this setting. Our

objective was to have broad representation of hospitals, as well as to have a sufficiently large sample to reach data saturation (i.e., the point at which no new themes were emerging in the interviews).¹³

The study was approved by the VHA Central Institutional Review Board.

2.2 Interviews

An interview guide was developed through a literature review and expert consultation. It was informed by a conceptual model adapted from Runciman and colleagues,^{14,15} which posits that risks may originate from patient, provider, system, or a combination of factors but must penetrate defenses in the treatment environment in order to result in a patient safety event.

The interviews began by emphasizing that the inpatient psychiatric unit is meant to be a therapeutic environment that should keep patients safe from harm. In this context we defined the occurrence of a patient safety event as when something goes wrong and/or a patient is harmed in some way. Interviewees were asked to tell us about memorable patient safety events including, but not limited to medication errors, serious adverse drug reactions, patient assaults, self-harm, and falls that occurred on their unit. We asked respondents to reflect on each event and describe what they thought caused the event, how it might have been prevented, and the policy and procedural challenges that were encountered when trying to put prevention efforts into place. We also asked about the specific patient, provider, and system factors that make it more likely for these types of events to occur. Interviews were digitally recorded, professionally transcribed, and then entered into NVivo,¹⁶ a software program used to facilitate qualitative analysis.

2.3 Data Analysis

The coding of interviews was guided by an iterative process of directed content analysis.¹⁷ The coders (two of whom were study authors) conducted line-by-line open coding of early transcripts to inform the development of a code book which contained code definitions, examples and coding rules. The code book was added to and refined as needed when review of later transcripts revealed new information. The final code book was applied to the entire data set independently by two coders. Inter-coder reliability was assessed during the coding process and discrepancies were resolved by consensus. Final inter-coder reliability¹⁸ was nearly perfect (mean $\kappa=0.96$).

3. RESULTS

Twenty participants were interviewed from 7 facilities. Respondents included the director of inpatient mental health from each site, all of whom were psychiatrists (n=7) and nurses who were in both management and staff positions (n=13). We identified two broad thematic domains related to patient safety: *risks* – threats to patient safety events at the system-, provider-, and patient-level; and *protective factors associated with psychiatric inpatient safety*—processes and infrastructure in the treatment environment that, when in place, thwart or mitigate these risks.

These domains emerged by the 14th interview, however, we continued to interview key informants past the point of data saturation¹⁹ in order to ensure that provider experiences and perspectives were representative across a range of VHA facilities. Detailed definitions and representative quotations from these domains and sub-domains are presented for risk factors in Table 1 and for protective factors in Table 2.

3.1 Domain 1: Risks to Psychiatric Inpatient Safety

3.1.1 System- level—Respondents endorsed the three categories of risks to patient safety outlined in Runciman’s model-- patient, provider, and system factors. However, they consistently identified system-level factors as playing the most influential role in maintaining a safe and therapeutic environment on the inpatient psychiatric unit. System-level risks included inadequate staffing, budgetary/financial constraints, and bureaucratic hurdles around hiring/firing and making changes to policies and procedures. Using terms such as ‘rigid,’ ‘endless red tape,’ and ‘glacial,’ respondents described having to ‘beg’ for resources and having policies and requests tied up in committees for months or even years. For example, respondents at several facilities discussed how bureaucratic delays and financial constraints led to mental health nursing shortages; at each facility the solution to this shortage was to pull nurses from other services who lacked expertise and training to care for patients with acute mental health needs, posing a risk to patient safety.

Respondents reported encountering ‘territorialism’ or competing priorities among committee members or administrative leadership from other service lines when trying to make changes. For example, a key informant at one facility described how patients on the unit were agitated by high noise levels due to lack of carpeting; after three years, the problem had not been resolved because it was thought to be a decorative issue and so not seen as a priority. Respondents who shared similar examples often remarked that administrative leaders in other service lines lacked a basic understanding of the specific needs of patients with mental health disorders or of the care environment that must be maintained to ensure appropriate treatment and adequate safety. Interviewees’ observations, taken as a whole, revealed a lack of centralized policies and guidelines to prevent specific patient safety events coupled with unfunded or under-resourced mandates related to promoting patient safety.

3.1.2 Provider-level—At the provider-level, respondents discussed a number of factors that had a negative impact on patient safety, including: lack of appropriate training and skills to cope with symptoms and behaviors of patients experiencing mental health crises; personal attributes or attitudes that were at odds with caring for patients with mental health symptoms; and lack of dedication to or engagement in their work. Both leadership and frontline staff respondents described the challenge of working with inpatient psychiatric care staff whom they characterized as unprofessional, uncaring towards patients, disinterested in patient safety issues, or just there ‘to collect a paycheck’. Respondents perceived that some staff opted to work in inpatient psychiatric units because it was a relatively high-paying position, but were uninterested in acquiring the specialized skills and knowledge necessary to work with diagnostically complex patients. Respondents observed how the presence of disengaged staff had a negative impact on morale and could lead to burnout and attrition among more dedicated and skilled staff, thus posing further risks to patient safety.

3.1.3 Patient-level—Patient-level factors that were described by respondents as contributing to safety events included patient age and psychiatric symptomatology. A number of respondents shared stories of instances when younger Veterans were a threat to themselves or others because of their strength or agility; for example, when a young Veteran was able to overpower and outmaneuver members of the on-site security team. Some respondents spoke of conflicts between younger and older Veterans as another challenge.

Other patient-level factors centered around mental illness-related symptoms and behaviors such as extreme agitation, intention to self-harm, and co-morbid conditions such as substance use disorders (SUDs) which could increase likelihood of accidents, conflicts between patients, and conflicts between patients and staff. Respondents viewed patients with SUDs as less tolerant of behaviors of fellow patients with serious mental illnesses such as schizophrenia. They also linked mental health symptoms such as active psychosis to behaviors that led to patient safety events such as self-harm or patient-on-staff assaults. Still, inpatient mental health staff consistently indicated that system-level factors such as barriers to hiring and training adequate staff to monitor patients were ultimately the principal cause of the adverse outcomes.

3.2 Domain 2: Protective Factors Related to Psychiatric Inpatient Safety

3.2.1 Engaging Stakeholders in Maintaining a Culture of Safety—Respondents cited a ‘culture of safety’ that included leadership, managers, and frontline staff, who were aligned around a sustained commitment to safety, as key to addressing risks and thus minimizing patient safety events. Examples of how a culture of safety was operationalized included putting safety at the center of new employee orientation and addressing safety at annual employee reviews, holding daily meetings to discuss and address issues affecting patient safety, and prioritizing safety over competing priorities. Many respondents specifically noted that mental health competencies critical to these key organizational activities were often neglected and lacked support from facility leadership. They viewed this lack of support as resulting from insufficient understanding about the unique clinical needs of mental health patients, as well as persistent stigma associated with patients in need of inpatient hospitalization.

Our respondents characterized a culture of safety as an environment where staff felt safe to speak out about possible safety issues and there was open and transparent dialogue concerning patient safety between leadership, managers, and staff. They also discussed the importance of exploring ways to engage patients in efforts to advocate for themselves and help identify any potential safety issues in their environment, suggesting that patients be encouraged to provide input on patient safety issues throughout their stay.

3.2.2 Ensuring Team Members Interact with Patients and with Each Other—Key informants viewed efforts to keep managers and staff connected to the inpatient mental health environment, patients, and each other as crucial. Patient safety events were perceived to be less likely to occur when staff were familiar with individual patients and the overall atmosphere on the unit. For example, respondents emphasized the importance of having frontline staff circulate among the patient population throughout the day rather than sitting at

a nurse's station. This familiarity was thought to help staff detect underlying conflict and potential patient triggers. They pointed out how information gathered as part of this immersive engagement could be shared with management to allow for a more nuanced understanding of the patient milieu and surrounding care system.

3.3.3 Promoting Responsibility and Accountability in Work Roles—While respondents strongly endorsed the 'no blame' environment--where staff could anonymously report patient safety issues and events-- key informants in managerial positions still spoke of how they held individual staff accountable when they detected a lapse in their responsibilities or attention to patient safety. In some cases, respondents framed the ability to discipline or remove staff as aspirational, rather than actual; they voiced the desire to be able to fire staff who were not well-suited to the challenging environment of inpatient mental health care and hire more knowledgeable and skilled staff, but they felt hampered in these efforts by bureaucratic challenges to human resources (e.g., firing and hiring). One suggestion for addressing the problem of staff who lack knowledge and skills to care for patients with mental health symptoms was to establish formalized mentorship programs where experienced and less experienced staff worked together in the unit to create opportunities for role modeling, experiential learning, and establishing teamwork.

3.3.4 Embracing Patient-Centeredness throughout the Organization—Interviewees cited the VHA's focus on patient-centeredness--an approach that prioritizes patient values and care preferences--as essential to destigmatizing patients with severe mental health issues. Within the inpatient psychiatric setting, patient-centeredness is typified by policies and practices that give patients autonomy and self-determination commensurate with their capabilities, encourage staff to get to know patients as people and show them respect, and offer meaningful rehabilitative activities to patients that promote their recovery and wellbeing. These values help move away from "labeling" in favor of seeing the patient as an individual deserving of understanding and respect. Such policies and practices were seen as enhancing patient safety by keeping patients engaged and thus minimizing disruptive behaviors. In addition, respondents pointed out that many instances where patients had 'acted out' could be traced back to the feeling that all of their rights had been taken from them upon admission to the inpatient unit. Respondents explicitly acknowledged the tension between fostering autonomy among patients who were experiencing a mental health crisis while still protecting them from harming themselves or others. They emphasized the importance of examining facility and unit policies to prioritize patient needs over staff convenience to protect patient dignity and autonomy, thus avoiding unnecessarily upsetting patients who were already distressed.

4. DISCUSSION

The insights from our key informants contribute to our understanding of risks to patient safety in mental health inpatient settings and help to identify system-level *protective factors*—processes and infrastructure that, when in place, help mitigate these risks. The essential components of this included: promoting a culture of safety; advocating for patient-centeredness; and engaging administrators and organizational leadership to champion these changes.

Existing research in general or acute medical settings has identified several promising practices to promote a culture of safety²⁰ that are equally applicable to psychiatry and were similar to concepts endorsed by the respondents in our study. Some examples of these strategies include: Structured Inter-Disciplinary Rounds (SIRs) which provide a protocol to promote effective communication through daily interdisciplinary meetings; Comprehensive Unit-Based Safety Programs (CUSPs), an 8-step evaluation and implementation program that assesses culture of safety, prioritizes targets for systemic improvement and implements tailored modifications to make treatment safer.²¹ These multi-component interventions—which focus on interdisciplinary teamwork and open, safe communication²²—are well-suited to promoting a team-based approach that is critical for providing care on the inpatient psychiatric unit. Specifically, CUSPs have been associated with significant improvements in teamwork and nurse turnover rates leading to improvements in safety climate in intensive care²³ and surgical units.²⁴ Encouraging mental health providers and staff to engage with one another and the care environment through programs like SIRs could also improve rates of adverse safety events,^{25,26} as it has in other areas of medicine. Future efforts should draw upon these promising strategies and adapt or tailor them to the inpatient mental health setting.

Identifying ways to specifically improve patient-centeredness²⁷ in inpatient psychiatry is aligned with the dominant recovery orientation in mental health. Its focus on personalized treatment, patient empowerment, and a positive culture of healing²⁸ supports VHA's aspiration of providing healthcare that is safe, effective, and meaningfully patient-centered.^{29,30} Several strategies have been found to promote patient-centeredness, including reviewing policies to help guarantee that treatment practices do not reinforce the stigma of mental illness; ensuring that a culture is in place that encourages providers to respect patients as individuals; and implementing person-centered care that emphasizes the patient's role in their own treatment.³¹

At the same time, there is an acknowledged tension in ensuring that efforts to create a more deinstitutionalized environment do not compromise patient and staff safety. In a recent study Shepley and colleagues interviewed psychiatric staff, facility administrators, and architects to identify specific elements of the inpatient mental health environment that should be considered when designing mental health units to be less sterile *and* safe.³² Many of their findings complement our own; for example, the importance of designing nurse stations to encourage positive nurse-patient interactions. This work highlights the value of interdisciplinary approaches to developing and implementing best practices for enhancing safety in inpatient mental health, including those that address issues of the built environment.

Our qualitative study sought to gain insights from the perspectives of local experts with frontline administrative and clinical experiences in mental health care. They generated a number of concrete recommendations for improving safety of psychiatric inpatients. One recommendation was to have inpatient mental health staff undertake a structured assessment of all patient safety risks on the mental health unit with attention to more common events (e.g., falls, medical problems, verbal/physical assaults) and rare but serious events (e.g., elopement, self-harm). Respondents also suggested that safety could be enhanced by

keeping patients busy and engaged in their care through small incentives for participating in group activities (e.g., a coupon to purchase small goods at an onsite ‘store’). Several suggestions from our respondents had to do with staffing and carving out time to prioritize patient safety, such as assembling multidisciplinary ‘rapid response’ teams to address high-priority risks and instituting daily 30-minute team ‘huddles’ to discuss emergent patient safety issues. Finally, recommendations focused on putting resources in staff training, including providing training to non-inpatient psychiatric staff who interact with these patients on a regular basis (e.g., lab technicians, food service providers) concerning special considerations for patients with mental health symptoms; and training for frontline staff to conduct routine assessments of individual patients and intra-patient dynamics to detect warning signs of agitated patients, patient-on-patient conflicts, as well as any emergent co-morbid medical problems that may arise. Implementing all of the proposed suggestions would require the VHA to devote financial and administrative support to develop and implement these policies. However, hospitals have to use their resources judiciously and strike a careful balance between voluntary improvement practices and those required for accreditation from organizations like The Joint Commission. It is also important for hospitals to move above and beyond minimum national accreditation standards in order to develop safety innovations tailored to specific challenges unique to their setting.

The implementation of any new intervention can only succeed with adequate support and buy-in from organizational leadership, some of whom may be unfamiliar with the specific needs of the inpatient mental health environment. Thus, it is essential for local experts—those most closely involved in caring for and ensuring safety of patients in mental health settings—to communicate their knowledge of local conditions to leadership as the first step toward implementing changes. It is also critical to enlist the support of leadership to help overcome organizational constraints, such as where mental health and patient safety fall within funding priorities and the extent to which other services within the organization (e.g., human resources, information technology) are aligned with patient safety needs. To enhance organizational understanding and willingness to address the complex patient safety needs in inpatient psychiatry, it would be useful, as has been done in other inpatient care settings, to establish weekly Executive WalkRounds, where senior administrators visit hospital units and discuss the specific environmental and systems needs with frontline staff.³³

Our study has some limitations. First, our data come from phone interviews; in person interviews may have allowed interviewers to develop greater rapport with respondents, yielding different data. However, interviewees were engaged throughout the calls and expressed satisfaction in being able to share their views on inpatient psychiatric safety. Second, while key informants described organizational factors they saw as protective of patient safety via self-report, future research using prospective and observational methods may be needed. Our sample did not include social workers, aides who provide one-to-one observation in inpatient settings, or other types of frontline staff working in psychiatric units, who may have been able to contribute additional insights. While we sampled sites to ensure variability in number of discharges and our sites were from all regions of the U.S., it is possible that focusing on other types of variability, such as stability of medical center leadership or presence of onsite trainees, may have yielded different findings. Finally, VHA

inpatient psychiatric units may not be representative of inpatient mental health settings in other types of health care systems.

4.1 Conclusions

Our findings highlight the impact of systems-level policies and procedures on patient safety outcomes for inpatient mental health care. Engaging all stakeholders, including patients, in patient safety efforts and establishing a culture of safety will help minimize the risks and improve the quality of inpatient care for persons with serious mental illness.

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References

1. Kohn, LT., Corrigan, JM., Donaldson, MS. To Err is Human: Building A Safer Health System. Washington, DC: National Academies Press; 2000.
2. Landrigan CP, Parry GJ, Bones CB, et al. Temporal trends in rates of patient harm resulting from medical care. *New England Journal of Medicine*. 2010; 363:2124–2134. [PubMed: 21105794]
3. Leape LL, Brennan TA, Laird N, et al. The nature of adverse events in hospitalized patients. *New England Journal of Medicine*. 1991; 324:377–384. [PubMed: 1824793]
4. Grasso BC, Genest R, Jordan CW, et al. Use of chart and record reviews to detect medication errors in a state psychiatric hospital. *Psychiatric Services*. 2003; 54:677–681. [PubMed: 12719497]
5. Hanrahan NP, Kumar A, Aiken LH. Adverse events associated with organizational factors of general hospital inpatient psychiatric care environments. *Psychiatric Services*. 2010; 61:569–574. [PubMed: 20513679]
6. Mills PD, DeRosier JM, Ballot BA, et al. Inpatient suicide and suicide attempts in Veterans Affairs hospitals. *Joint Commission Journal on Quality and Patient Safety*. 2008; 34:482–488. [PubMed: 18714751]
7. Poster EC, Pelletier LR, Kay K. A retrospective cohort study of falls in a psychiatric inpatient setting. *Psychiatric Services*. 1991; 42:714–720.
8. Blow FC, Barry KL, Copeland LA, et al. Repeated assaults by patients in VA hospital and clinic settings. *Psychiatric Services*. 1999; 50:390–394. [PubMed: 10096645]
9. Briner M, Manser T. Clinical risk management in mental health: a qualitative study of main risks and related organizational management practices. *BMC Health Services Research*. 2013; 13:44–54. [PubMed: 23379842]
10. Kanerva A, Lammintakanen J, Kivinen T. Nursing staff's perceptions of patient safety in psychiatric inpatient care. *Perspectives in Psychiatric Care*. 2016; 52:25–31. [PubMed: 25623953]
11. Cullen S, Nath S, Marcus S. Toward understanding errors in inpatient psychiatry: A qualitative inquiry. *Psychiatric Quarterly*. 2010; 81:197–205. [PubMed: 20204514]
12. Department of Veterans Affairs. [Accessed January 13, 2017] VHA facility quality and safety report fiscal year 2012 data. Available at https://www.va.gov/HEALTH/docs/VHA_Quality_and_Safety_Report_2013.pdf
13. Guest G, Bunce A, Johnson L. How many interviews are enough? An experiment with data saturation and variability. *Field Methods*. 2006; 18:59–82.
14. Runciman WB, Baker GR, Michel P, et al. Tracing the foundations of a conceptual framework for a patient safety ontology. *BMJ Quality & Safety*. 2010; 19:e56–e60.
15. Runciman WB, Williamson JAH, Deakin A, et al. An integrated framework for safety, quality and risk management: An information and incident management system based on a universal patient safety classification. *Quality and Safety in Health Care*. 2006; 15S1:i82–i90.
16. QSR International Pty Ltd. NVivo qualitative data analysis software, Version. 2012:10.

17. Hsieh H, Shannon SE. Three approaches to qualitative content analysis. *Qualitative Health Research*. 2005; 15:1277–1288. [PubMed: 16204405]
18. Viera AJ, Garrett JM. Understanding interobserver agreement: The kappa statistic. *Family Medicine*. 2005; 37:360–363. [PubMed: 15883903]
19. Fusch PI, Ness LR. Are we there yet? Data saturation in qualitative research. *The Qualitative Report*. 2015; 20:1408–1416.
20. Weaver, SJ., Dy, S., Lubomski, LH., et al. Promoting a culture of safety; in *Making Health Care Safer II: An Updated Critical Analysis of the Evidence for Patient Safety Practices*. Rockville, MD: Agency for Health Care Research and Quality; 2013.
21. Pronovost P, Weast B, Rosenstein B, et al. Implementing and validating a comprehensive unit-based safety program. *Journal of Patient Safety*. 2005; 1:33–40.
22. Blegen MA, Sehgal NL, Alldredge BK, et al. Improving safety culture on adult medical units through multidisciplinary teamwork and communication interventions: The TOPS project. *Quality & Safety in Health Care*. 2010; 19:346–350. [PubMed: 20693223]
23. Sexton JB, Berenholtz SM, Goeschel CA, et al. Assessing and improving safety climate in a large cohort of intensive care units. *Critical Care Medicine*. 2011; 39:934–939. [PubMed: 21297460]
24. Timmel J, Kent PS, Holzmueller CG, et al. Impact of the comprehensive unit-based safety program (CUSP) on safety culture in a surgical inpatient unit. *Joint Commission Journal on Quality and Patient Safety*. 2010; 36:252–260. [PubMed: 20564886]
25. O'Leary KJ, Haviley C, Slade ME, et al. Improving teamwork: Impact of structured interdisciplinary rounds on a hospitalist unit. *Journal of Hospital Medicine*. 2011; 6:88–93. [PubMed: 20629015]
26. O'Leary KJ, Buck R, Fligel HM, et al. Structured interdisciplinary rounds in a medical teaching unit: Improving patient safety. *Archives of Internal Medicine*. 2011; 171:678–684. [PubMed: 21482844]
27. Institute of Medicine. Washington, DC: National Academies Press; 2001. *Crossing the Quality Chasm: A New Health System for the 21st Century*.
28. Jacobson N, Greenley D. What is recovery? A conceptual model and explication. *Psychiatric Services*. 2001; 52:482–485. [PubMed: 11274493]
29. Perlin JB, Kolodner RM, Roswell RH. The Veterans Health Administration: Quality, value, accountability, and information as transforming strategies for patient-centered care. *The American Journal of Managed Care*. 2004; 10:828–836. [PubMed: 15609736]
30. Kelly U, Boyd MA, Valente SM, et al. Trauma-informed care: Keeping mental health settings safe for veterans. *Issues in Mental Health Nursing*. 2014; 35:413–419. [PubMed: 24857525]
31. Woodward HI, Mytton OT, Lemer C, et al. What have we learned about interventions to reduce medical errors? *Annual Review of Public Health*. 2010; 31:479–497.
32. Shepley MM, Watson A, Pitts F, et al. Mental and behavioral health environments: Critical considerations for facility design. *General Hospital Psychiatry*. 2016; 42:15–21. [PubMed: 27638966]
33. Frankel A, Grillo SP, Pittman M, et al. Revealing and resolving patient safety defects: The impact of leadership WalkRounds on frontline caregiver assessments of patient safety. *Health Services Research*. 2008; 43:2050–2066. [PubMed: 18671751]

Table 1

Definitions and Representative Quotes for Risks to Inpatient Psychiatric Safety (Domain 1)

Domain 1. Risks to psychiatric inpatient safety	Definition	Quote(s)
System-level	Inadequate resources (staff, space, funds); bureaucracy (red tape, too many committees); lack of policies or guidelines; mandates without resources to implement	<p>“...there has been slowdown in hiring because of the financial issues in VA across the board.... I had to beg the [facility] director to approve [replacing] two of my social workers. He certainly wanted to hire, but the inclination was to wait until after [the end of the fiscal year]. We finally got him to say we could hire sooner, because we’d been down [a few staff]. There’s a lot of begging going on.”(Medical Director, Site 5)</p> <p>“One of the challenges is that experts in the area [mental health] are told what to by people who don’t even work in that area, which doesn’t really seem to make a lot of sense to me why someone [without mental health experience] would be making a recommendation to a psychiatrist or psychologist or a mental health nurse.” (Nurse, Site 4)</p> <p>“...having a clear criteria and policies in regard to whether [a patient is medically stable] would help, because if the patient is too acute to come onto our unit, it is like an accident waiting to happen. Sometimes we will have a patient who has just assaulted a police officer come onto our unit, then we have a ‘psych ICU.’ With 23 patients it creates a huge, huge risk because that patient could potentially get aggressive with other patients not just staff members.” (Nurse, Site 7)</p> <p>“The PMDB (Prevention and Management of Disruptive Behavior) is a mandate from Central Office... but how are we supposed to achieve that mandate? We have been given no manpower. We have been given no help, no administrative support in achieving that mandate.” (Medical Director, Site 1)</p>
Provider-level	Lack of training or skills related to caring for mental health patients, stigmatizing beliefs about mental illness, lack of commitment to work role and/or role in ensuring patient safety	<p>“A lot of people come to work [in the psychiatric inpatient unit] because this is the highest paying nurse role] in VA. It is about the money. And they do not get it.” (Nurse, Site 1)</p> <p>“...nurses that get into power struggles with Veterans has been an issue, and then those who have actually said... stuff to the effect of... ‘I do not want to say anything [about a patient safety issue] because I do not want to have to deal with seclusion or restraint’...so they just let [that patient safety issue] go on...” (Nurse, Site 2)</p> <p>Inpatient psych is hard. And what I generally found is... the good staff come in, and if they see people getting away with not doing stuff, they burn out because they are picking up the slack for others. And then they leave... So the burnout rate and the turnover rate are pretty high. (Medical Director, Site 1)</p>
Patient-level	Vulnerability due to age (geriatric) or co-morbid health condition, service era (post-9/11), acute or chronic psychiatric symptoms (e.g., suicidal ideation, impulsivity, behaviors related to mental health conditions)	<p>“We do take care of geriatric psych. Those are the ones I am probably most afraid for because they can’t defend themselves or they tend to say inflammatory things especially some of the older men, they will use racial slurs and things like that to get people started up rather quickly.”(Nurse, Site 4)</p> <p>“We have a really strong mix of chronic substance abusers and chronic paranoid schizophrenics. It is never really a good mix. Substance abusers don’t seem, in my experience, to tolerate the psychotic patients, their behaviors, some of their repetitive things they do...” (Nurse, Site 4)</p>

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Table 2

Definitions and Representative Quotes for Protective Factors in Inpatient Psychiatry (Domain 2)

Domain 2. Protective factors	Definition	Quotes
Engaging stakeholders in maintaining a culture of safety	Taking steps to ensure all of those with an interest in patient safety—leadership, frontline staff, patients—are meaningfully engaged in efforts to identify, report, and address risks to patient safety; includes creating an environment where people feel safe to express concerns	<p><i>“Staff engagement is number one for making a safe environment, whether is it being observant of the environment, reporting things that could be a risk...[and] engage patients-- have a committee meet consistently that asks the patients ‘how are you doing, are you concerned about anything in your environment?’ Make safety a concern for the patients as well.”</i>(Nurse, Site 1)</p> <p><i>“I think we are most successful when we engage the frontline staff in all of these things [safety initiatives]. Because they are the boots on the ground. They are the ones who see things, they are the ones who know what’s going on and how it can be working better. And a big mistake that we make sometimes is not engaging them.”</i> (Nurse, Site 4)</p> <p><i>“...having managerial staff promote a culture of safety and a culture where things are open and transparent. We cannot deal with these [safety] issues until we know that they exist. Staff is not going to get into trouble whenever they put in [a report] because something is broken... staff needs to hear from the top that ‘we want to know what is going on on your floor.’”</i>(Nurse, Site 2)</p>
Ensuring team members are interacting with patients and with each other	Supervisors and frontline staff are circulating through the mental health unit, interacting with patients and each other; supervisors and more experienced staff model best practices in inpatient psychiatric care for benefit of less experienced staff; staff get to know patients and the general environment on the unit	<p><i>“...I have not had a staff member that has been out of tune with this [how to care for psychiatric inpatients], they usually get it. Because you use these examples and you [ask], ‘in this situation, how did you feel about this?’ or ‘did you like the way that happened?’ and if not, let’s talk about how this could have been better. And encouraging them to watch someone else interact with a patient and understand what they’re doing. Someone who is a little bit more experienced. They learn.”</i>(Nurse, Site 7)</p> <p><i>“We are seeing fewer [nurses] skilled in psychiatric care...keeping them circulating in the milieu and keeping them interacting with the patients through the course of the day... is really the key. The more isolated a nurse becomes from the milieu, the more likely something will erupt... until that event happens, that nurse will not be aware that maybe something is getting ready to happen... having a good nurse flow through the milieu is vital.”</i>(Medical Director, Site 3)</p> <p><i>“I am a very hands-on manager. I do not rely on reports. I want to see it myself... I like to participate. To me, that is part of role-modeling with my staff. It is also a way of empowering my staff to establish teamwork. That starts from the frontline supervisor and not just among themselves.”</i>(Nurse, Site 6)</p>
Promoting responsibility and accountability in work roles	Individual staff take responsibility for promoting patient safety through attitudes and behaviors; supervisors have the ability to hold individual staff accountable for failures resulting in patient safety events, and when necessary, to discipline or remove individual staff	<p><i>“...continuous training and supervision, because the more you train your staff, the more outcomes you will be getting performance-wise. And this is very important to me; I always make sure my staff are accountable for their actions.”</i>(Nurse, Site 6)</p> <p><i>“There was human error involved and human opportunities for doing the right thing.... No blame is one thing. But guess what, accountability is another. So I have taken a position where, when something is a problem with patient safety, someone gets a disciplinary action.”</i>(Nurse, Site 1)</p> <p><i>“If I could wave a magic wand, I would change the hiring and firing practices in the VA.... allowing us to fire people who do not pull their own weight easier. And then you can bring in good people.”</i>(Medical Director, Site 1)</p>
Embracing patient-centeredness throughout the organization	Organization and staff understand and promote a recovery-oriented model of care; environment of care is non-stigmatizing; policies and practices focus on needs of patients (rather than	<p><i>“So these are the things that as a psych staff you really have to embrace the totality of what you do. You do not just say ‘oh, this patient is this’ or ‘this patient is that.’ To me, if we drop a lot of the labeling in what we do, then we can really avoid some of these</i></p>

Domain 2. Protective factors	Definition	Quotes
	<p>on those of organization or staff); to the extent possible, patients are empowered and have a voice in their care</p>	<p><i>patient safety events. Because our patients... you respect them and they will respect you. But if they feel there is some degree of labeling or not responding to their needs, they will... start acting out. Then it becomes a safety event.”(Nurse, Site 6)</i></p> <p><i>“We did a lot of training with meeting Veterans where they are....It’s about really looking at respect and integrity and looking at the patient’s needs. It’s not so much about controlling every little thing, it’s really about helping people get better.”(Nurse, Site 5)</i></p> <p><i>“Our approach has completely changed to not micromanaging everything that the patients are doing. As long as they’re safe and it’s going to help them, is this okay? We really went through and looked at every rule, every policy, everything that we were doing and said ‘is that patient-centered, or is that what we want in a hospital setting for our Veterans?’”(Medical Director, Site 7)</i></p>

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