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Adverse events in veterans affairs inpatient psychiatric units: Staff perspectives on contributing and protective factors☆

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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.

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 unit [5] 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

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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 reliability [18] 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 saturation [19] 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