

PATIENT SAFETY IN MENTAL HEALTH



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Executive Summary

Background

Everyday a large number of patients are treated and cared for without incident by health care practitioners worldwide. Like other high risk industries (e.g., aviation and nuclear power), safety incidents occur during the course of medical care, placing patients at risk for injury or harm. In health care, much of the literature, and consequently our understanding of patient safety, has come from acute care medical settings. Although many of the patient safety risk factors that exist in medical settings also apply to mental health settings, there are unique patient safety issues in mental health that are different to those in medical care. Seclusion and restraint use, self-harming behaviour and suicide, absconding, and reduced capacity for self-advocacy are particularly prominent to mental health patients. Both the patient population and the environment make patient safety in mental health unique. In some circumstances, the uniqueness is associated more with the diagnosis and patient population than with the mental health setting, and in other circumstances the uniqueness is related more to the setting than the patient population or diagnosis.

It is only recently that patient safety in mental health was considered a field in its own right and as such, there is a lack of awareness of the issues as well as a shortage of research and readily available information to guide patient safety systems, practices, policies, and care delivery in mental health. Work is required to establish a clear definition, set priorities, and develop strategies for responding to patient safety concerns.

Recognizing this knowledge gap, the Ontario Hospital Association and Canadian Patient Safety Institute jointly commissioned a research team through a competition process from British Columbia Mental Health and Addiction Services to develop a background paper outlining current issues in patient safety across mental health settings. The background paper includes three methodologies: 1) an in-depth review of the white and grey literature; 2) an analysis of interview data collected during a series of telephone interviews; and 3) an analysis of small group discussions during an invitational Roundtable Event held in Toronto, September 2008.

In this paper, mental health was defined by those diagnoses in the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision (DSM-IV-TR, American Psychiatric Association [APA], 1997). Patient safety across the following areas was considered: a) primary, secondary, and tertiary care levels; b) hospital, private sector, and other community-based mental health services; and c) child and youth, adult, and older adult populations.

Literature Search

The white literature was searched in four electronic databases (Medline, CINAHL, Embase, and PsycINFO) and the grey literature through sixty-six websites (Canadian/international patient safety, mental health, government health care, and library websites). Approximately 1500 papers were reviewed. The review of literature focused on eight key patient safety incidents including: violence and aggression; patient victimization; suicide and self-harm; seclusion and restraint; falls and other patient accidents; absconding and missing patients; adverse medication events; and adverse diagnostic events. Excluded areas included: patient safety incidents in persons with mental illness receiving care outside the mental health sector; privacy violations; documented adverse effects of specific medications; medical equipment failure not specific to mental health settings; and infectious disease.

Key Informant Interviews

The telephone interviews were conducted with 19 key informants in patient safety and/or mental health. The interviews sought information on current initiatives and research; strategies for improving patient safety; emerging issues; gaps in current knowledge and practice; and barriers to improving patient safety. The interviews were recorded, transcribed, and qualitatively analyzed. The analysis involved a two-step process: 1) coding each interview on issues that were easily categorized and that could provide some basic quantitative data, and 2) identifying larger themes that emerged from the data.

Roundtable Event

Seventy two professionals with expertise in patient safety and mental health attended and participated in an invitational Roundtable Event held on September 18, 2008, in Toronto, Ontario. Participants explored three topics in small discussion groups of 8-10 people. Each group had a facilitator and scribe. The scribe notes from the small group discussions formed data for a qualitative analysis. The analysis involved a two-step process: 1) identifying common themes from each discussion topic, and 2) organizing and categorizing the information from each group under each of the identified themes.

Findings

Several findings emerged from the research pertaining to planning and policy, practice, and research. The findings suggest that national leadership and advocacy for patient safety in mental health is required to champion the cause. Also required is a framework or patient safety strategy which considers the unique concerns related to mental health care across Canada, including the standardization of patient safety terminology and nomenclature, practices, reporting mechanisms, and policies. As a first step, however, a relative consensus on what falls under the purview of patient safety in mental health is needed in order to develop concise, workable solutions with clear objectives.

In order for patient safety in mental health settings to improve, a culture of safety needs to be embedded within all levels of an organization. A safety culture would include the adoption of a systems level approach and inclusion of staff and patients in the examination of patient safety incidents. It would allow patients and their family/caregivers to play a more active role in decision making, patient care, risk assessment and safety interventions. A just culture accepts that discrimination and marginalization of people with mental illness undermines access to care, quality and safety of care, and health outcomes and seeks to eliminate the stigma against people with mental illness.

Advancing safer patient care practices in mental health settings requires effective communication, service integration, and inter-professional collaboration, especially during transitions of care. It also requires the use of empirically-validated and consistently accepted tools and training and education programs to develop and implement evidence-based patient safety interventions. To develop this evidence, research funds need to be available to attract high quality researchers who can develop and implement rigorous research methodologies.

Understanding Patient Safety in Mental Health

Background

Everyday a large number of patients are treated and cared for without incident by medical practitioners worldwide. However, incidents such as medication adverse events, misdiagnosis, and slips and falls do occur during the course of medical care, placing patients at risk for injury and harm. Since the Institute of Medicine published its seminal report *To Err is Human: Building a Safer Health System* (Kohn, Corrigan, & Donaldson, 1999) underscoring the magnitude to which medical errors contribute to mortality and morbidity within the United States health care system, health organizations globally have been galvanized to develop and establish best practices in patient safety, giving rise to the development and instigation of incident reporting systems, and policies and procedures among service providers. One key indicator for patient safety is the rate of adverse events among hospital patients. Adverse events are unintended injuries or complications that are caused by health-care management, rather than by the patients' underlying diseases. They lead to patient injuries, disability, prolonged hospital stays, and even loss of life (Baker et al., 2004). The Canadian Adverse Events Study found that 7.5% of patients admitted to acute care hospitals in 2000 experienced at least one adverse event, 36.9% of which were judged to be highly preventable (Baker et al., 2004).

Although many of the same patient safety risk factors that exist in medical settings apply to mental health settings, there are unique patient safety issues that arise in the mental health context that are either more common among individuals with mental illness or are atypical of those arising in acute medical care. Some of these include patient safety issues around seclusion and restraint use, self-harming behaviour and suicide, absconding, and reduced capacity for self-advocacy. At the moment there is a lack of readily available information regarding the types of incidents and causes of adverse events in the treatment of patients with mental health disorders in Canadian mental health care. This gap is surprising given that some of the highest rates of adverse medication events reported in studies comparing various health care settings were in inpatient psychiatric units (e.g., Bates, 2003).

Due to this knowledge gap, there is little scientific literature and sound evidence to guide health system poli-

cies and practices for the safe delivery of care in mental health settings. As such, the Ontario Hospital Association (OHA) and Canadian Patient Safety Institute (CPSI) jointly commissioned a research team through a competition process from British Columbia Mental Health and Addiction Services (BCMHAS) to develop a background paper that concentrates on the issues of patient safety in mental health settings. The paper includes an in-depth review of the white and grey literature, analysis of interview data collected during a series of structured telephone interviews, and analysis of small group discussions during an invitational Roundtable Event. The paper was produced with guidance and coordination from OHA, CPSI, and a Pan-Canadian Mental Health and Patient Safety Advisory Committee (Advisory Committee).

For the purposes of this document, mental health was confined to those diagnoses covered in the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision (DSM-IV-TR, American Psychiatric Association [APA], 1997). Patient safety at the primary, secondary, and tertiary care levels was examined with consideration to hospital, private sector, and other community-based mental health services. Patient safety in mental health across the lifespan, including child and youth, adult, and older adult populations, were explored. It is acknowledged that there is debate in the literature about the appropriate term to refer to individuals with mental illness who use health-care services. The terms mental health service users, consumers, clients, and patients are often used interchangeably in the literature and in clinical practice. For clarity, in this report the term *patient* is used.

Issues in Defining Patient Safety in Mental Health

Patient safety in mental health settings has only recently been considered as a field of study or a focus in the patient safety literature in its own right and is even less frequently defined. It is often subsumed under the broader concept of patient safety with no argument having been set forward to define it separately. A review of the literature revealed that attempts to understand and define patient safety in the mental health context often are left to draw from the larger literature on patient safety in general.

Although white and grey literature offer many different definitions of patient safety, no single definition has been adopted universally and hence the field is thought to suffer from this lack of a common nomenclature (Chang, Schye, Croteau, O’Leary, & Loeb, 2005; Kohn et al., 1999; National Steering Committee on Patient Safety, 2002). Further complicating this picture is the need to define not only patient safety but also the related terms: *patient safety incidents*, *adverse events*, and *close calls* (near misses).

A shared definition of patient safety is lacking across Canada (Baker et al., 2007). The Canadian Patient Safety Dictionary (Davies, Hébert, & Hoffman, 2003), developed in response to an identified need for a common language of patient safety, recommends “that patient safety be defined as the reduction and mitigation of unsafe acts within the health care system, as well as through the use of best practices shown to lead to optimal patient outcomes.” However, national and international advancements in knowledge and understanding of patient safety concepts and the need for consistency and clarity across settings, has prompted a re-examination of the definitions and terms used. The World Health Organization’s (WHO) International Classification for Patient Safety initiative:

“aims to define, harmonize and group patient safety concepts into an internationally agreed classification. This will help elicit, capture and analyze factors relevant to patient safety in a manner conducive to learning and system improvement. The classification aims to be adaptable yet consistent across the entire spectrum of health care and across cultures and languages” (2008, para. 2).

WHO (2007) created a *Conceptual Framework for the International Classification for Patient Safety*, which is currently in field-testing. It represents a consensus of international experts and up-to-date information on patient safety within the health care context across the world, including mental health settings and patients. The language and definitions throughout this paper are therefore in alignment with the WHO’s framework.

A *patient safety incident* is defined as “an event or circumstance which could have resulted, or did result, in unnecessary harm to a patient, and has a more constrained meaning than the term incident which, when used in a general context, has a wider meaning as an event or circumstance which could have resulted, or did result, in harm to any person and/or a complaint, loss or damage” (WHO, 2007, p.7).

An *adverse event* is “an incident which results in harm to a patient” (WHO, 2007, p.7). *Harm* is considered an outcome that negatively affects a patient’s health and/or quality of life, including illness, injury, suffering, disability, and death, and may thus be physical, social, or psychological (WHO, 2007).

A *close call* (also known as a *near miss*) is an incident that occurs that has the potential to result in harm but fails to do so either by chance or by timely intervention (WHO, 2007).

Issues in Calculating Patient Safety Incident Rates in Mental Health

Bowers (2000) highlighted a related problem that plagues the mental health patient safety literature; inconsistencies in calculating incident rates. He described five possible methods of calculating incident rates, which vary according to the denominator used: 1) hospital; 2) ward; 3) bed numbers; 4) admission; or 5) bed occupancy. Each of these methods can be expressed as patient-based or event-based, with the result that for some incidents, rates can be calculated in as many as ten different ways. While some of these methods are clearly preferable to others, there remain multiple adequate methods that produce disparate rates. Without agreement on a method for calculating incident rates, comparisons between studies and reports are difficult and can be misleading. Bowers recommends that the method for calculating patient safety incidents in mental health be determined by the research question, and that researchers be more rigorous in calculating incident rates. At a minimum scholars should clearly indicate how they arrive at the rates they report.

Patient Safety Incidents in Mental Health

Patients receiving mental health treatment are at risk of patient safety incidents that are uniquely or strongly associated with mental health settings as well as adverse events that occur in general medical settings. Understanding the myriad of factors leading to adverse events requires a system for categorizing them. Without a common language to define and discuss incidents, close calls, and adverse events, it is difficult to establish a system to classify patient safety incidents in mental health. Differ-

ent reporting systems use different classification systems grouped according to incident type, severity, setting, and population. Despite several attempts (Chang et al., 2005; Nath & Marcus, 2006) the review of the literature for this report revealed no universally accepted classification system for patient safety incidents specific to mental health settings or services.

A seminal report by the United Kingdom's National Patient Safety Agency (NPSA) in 2006 on patient safety in mental health provided the first comprehensive survey of patient safety incidents affecting mental health patients. The mental health patient safety incidents most commonly reported to NPSA were accidents (e.g., slips and falls), absconding/elopement, aggression, and self-harm and suicide. Aggression, self-harm, and absconding accounted for over half of all incidents reported to NPSA in 2005. In the 2006 report, accidents, absconding, aggression, and self-harm accounted for 84% of all incidents. Other relevant incidents included medication, patient abuse, consent and confidentiality, documentation, diagnosis, and medical equipment.

Despite numerous reports on the high levels of distress, fear, and stigma reported by patients receiving care for mental health problems (Mind, n.d.), in general, little attention has been paid to emotional or psychological harms that may be associated with mental illness, psychiatric treatment, and the associated restrictions on patient freedom and autonomy. Focus on physical harm often ignores the emotional and psychological harms patients may suffer following a patient safety incident. Another area only beginning to receive attention under the umbrella of patient safety is the experience of racism and discrimination of ethnic minority patients in mental health care settings. The United Kingdom's Department of Health (2005) report on race equality in mental health care brought attention to this understudied area. It noted the importance of training on issues of cultural, ethnic, and religious diversity, including training on how to respond to overt, covert, and institutional racism.

Additionally, there is tension between safety measures and patient autonomy. A number of policies designed to increase patients' safety in mental health settings are controversial and may pose ethical dilemmas for caregivers, due to the limits they place on patients' human rights. These include locking units, searching patients and confiscating banned items, and use of security and closed circuit television monitoring (Bowers et al., 2002). Lack of clarity

about policies and procedures related to observation and use of restraints and seclusion can contribute to patient safety incidents (Department of Health, 2002b).

Compared to reported incidents across nine medical settings, the NPSA (2005) found that mental health settings had the third highest rate of death and the fifth highest rate of severe harm resulting from patient safety incidents. Chang et al. (2005) found that psychiatric hospitals and psychiatric units were the second and third most common domains for patient safety incidents, following general hospitals. It is important to note, however, that the majority of incidents reported to the NPSA resulted in no (65.4%) or low (22.7%) harm to the patient. Only 1.3% of incidents involved death and only 0.6% involved severe harm. Incidents of self-harm were the most likely to result in death (NPSA, 2006). Given the lack of focus on psychological and other forms of harm, little is known about the severity of emotional or psychological harm experienced by mental health patients following patient safety incidents.

The mental health system encompasses a great number of settings beyond psychiatric hospitals and inpatient units. Care for patients with mental illness is increasingly provided in community mental health centres, residential homes, nursing homes, and outpatient departments. The emergency department, an area of high risk for patient safety incidents, also represents an area of high risk for individuals with psychiatric and/or substance abuse disorders. The rate and type of mental health patient safety incidents vary across these settings (NPSA, 2005). For example, adverse medication events are more likely to be reported in outpatient and community settings while self-harm is the most commonly reported incident in private homes. Residential care and nursing home settings reported high levels of patient accidents while death and severe harm were more likely to occur in private home settings.

Despite the breadth of mental health service provided in community settings, more is known about patient safety incidents in institutional settings. NPSA (2006) noted that a disproportionate number of incidents are reported from inpatient settings. It may be that staff working in inpatient settings have better access to reporting systems. It is also possible that the higher rates of incidents reported from inpatient settings reflect the relative complexity of illness seen in inpatient settings compared to community settings. The deinstitutionalization movement combined

with improvements in community care has changed the face of inpatient mental health care. Admission and commitment criteria are such that inpatient settings, compared to other mental health settings, are disproportionately populated with severely mentally ill individuals. Inpatients are now more likely to have concurrent psychiatric and substance use disorders, be suicidal or present risk for suicide, have a history of aggressive behaviour and pose a risk to staff and other patients, be vulnerable to harms from others, be sexually uninhibited, likely to abscond from the unit, and have co-occurring medical conditions (Standing Nursing & Midwifery Advisory Committee, 1999). As the complexity of care increases on inpatient units, so too does the likelihood of patient safety incidents. Distinctions can also be made between different types of services dependent on the population served: adult, geriatric, forensic, child and adolescent, mental health rehabilitation, and drug and alcohol services (NPSA, 2006). NPSA suggested that patients receiving care in geriatric specialty settings were involved in slightly more patient safety incidents than would be expected on the basis of admissions.

Building upon the Seven Steps to Patient Safety (NPSA, 2004b) reference guide for all healthcare settings, the NPSA recently developed and launched a framework document specific to patient safety in mental health settings. The Seven Steps to Patient Safety in Mental Health (NPSA, 2008b) outlines a framework for organizations and providers to work to improve the safety of patients receiving mental health care. The seven steps are part of a continuing process on how patient safety can be improved locally, to improve the safety of mental health service delivery across various settings. A companion document entitled Good Practice Examples (NPSA, 2008a) shares specific examples from different National Health Service trusts across England and Wales.

Contributing Factors

Research in non-health care settings has demonstrated that, in most cases, no single factor is responsible for an unintentional failure such as a safety incident (Department of Health, 2000; Vincent, Taylor-Adams, & Stanhope, 1998). Safety incidents typically involve “a complex interaction between a varied set of elements, including human behaviour, technological aspects of the system, sociocultural factors, and a range of organizational and procedural weaknesses” (Department of Health, 2000,

p.19). Like safety incidents in other systems, patient safety incidents in all health settings occur as a result of a complex set of contributing and interacting factors, rather than a single failure on the part of an individual or a system (Kohn et al., 1999; Nath & Marcus, 2006). Understanding these factors is a critical first step in developing strategies to mitigate and prevent patient safety incidents. Some contributory factors are common across health care settings; others are unique to mental health (Nath & Marcus, 2006).

Factors contributing to patient safety incidents can be categorized in numerous ways. One common division is between the individual factors contributing to patient safety incidents (i.e., human error) and systems factors (i.e., physical environment, unit design, staffing levels, heterogeneity of patients, availability of structured activities, and policies and procedures). In the past, there has been a tendency to blame individuals for patient safety incidents, be it the patients themselves for engaging in risky behaviours, or health care providers for making errors. Focusing on individual factors results in solutions at the individual level, such as strategies aimed at individual practitioners. This approach, however, ignores the context in which patient safety incidents occur, making it difficult to identify and prevent recurrences of “active failures” committed by individuals (Department of Health, 2000). Although a particular action or omission by an individual might be the immediate cause of an incident, a broader systems analysis usually reveals a series of events and departures from safe practice that are caused by environmental/organizational factors (Vincent et al., 1998).

Attention has therefore turned to understanding how system level factors contribute to patient safety incidents (Jayaram, 2006). The system approach to understanding patient safety incidents understands adverse events to be the result of complex multiple systems factors (Marshall, Leloitt, & Hill, 2004; National Steering Committee on Patient Safety, 2002). The inclusion of system level factors extends responsibility for responding to and improving patient safety to the system, rather than individual health care professionals. As such, when a patient safety incident occurs, the focus is not on identifying who committed the active failure, but on how and why the system failed and allowed the failure to occur (Department of Health, 2000). It follows a similar shift in other high-risk industries such as aviation and nuclear power (Kohn et al., 1999).

Research on patient safety in mental health has lagged behind in adoption of a system perspective and approach. However, recognizing that no single factor or group of factors accounts for a patient safety incident, the following sections review factors which may contribute to adverse events in mental health.

Patient Factors

Patient safety incidents in mental health are co-dependent such that patients at risk for one type of disruptive behaviour (e.g., absconding) tend to be at increased risk for other disruptive behaviours (e.g., aggression) (Bowers, 2006; Marshall et al., 2004; Nicholls, Brink, Desmarais, Webster, & Martin, 2006). In particular, the behaviour of absconding, self-harm and suicide, difficult and non-compliant behaviours, and aggression are likely to co-occur in the same patients. While much of the literature on patient aggression casts patients as aggressors or victims, in reality, patients are actively involved in managing risks to themselves and risks that they pose to others. Research has found that patients are active in making inpatient environments safer for themselves by avoiding risky individuals or situations, warning other patients about their volatility, de-escalating potentially risky situations, seeking surveillance or another safety intervention from staff, and protective involvement with other patients (Quirk, Lelloitt, & Seale, 2005). These findings underscore the importance of fully involving patients in safety initiatives.

Of particular interest to patient safety in mental health settings is the impact of psychiatric diagnosis. Psychiatric symptomatology affects communication between patients and health care providers and may interfere with accurate reporting of both general medical and mental health problems. Mental illness may reduce the likelihood that patients will seek help if their condition worsens (Druss, 2007). It can also make it more difficult for patients to navigate the complexities of the health care system. Other symptoms, including co-morbid substance abuse, may put patients at risk for aggression against staff or other patients, or self-harm and suicide (NPSA, 2006). As a result, these patients may be at risk for being prescribed excessive doses of medication by providers due to anxieties about violence and difficulties communicating with the patient (Nath & Marcus, 2006).

Provider Factors

Research has demonstrated that mental health care providers have a considerable impact on the rate of patient safety incidents on inpatient units. The extent to which

staff positively valued patients and were able to regulate their fear and anger towards patients and their behaviour, impacted rates of aggression, self-harm, and absconding (Bowers, Simpson, & Alexander, 2005). The demands of the work environment are also closely associated with patient safety incidents. Within mental health settings, the related factors of large caseloads and limited time to see patients have been linked to patient safety incidents (Department of Health, 2002b; Nath & Marcus, 2006).

Poor communication between health care providers, and between health care providers and patients and family, has been linked to patient safety incidents (Health Canada, 2007; Lang & Edwards, 2006; Marshall et al., 2004; NPSA, 2005). Communication may be affected by high staff turn-over, inexperienced staff, fatigue, and interpersonal conflict. In general medical settings, communication about mental health care is particularly problematic. Research investigating the quality of clinical information provided upon referral to home care in the United States found that information about cognitive status and depression was often missing. Information on depression status was included in only 5% of patients who were assessed as depressed by the research team (Brown et al., 2006). In general, improvements in communication are associated with improvements in patient safety. Systems that provide high levels of feedback and staff coordination have fewer patient safety errors (Australian Resource Centre for Hospital Innovations, 2003).

Organizational Factors

Non-clinical systems such as human resources, recruitment and retention, training programs, and admission and discharge processes are all relevant to patient safety, and yet are beyond the control of the individuals providing care to patients with mental illness. Various organizational factors influence not only the frequency of patient safety incidents but also the likelihood that incidents and close calls are reported. This is influenced by the organizational policies and procedures in place for reporting, and also by the organizational culture that emphasizes (or minimizes) the importance of patient safety and the need to learn from incidents. Fragmentation within mental health and between mental health and general medical systems contributes to patient safety incidents (Druss, 2007). In particular, information sharing, lack of community resources, bed shortages, and staffing shortages in the mental health system contribute to patient safety incidents.

The functioning of the system as a whole, including access to various components of care across the continuum, is also thought to have an impact on patient safety in mental health. A lack of availability of community resources, including housing, increases pressures on psychiatric emergency departments, which become de facto inpatient units. Ultimately, these pressures increase patient safety risks (Mood Disorders Society of Canada, 2008). In addition, mental health settings reflect the catchment areas they serve. Units that serve poor catchment areas, characterized by poverty, substance use, and violence, will likely have more risk for patient safety incidents, particularly violence and absconding.

Different models of care also impact on patient safety. An example of this is the move from psychiatric consultation in the emergency department to psychiatric emergency services models. Traditionally, the treatment of behavioural emergencies has been through psychiatric consultation in the emergency department. This system stresses medical emergency department's resources. In psychiatric emergency services models, patients can be triaged by a separate staff of mental health professionals but still medically assessed in conjunction with emergency department staff. This system provides immediate psychiatric assessment and minimizes incorrect decisions to admit or discharge patients in psychiatric emergencies. This model is believed to improve patient safety by decreasing wait time, use of emergency medication, seclusion and restraint procedures, and absconding patients, and increasing completion and thoroughness of mental health status examinations (Woo, Chan, Ghobrial, & Sevilla, 2007).

Physical Environment

In general, poor physical design, including the layout and features of the physical environment, contribute to patient safety incidents and to feelings of lack of safety on the unit (College of Registered Psychiatric Nurse of British Columbia, 2006; Department of Health 2002a; McGeorge & Rae, 2007). Several papers provide guidance on the ideal physical design for inpatient units (Bolton, 2006; Department of Health, 2002a; Goodall, 2006; Marshall et al., 2004; Royal College of Psychiatrists, 1998) and include insightful information and recommendations. Examples of safe physical design include providing female-only spaces in psychiatric units to protect women from unwanted sexual contact, sexual harassment, and sexual assault; providing adequate washing facilities, toilets, sleeping space and common rooms,

high ceilings, natural light, wide corridors, quiet areas, and outdoor green spaces, to allow for space and to minimize aggressive and impulsive behaviour; installing unbreakable windows with a limited opening and avoiding fittings that could be used by patients to hang themselves (including curtain rails, cupboard rails, mechanical door closers, exposed pipes, decorative beams, etc.); providing doors to patient bedrooms that are lockable by the patients but allow for override by staff after following clear protocols on locking; and providing doors that are fitted to open both ways and removable if necessary, to prevent the occurrence of blockades (Mental Health Act Commission, 2008; Royal College of Psychiatrists, 1998).

As with much of the patient safety literature specific to mental health, there has been little attention paid to the impact of physical design on patient safety in outpatient and community mental health settings. Also, little is known about the environmental layout and design of private residences and safety of mental health patients living at home.

The Relationship Between Patient Safety and Employee Safety

Patient safety and employee safety interact in important and complex ways (Kohn et al., 1999; Lang & Edwards, 2006). There is overlap in the types of safety concerns, and in the factors that increase safety incidents, for both groups. Incidents such as violence and aggression, unwanted sexual contact, sexual assault, and sexual harassment present safety risks for health care workers as much as, and in some cases more than, for patients. In addition, working conditions for staff can impact their ability to prevent, detect, and respond to patient safety incidents. Safety challenges for staff impact on the quality of care they provide to patients, and therefore, to the risks posed for patient safety incidents. Not surprisingly then, factors such as poor working conditions, workload, staffing levels, and lack of autonomy in the workplace have been found to have a deleterious effect not only on staff safety but also on patient safety (Banerjee et al., 2008). In addition, employees involved in patient safety incidents are often troubled by feelings of guilt and fear of blame by their colleagues and organization that may affect their work performance.

The transactional nature of patient and employee safety suggests that efforts to improve one must take into account the other. Nonetheless, it appears there may be differences in the types of strategies put in place to improve safety for these two groups. Bowers et al. (2002) found two distinct approaches to security in psychiatric inpatient units in the National Health Service of the United Kingdom. They suggested that the two approaches may reflect differing emphasis. The first, characterized by door security, restrictions, and banning of items, emphasized patient safety while the second, characterized by guards, alarms, and searches, emphasized staff safety.

These differing approaches suggest that, despite the links between patient and staff safety, managers and policy makers may view them as distinct, and perhaps competing, concepts. This competition can be seen in the opposing views of Yassi and Hancock (2005) who argue that patient safety can only be improved by attending to employee safety, and Kohn et al. (1999), who argue that staff safety can be improved by attending to patient safety. The concept of a safety culture, with equal emphasis on patients and staff, could serve as a unifying concept for these two important issues.

National Initiatives Influencing Patient Safety

Several recent advancements in national and provincial strategies, including the Canadian Alliance on Mental Illness and Mental Health (2006) and the Mental Health Commission of Canada (n.d.), addressing the issues of mental health have provided a comprehensive and collaborative approach to improving mental health care and policies for Canadians. It is recognized and appreciated that improvement in mental health care reform; including efforts to establish integrated mental health services, to target anti-stigma and reduction of discrimination, to increase funding in mental health research, and to facilitate education and knowledge exchange strategies; may indirectly impact patient safety in mental health services as a positive unanticipated outcome. Although not directly addressing the issues of patient safety, these strategies will continue to enable improvements in the mental health system. Through these successes, the issues of patient safety in mental health will become a national priority.

Discussion

This section has highlighted that understanding patient safety is not one-dimensional, but rather a complex interaction between a varied set of contributing and interacting elements, including patient factors, provider factors, organizational factors, and environmental factors. Despite the surfacing of patient safety in the literature over the past 10 years, much of this literature, and consequently our understanding of patient safety, has come from acute care medical settings. While some patient safety factors are common across health care settings, others are unique to mental health. What differentiates patient safety from other health sectors is a complex interaction between the mental health environment and the diagnosis/patient population. In some circumstances, the uniqueness is associated more with the diagnosis and patient population than with the mental health setting, and in other circumstances the uniqueness is related more to the setting than the patient population or diagnosis. Understanding this interaction and its relationship to patient safety requires more investigation.

The remainder of this paper will provide insight into the current patient safety issues in mental health settings via three research methods; 1) a literature review, 2) an analysis of interviews with key informants, and 3) an analysis of discussions at an invitational Roundtable Event. Each of these will be presented as a separate section, outlining the research method and major findings. Following this, overall themes that emerged across the three research methodologies will be outlined.

Literature Review

Background

To provide an overview of significant literature on patient safety in mental health settings, and identify current trends and gaps, a comprehensive review of the grey and white literature was conducted. This forms the first of the three research methodologies.

Included and Excluded Patient Safety Incidents

In consultation with OHA, CPSI, and the Advisory Committee, eight patient safety incidents were chosen to guide the literature review search strategy:

1. Violence and Aggression.
2. Patient Victimization.
3. Suicide and Self-Harm.
4. Seclusion and Restraint.
5. Falls and Other Patient Accidents.
6. Absconding and Missing Patients.
7. Adverse Medication Events.
8. Adverse Diagnostic Events.

In developing boundaries for the paper, the following five areas were considered to be out of scope:

1. Patient safety incidents in persons with mental illness receiving care outside of the mental health sector.
2. Privacy violations.
3. Documented adverse effects of specific medications.
4. Medical equipment failure not specific to mental health settings.
5. Infectious Disease.

Infection prevention and control and fire prevention and precautions were considered as patient safety incidents for inclusion in the report. A search of the literature on infection prevention and control revealed that the majority of the results were not unique to mental health settings (i.e., behaviour of healthcare providers pertaining to hand hygiene and infection control, patients with HIV/AIDS or tuberculosis). A search of the literature on fire prevention and precautions yielded results that also were not unique to mental health settings or relevant to the paper (i.e., mental health of firefighters, post-traumatic stress after fires, impact of fire disaster, children who set fires). As such, these were not identified as individual patient safety incidents to be reviewed.

White Literature Search Strategy

Searches were conducted in four electronic databases; Medline, the Cumulative Index to Nursing and Allied Health Literature (CINAHL), Embase, and PsycINFO. A variation of Cochrane's Highly Sensitive Search Strategy was used to retrieve a greater proportion of high quality white literature results. Limits were applied to retrieve results in the English language, using human participants, and published in 1999 and thereafter. The year limit was determined by the publication of the report *To Err is Human: Building a Safer Health System* (Kohn et al., 1999) which is widely considered to mark the beginning of the patient safety movement. Nine hundred and seventy four white literature documents were retrieved for review. The four search strategies are attached as Appendix A.

Grey Literature Search Strategy

Sixty-six websites were searched, including prominent Canadian and international patient safety, mental health, government health care, and health and/or government library websites. The websites are listed in Appendix B. For each website, key search terms (mental, psychiatry, psychiatric, psychiatrist, psychotic, psychotropic, and forensic) were entered into the main search box. If any of these terms returned less than 20 hits, these results were examined individually to see if they met basic elements for inclusion. If any of these terms returned more than 20 results, this term was combined with one of 32 keywords (safety, error, accident, quality, adverse, toxicity, reporting, incident, suicide, restraint, protective, isolation, seclusion, immobilization, runaway, confusion, security, elopement, wandering, rape, sexual, victim, violence, assault, aggression, diagnostic, misdiagnosis, under diagnosis, undiagnosed, co-morbidity, under treatment, and fall). Twenty-four percent of the websites were deemed "not searchable" (i.e. there was no search box, the search results were inconsistent, or the search results were too difficult to track and record), in which case the "publication" or "research" link was chosen and a visual scan was performed of the results listed. Two spreadsheets (attached as Appendix C with examples) were maintained to document the search process. Four hundred and three grey literature documents were retrieved for review.

Whist reviewing retrieved documents from both searches, approximately 110 additional papers were identified by the researchers from reference lists and retrieved as requested. The following will provide a brief background on each of the eight patient safety incidents and an overview of the research gaps that emerged during the review of the literature.

Patient Safety Incidents Reviewed

Violence and Aggression

One aspect of patient safety in the mental health sector that has received considerable attention is violence and aggression. Mental health patients are a group particularly vulnerable to the harms associated with aggression and violence, as perpetrators, witnesses, and victims (NPSA, 2006). The terms aggression and violence often are used interchangeably, however, commentators in the field have attempted to tease apart these closely associated terms. The review of the literature demonstrates that there remains a gap in the agreed upon nomenclature, with no clear universal definition of what constitutes aggression or violence. This report uses the definitions in the MacArthur violence risk assessment study (Monahan et al., 2001; Steadman et al., 1998). Aggression refers to any behaviour in which the patient places their hands on another with the intention of causing harm. Violence is defined as threats with a weapon in hand, sexual assaults, and assaults resulting in injury.

Despite the fact that most individuals with mental illness do not present a risk of harm to others, there is a small but robust association between mental illness and the risk of violence confirmed by several large-scale studies of adults (see Hiday et al., 1997, as cited in Rocca, Villari, & Bogetto, 2006; Steadman et al., 1998; Swanson, Holzer, Ganju, & Jono, 1990). The review of the literature suggests that aggressive and violent assaults are one of the most common types of events leading to patient safety incident reports (NPSA, 2006). Based on their analysis of nearly 45,000 incidents from 116 organizations in England and Wales, the NPSA reported 10,467 incidents of disruptive and aggressive behaviour constituting 23.4% of reports. These incidents of aggressive and disruptive behaviour were second in frequency only to patient accidents (34.7%) in contributing to safety related reports.

The problem of violence and aggression has compounded in the inpatient setting where acute, tertiary, and forensic professionals are providing care to an increasingly concentrated population of individuals with severe illness and exceptional needs. Lanza concluded that violence perpetrated by nursing home residents and mentally ill patients is a pervasive, long standing, and under reported challenge in mental health settings (1992, as cited in Brickhouse, 1997). Dual diagnosis is an increasing challenge, particularly in acute mental health settings. Of note, substance misuse, in combination with mental illness, is an important predictor for violence and aggression (Flannery & Penk, 1999; Healthcare Commission, 2005; National Institute for Clinical Excellence, 2001; Steadman et al., 1998). Violence and aggression also are relevant to other important patient safety concerns. Research demonstrates that those individuals who engage in challenging behaviour such as aggression and violence, are more likely to have a history of other safety compromising behaviours and are at greater risk for involvement in a variety of challenging behaviours in the future, such as aggression, violence, absconding, self-harm and suicide, property damage, and substance misuse (Bowers, Simpson, & Alexander, 2003; NPSA, 2004a; Nicholls et al., 2006; Webster, Martin, Brink, Nicholls, & Middleton, 2004).

Violence is perhaps the most stigmatizing factor associated with mental illness; therefore, it is essential to be mindful that the majority of mental health patients are *not* aggressive (Rocca et al., 2006). A particularly common misperception is the proportion of societal violence that is attributed to individuals with mental health problems. Contrary to this belief, research shows that even among individuals detained in a forensic hospital specifically as a result of presenting a 'significant risk' to the community, many (40%) were never aggressive over a one-year follow-up period, and individuals who committed an aggressive act did so rarely and engaged in very minor forms of aggression (e.g., verbal threats) (Nicholls, Brink, Greaves, Lussier, & Verdun-Jones, 2009).

Patient Victimization

A mental health setting should contribute to feelings of safety and security, and care and support, essential characteristics of a therapeutic environment intended to foster recovery. Unfortunately, many mental health patients report they do not feel safe while in care (Mind, n.d.). Of concern is the rate at which people with mental illness

experience victimization by others. Although it is widely recognized that persons living with mental illness are at a small but robust increased risk of perpetrating violence and aggression, generally less acknowledged is the fact that they also are at considerable risk of being victimized by others. In fact, quite contrary to the widely held notion that mental illness is highly predictive of crime and violence, mentally ill persons are more likely to be the victims of violence than they are to present a risk of violence to others.

A review of the literature reveals little discussion or agreement regarding the definition of victimization. Definitions and research tend to focus on the physical harm associated with victimization to the exclusion of psychological and emotional or otherwise (e.g., financial). For the purposes of this report, victimization is broadly defined to include verbal, psychological, physical, sexual, and financial abuse of the patient by others (Galpin & Parker, 2007; Webster et al., 2004).

The Royal College of Psychiatrists (n.d.) concluded that patients are generally satisfied with the way in which threatening and violent behaviour between patients is managed by healthcare staff (i.e. 75% think that staff deals with it well). However, satisfaction dropped to 63% when patients indicated whether they thought that staff deals well with threatening and violent behaviour towards patients by staff.

Investigations into the extent to which adequate policies and procedures are standard in mental health settings suggest remaining inadequacies. Although written policies are no assurance that appropriate care is in place it is, at a minimum, an indication that the issue is recognized and perhaps afforded some importance (Warner, Nicholas, Patal, Harris, & Ford, 2000). The Mental Health Act Commission (1998, cited in Copperman & Knowles, 2006) concluded that violence and harassment are common in inpatient settings and pointed to the lack of written policies and procedures in place as an important deficit. The Royal College of Psychiatrists (n.d.) similarly found that many facilities do not have policies and procedures related to the safety of women (range = 4%-54%). Reflecting on this data, the Royal College of Psychiatrists recommended that awareness and confidence among staff in reporting safety incidents needs to be promoted, and that healthcare organizations need to sharpen their systems for safeguarding vulnerable adults from abuse and continue to reduce the levels of violence in mental health settings.

Research in victimization and mental health appears to be very much in the early stages. There are now several studies to demonstrate that victimization rates remain a pressing concern but large-scale epidemiological and national studies are lacking. High quality studies, using validated measures, sufficient sample sizes to attain necessary statistical power, and prospective data collection procedures are needed. The base rate of incidents is difficult to ascertain given different reporting styles and an absence of information pertaining to how often allegations are determined to be founded. Moreover, the field has not advanced beyond descriptive qualitative studies exploring the frequency of abuse to ascertain the full picture of the extent of the impact of victimization on mental health patients.

Suicide and Self-Harm

Patient suicide and the associated behaviours of attempted suicide and self-harm are among the most concerning patient safety incidents in the mental health sector. Concern about patient suicide arises from both the frequency and severity of the behaviour; it is the mental health patient safety incident most likely to be associated with death (NPSA, 2006). It is also the most frequently identified reason for litigation against psychiatrists (Melonas, 2004). According to the Canadian Institute for Health Information (2005), there were over 14,500 hospital admissions in Canada in 2005 due to the intentional injuries of attempted suicide and self-inflicted injury. Suicide is of particular concern in mental health settings due to its high association with mental illness. Psychiatric patients are at increased risk for death by suicide, relative to patients receiving other types of medical care. Although suicide rates differ by diagnosis, increased risk for suicide is a feature of almost all psychiatric disorders¹ (Desai, 2003). Research from the United States suggests that 90% of suicides are committed by people with documented mental illness or substance use problems (Sullivan, Barron, Bezmen, Rivera, & Zapata-Vega, 2005; Yeager et al., 2005)

The term *suicide* is used in reference to deliberate self-inflicted bodily injury causing death. The bulk of the literature on suicide pertains to completed suicides; accordingly, in this report *attempted suicide* is considered separately from completed suicide and is defined as deliberate self-inflicted bodily injury committed with intent to die that did not result in the death of the patient. Finally, *self-harm* is defined as deliberate self-inflicted bodily injury undertaken in the absence of expressed intent to die (modified from O'Donovan, 2007).

¹ The diagnosis of mental retardation is an exception to this association as it is not associated with an increased risk for suicide.

The importance of suicide and self-harm as a strategic priority in the enhancement of patient safety is demonstrated by its prominence in the planning and priorities of prominent health organizations worldwide. As a requirement of accreditation surveys, starting in January 2009, Accreditation Canada (2008) will require assessment for suicide risk as a “Required Organizational Practice” for ensuring patient safety in mental health settings. APA (2003) recognized the prevention of suicides in inpatient and residential settings as one of four priority areas for psychiatric practice. In their recommendations for APA leadership and practitioners, they committed to continue to develop suicide assessment/intervention guidelines, promoting knowledge exchange in regard to suicide, encouraging the establishment of suicide registries to provide meaningful data on suicides in health care and promoting research on suicide. The Joint Commission (2008), also in the United States, selected reduction in patient suicide as one of their 2008 patient safety goals. Similarly, the Australian National Mental Health Working Group (2005) set the reduction of suicide and deliberate self-harm as a priority area for improving patient safety in Australia. They described suicide as “catastrophic system failures” that undermine confidence in the mental health care system.

Seclusion and Restraint

The use of seclusion and restraint as an intervention to manage acutely disruptive and violent behaviour among patients in the psychiatric context is a highly contentious issue perceived by some as an infringement of basic human rights and dignity, and by others as unavoidable in order to maintain safety and control to protect patients from harm (Fisher, 1994). Definitions of restraint vary widely in the literature and guidelines. There are many sources that provide guidance around the use of seclusion and restraint, from global political bodies (e.g., The United Nations), national guidelines (e.g., The Joint Commission), position statements (e.g., Canadian Psychiatric Association, International Society of Psychiatric-Mental Health Nurses), and institutional policies.

In Canada, the use of restraint and seclusion is governed by the respective Mental Health Acts of the province and territories, common law, the Criminal Code, as well as policies belonging to individual health care facilities. Taking Ontario’s Mental Health Act (1990) for example, the legal use of restraint on patients in psychiatric care is dictated by the legal status of the patient.

Certified involuntary patients as well as detainees under the Criminal Code placed in a psychiatric facility (i.e., patients found Not Criminally Responsible by Reason of Mental Disorder, Unfit to Stand Trial), and persons undergoing psychiatric assessment may be detained and restrained under the authority of the Mental Health Act. While Voluntary and Informal patients (i.e., admitted with consent of substitute decision-maker for treatment purposes) cannot be restrained or detained under the Mental Health Act; authority for the temporary restraint of these patients is possible under common law and other statutes (e.g., Criminal Code). Common law dictates that facilities may use reasonable and proportionate restraint in circumstances where it is necessary for a staff member to meet a duty of care in protecting the patient from imminent harm to themselves, or others (i.e., co-patients, staff, and visitors).

In this report, *restraint* is defined as the involuntary immobilization or restriction of a person’s movement. There is a general consensus that restraints can be classified into three main categories:

1. *Environmental Restraint (Seclusion)*. The restriction of a person’s mobility through physically confining the patient to a defined area. Seclusion has been defined as the temporary placement of a patient, alone, in a specially designed, unfurnished, and securely locked room (Sailas & Fenton, 2008).
2. *Physical/Mechanical Restraint*. The use of any technique or device to manually prevent, restrict or subdue the free physical movement of a person; or of a portion of the body (Registered Nurses Association of Northwest Territories and Nunuvut, n.d.). Physical restraint sometimes refers to the immobilization of a patient where one or more staff members make bodily contact (e.g. manual hold); however, physical restraint also has been commonly used as a synonym for mechanical restraint. Mechanical restraint involves the implementation of devices or appliances to restrain the patient (e.g., body vests, calming blankets, bed-side rails, multiple-point ligatures). Safety devices that can be removed by the patient without assistance (e.g., wheelchair belt) were not considered a restraint.
3. *Chemical Restraint*. The use of pharmaceuticals specifically administered for the sole purpose of temporary behaviour management or control. Medication prescribed as standard treatment of a patient’s physical/medical

condition or psychiatric disorders are excluded from this definition. Chemical restraint is sometimes called “rapid tranquilization” or “urgent sedation”. Drugs commonly used as chemical restraints include benzodiazepines and antipsychotics (Macperson, Dix, & Morgan, 2005).

Mortality and physical injury can occur when a patient is being placed in seclusion or restraint and throughout the duration of the episode. The risk of harm tends to increase when physical restraint is applied in combination with other precipitating situational factors, such as rapid sedation (National Institute for Clinical Excellence, 2005). Although a rare outcome, death can occur during seclusion and restraint use. Causes of death include: asphyxia (the most common cause of restraint-based death, including strangulation, choking, smothering), aspiration, blunt trauma, Catecholamine Rush, rhabdomyolysis, thrombosis, other cardiac-related difficulties, pharmacological interactions and overdoses, fire/smoke inhalation, and dehydration (Mohr, Petti, & Mohr, 2003; Weiss, Altimari, Blint, & Megan, 1998). The use of restraints to prevent injury from falls, such as bedside rail entrapment and trunk restraint (commonly used among elderly psychiatric patients), contributes to muscle weakness, physical deconditioning, and balance and coordination impairment, which in turn increases the patients’ risk of falling and sustaining related injuries. The use of seclusion and restraint has also been associated with increased psychological distress and aggression (Bonner, Lowe, Rawcliffe, & Wellman, 2002; Mohr, Mahon, & Noon, 1998; Mohr et al., 2003; National Mental Health Working Group, 2005).

Falls and Other Patient Accidents

The issue of patient accidents includes a range of incidents. Commonly reported examples in mental health settings include: slips and falls; burns from cooking, hazardous spills, smoking, or fires (as a result of smoking); injury while participating in recreational activities; vehicular accidents; stepping into traffic; cuts (from knives during food preparation or from therapeutic programming - woodworking, arts and crafts); collisions, and environmental factors (e.g., frostbite, drowning, or sunburn). Accidental falls are by far the most common patient accident and account for over 90% of reported accidents during hospitalization (Goodwin & Westbrook, 1993; NPSA, 2006). Falling becomes more of a risk with advanced age; about one third of community-dwelling people aged 65 years or older, fall each year, with the risk of falling rising

dramatically for those over the age of 75. Fall rates and fall-related injuries are generally higher among psycho-geriatric populations, compared to elderly persons in the community or other health care settings (e.g., residential care). As such, patient accidents, and in particular accidental falls, are a serious safety concern for mental health service providers (Gillespie et al., 2008; Rubenstein, Josephson, & Robbins, 1994).

There is variability in the way that patient accidents and falls are defined in the literature. For this report, a patient accident is defined as “an unanticipated occurrence during which an individual sustains an injury or potential injury, direct or indirect” (Catchen, 1987, p.292). A fall is defined as “a sudden, uncontrolled, unintentional, downward displacement of the body to the ground or other object, excluding falls resulting from violent blows or other purposeful actions” (National Center for Patient Safety, 2004, p. 27). A near fall is a “sudden loss of balance that does not result in a fall or other injury. This [definition] can include a person who slips, stumbles or trips, but is able to regain control prior to falling.” (National Center for Patient Safety, 2004, p. 27).

Given the high number of falls reported as patient accidents, research investigating patient accidents has largely focused on falling, with a particular focus on falls among patients diagnosed with dementia and cognitive disorders who reside in long-term care or nursing homes. There is little research available on other patient accidents, such as cuts, burns, or collisions. There also has been a strong research focus on intrinsic risk factors for falling (e.g., unsteady gait) as well as equipment failures (e.g., restraints, bed rails), with investigations of extrinsic antecedents (e.g., poor staff observation or environmental hazards) being less studied.

While most falls do not result in injury, falling in institutions has been associated with increased morbidity and mortality (Todd & Skelton, 2004). The literature suggests that most falls are predictable and preventable; however, it is important to acknowledge that fully extinguishing the incidence of falling may be impossible (McMurdo & Harper, 2004). Total fall prevention is challenging considering the irreversibility of many risk factors (e.g., advanced age), and the desirability of an institutional culture which fosters safe independent mobility. Indeed, a delicate balance must be struck between encouraging autonomous ambulation and restricting patients’ mobility to protect them from harm.

Abandoning and Missing Patients

Patients will abscond whether on a locked unit, from an open ward, or while on escorted leave. The issue of patients who go missing either from acute or long-term mental health settings is recognized as a significant patient safety concern, since these individuals can pose a danger to themselves or to others. The greatest perceived adverse outcome following an absconding or missing incident is the possibility that the patient will harm themselves or someone else. Four risk factors have been associated with absconding: 1) self-harm and suicide; 2) violence and aggression; 3) vulnerability for self-neglect or death; and 4) loss of confidence in the management and treatment provided by the hospital or organization (Bowers, Jarrett, & Clark, 1998). Despite recognition as a safety issue, relatively few research studies have focused on this behaviour. Of the research that has been conducted in this area, many studies focus on individual predictive factors, ignoring both provider and system factors, as well as the efficacy of preventative interventions (Bowers et al., 2003).

Various labels have been used to describe absconding behaviour and are used interchangeably in the literature, including elopement, absconding, and absent without leave (AWOL). For this report, the term absconding is used. In defining absconding, the NPSA (2006, p.46) states that “absconding applies to a patient ... who leaves the ward without permission or breaches terms of leave...and [are] considered to be safety incidents because of the patient’s vulnerability and the risk to themselves or others”.

A type of absconding behaviour often studied separately is wandering. Wandering itself is frequently defined as locomotion by individuals who are cognitively impaired (affecting memory, judgment, and spatial disorientation) and whose behaviour may or may not be purposeful (Lai & Arthur, 2003). Wandering is not synonymous with being lost or missing and includes behaviour such as pacing or lapping. When wandering behaviour takes place within a confined setting (i.e., pacing hallways) without intent to leave or engaging in an unauthorized leave, it may not necessarily be a harmful behaviour and may even promote well-being through physical activity.

Recently, a subtype of wandering called exit-seeking wandering was recognized as a category separate from other types of wandering (Lai & Arthur, 2003; Lucero, 2002). Similar to wandering, exit-seeking wandering is characterized by cognitive impairment, but unlike wandering (yet

similar to absconding) exit seeking wandering involves wilful intent to leave a secure ward or facility without permission (Aud, 2004; Lucero, 2002). Exit-seeking wanderers are highly-motivated and goal-directed, and have the ability to plan and carry out an intention to leave the facility (Lucero, 2002). As such, exit-seeking wandering poses the same danger to the patient and community as absconding (e.g., self-harm, suicide, violence, aggression, and self-neglect). Few studies have focused on exit-seeking wandering solely, therefore, relatively little is known about when or how exit-seeking wanderers abscond.

Another related concept is the notion of patients who go missing from the private sector or other community based services. These are generally referred to as “no shows” or “missed appointments”. The literature revealed a dearth of research that had made the connection between “no shows” and patient safety implications in mental health. Instead, the focus of the literature was on issues such as providing interventions for reducing and responding to “no shows”.

Adverse Medication Events

Psychotropic medications are the primary mode of treatment for the vast majority of individuals suffering from mental illnesses and are widely prescribed throughout Canada. According to IMS Health Canada (n.d.), a total of 422.6 million prescriptions were dispensed from Canadian retail pharmacies in 2007. Of these prescriptions, psychotropic medications accounted for 53 million (12.6%) and was surpassed only by cardiovascular agents with a volume of 65.7 million. The majority of psychotropic medications prescribed were for the treatment of depression and/or anxiety, which accounted for a total of 14.2 million visits to a physician’s office. Physicians in general practice wrote the majority of all prescriptions (48%) followed by family medicine practitioners (25%). Interestingly, prescriptions written by psychiatrists accounted for only 3.2% of the total. The relatively small proportion of prescriptions written by psychiatrists, suggests that a significant proportion of psychotropic medications are prescribed by non-psychiatrists that may not be as familiar with these agents as their psychiatric colleagues.

Adverse medication events attributed to psychotropic medications are well-known (e.g., dispensing or prescribing mistakes, incorrect labelling) and, in most circumstances, are usually of minor clinical significance and consequence. However, serious adverse psychotropic

medication events do occur and account for the majority of medication-related hospital admissions (Bhalla, Duggan, & Dhillon, 2003). An adverse medication event (“medication error” as reported on the website) refers to “any preventable event that may cause or lead to inappropriate medication use or patient harm while the medication is in the control of the health care professional, patient, or consumer. Such events may be related to professional practice, health care products, procedures, and systems, including prescribing; order communication; product labelling, packaging, and nomenclature; compounding; dispensing; distribution; administration; education; monitoring; and use” (National Coordinating Council for Medication Error Reporting & Prevention, n.d.).

Unlike medications used to treat medical/physical illnesses, the effectiveness of psychotropic medications requires that they enter into the central nervous system. Although their primary pharmacological targets are receptors located within the brain, psychotropic medications (like all other medications) will also act upon peripheral receptors and tissue. As a consequence of this lack of specificity for their intended targets, adverse events with psychotropic medications (e.g., prescribing or dispensing error) are associated with a wider range of adverse effects than most other medications.

Adverse Diagnostic Events

As with a chronic physical illness, the foundation for optimal short- and long-term management of a mental illness is an accurate understanding of the underlying diagnosis. Diagnosis informs not only acute treatment interventions but also guides long-term prognosis and management. An adverse diagnostic event is said to occur when there is a delay in formulating appropriate diagnoses, a failure to use appropriate techniques for making diagnoses, and a failure to act on the results of diagnostic tools, resulting in an inaccurate diagnosis (Nath & Marcus, 2006). An inaccurate diagnosis may lead to inadequate or inappropriate treatment of an illness or a failure to treat an underlying condition. The main consequence of an inaccurate mental health diagnosis is an incomplete management of the risk of morbidity associated with a particular mental illness, such as self-harm and suicide or acts of aggression and violence to others.

The key concepts related to diagnostic adverse events include misdiagnosis, underdiagnosis, and comorbidity. Misdiagnosis refers to assigning the wrong psychiatric diagnosis. For example, incorrectly assigning a diagnosis

of unipolar depression when the correct diagnosis should have been bipolar depression. In this case the wrong treatment would be applied and potentially result in patient harm. Underdiagnosis refers to failure to detect co-existing psychiatric or medical conditions. An example would be assigning a correct diagnosis of recurrent major depression but missing a new co-existing diagnosis of hypothyroidism. In this case the correct treatment for depression would be applied but any depressive (and other) symptoms related to hypothyroidism would remain untreated. A related concept to underdiagnosis is missed diagnosis which refers to the total failure to detect a comorbid psychiatric condition. There would be an increased risk of a missed comorbid psychiatric diagnosis in treatment settings that are not primarily directed at mental health care. For example, a patient receives treatment for a minor physical ailment in an emergency department. This patient displays signs of disorganization and odd speech that are the harbinger of a psychotic relapse, but is discharged without any investigation or diagnosis of psychiatric pathology. In this case, the result may be a missed opportunity for a treatment referral and prevention of a full blown psychotic relapse and psychiatric hospitalization.

Obtaining a diagnostic formulation of a physical illness is traditionally based on a patient’s history, physical examination, and laboratory investigations. The process of formulating a diagnosis of a mental illness is proportionately more reliant on historical information. Symptoms of a mental illness are elicited from the patient through direct examination and collateral informants; a differential diagnosis is formulated; and a diagnosis is made that conforms with criteria for a mental illness established in a diagnostic manual such as the DSM-IV-TR (APA, 1997) or the International Classification of Disorders, Tenth Edition (World Health Organization, 1992). Even when a thorough history is obtained, there are diagnostic limitations inherent in the field of mental health resulting in misdiagnosis and underdiagnosis of mental illnesses and other co-existing health problems. These include, limitations associated with the categorical constructs of illness presented in diagnostic manuals; multiple presenting problems that can be attributed to different diagnostic entities; cultural factors affecting the way in which a patient’s history is interpreted; and psychiatric symptoms interfering with a patient’s ability to accurately report both medical and mental health problems (Druss, 2007; Shear et al., 2000).

Gaps in the Literature

The review of the literature revealed that there were several common gaps in the literature across the eight patient safety incidents reviewed. These are outlined below.

High Quality Research

Among the literature searched for this paper, there was an absence of methodologically sophisticated research. In particular, the literature was lacking meta-analyses and randomized control trials. There was an absence of methodologically rigorous studies that employ prospective designs, well-defined dependent variables, large sample sizes, power analyses, validated measures, acceptable attrition rates, and clearly articulated pre-planned statistical analyses. Furthermore, many studies fail to report important variables (e.g., gender, age, substance misuse/abuse) and effect sizes.

Canadian Perspective

The bulk of the literature on patient safety in mental health comes from studies in other jurisdictions; in particular the United States, Australia, and the United Kingdom, with little data available within Canada. While some of the findings from other jurisdictions will likely apply to Canada, it is reasonable to anticipate that some findings will not be applicable and that some issues might be unique to the Canadian context. Differences between jurisdictions, such as health care, legal systems, and cultural and social norms, likely will result in findings that are unique to Canada. Until comprehensive studies in Canada have been conducted, attempts to improve patient safety in mental health in the Canadian system are only partially informed by research.

Understudied Populations

The search strategy employed in the present research yielded very few empirical or conceptual papers that looked at older adults (with the exception of the literature on accidental falls), adolescents, or children using mental health services, with the focus of the literature largely on adults. Given the value of primary interventions to prevent adverse events and manage the risk of increasing severity over the life-course, it seems particularly important to address patient safety among young people with mental illness. At the other end of the spectrum, developing a knowledge base to inform practice with elderly patients should be a priority given the aging Canadian population.

Cross-cultural research and experiences of racism and discrimination of cultural, ethnic, and religious minor-

ity patients is another understudied patient safety area in mental health. Understanding issues of cultural, ethnic, and religious diversity and institutional racism is an area for future research consideration.

Understudied Mental Health Sectors

While efforts have been made to identify and rectify root causes of patient safety events among patients, these studies have focused on government regulated systems of health care such as the Veterans Affairs system in the United States or the National Health Trust in the United Kingdom; likely due to the convenience of sampling in these settings. A few studies included mental health professionals in private practice, but by and large, information on patient safety in the private sector or community-based mental health services is missing.

Patient's Perspective

Most of the research reviewed for this report was from the perspective of the staff with a lack of research reflecting the patient's or their family's and caregiver's perspective on safety incidents. Understanding patient safety from the perspective of the patient, their family, and their caregivers could provide valuable insight into understanding the causes of patient safety incidents, risk assessment, and patient care management.

Psychological and Emotional Harm

Harm associated with patient safety generally is regarded as physical harm, with minimal attention having been paid to investigating emotional or psychological experiences among patients following an adverse event (e.g., witnessing or being the direct victim of violence, losing a patient or co-patient to suicide, feelings of powerlessness or a lack of safety following an aggressive event).

Risk Assessment, Training, and Intervention

The literature review suggests there is a lack of empirically validated risk assessment tools, training programs, and interventions for preventing and reducing patient safety incidents specific to mental health. Little research has focused on establishing well-validated and consistently accepted risk assessment tools, with sound psychometric properties (validity and reliability) and clinical outcome statistics (sensitivity, specificity, and positive and negative predictive power), to assist clinicians in identifying "high risk" patients (i.e., patients at risk for suicide, violence, absconding etc). Further, there is virtually a complete absence of high quality research (such as randomized control trials) focused on evaluating the efficacy of patient safety training programs and interventions.

Discussion

Eight patient safety incidents were used to guide an in-depth review of the white and grey literature including: violence and aggression; patient victimization; suicide and self-harm; seclusion and restraint; falls and other patient accidents; absconding and missing patients; adverse medication events; and adverse diagnostic events. The review of the literature revealed several areas for future research to focus on. Greater attention is required to methodological rigour, including prospective longitudinal studies, validated measures, consistency in the measurement of key terms, and a sufficient number of participants to obtain necessary statistical power. There is a need for Canadian-based patient safety research in mental health settings, particularly research on older adults and child/adolescent populations; different cultural, ethnic, and religious groups; and patients from the private sector, rural settings, and other community-based mental health care services. The emotional and psychological outcomes associated with patient safety incidents is also an area for future research consideration. Missing from the literature is research reflecting the patient's and their family/caregiver's perspective on safety incidents. Finally, empirically validating risk assessment tools, training programs, and interventions for preventing and reducing patient safety incidents in mental health is recommended for future research.

Key Informant Interviews

Background

Persons with expertise in patient safety in mental health are a source of information on current practices, upcoming initiatives, and issues that may not be available in white or grey literature. Forming the basis of the second research methodology, 19 interviews were carried out with Canadian and international leaders and stakeholders in the areas of patient safety and/or mental health.

Method

Interviewees were selected by the Advisory Committee, OHA, and CPSI, and identified as candidates because of their knowledge and expertise in patient safety and/or mental health. The majority of the key informants interviewed were from Canada (78.9%). Four international experts were interviewed: one from Australia, one from the United Kingdom, and two from the United States. Canadian key informants were drawn from different regions across Canada (see Table 1)². Twelve interviewees held management or administrative positions, nine held academic positions, seven held clinical positions, five worked as advisors or consultants, three held leadership positions with a national patient safety organization, and two were identified as patient advocates (See Table 1). One interview participant was a judge with experience in forensic mental health and another worked in health insurance as a risk assessor.

² It is noted that seven participants were national representatives; two from Alberta and five from Ontario. However, only two adopted a national perspective, either because what they said was not location specific or they made numerous mention to Canadian-wide issues.

All interviews were carried out over the phone by a single interviewer. The interviews were qualitative, structured interviews and designed to seek information on current initiatives and research; strategies for improving patient safety; emerging issues; gaps in current knowledge and practice; and barriers to improving patient safety. See Appendix D for a copy of the interview guide. The interviews ranged in length from 30 to 75 minutes. All interviews were audio recorded and transcribed. Prior to each interview, the interview guide was sent to the interviewee to allow them time to familiarize themselves with the questions. At the beginning of each interview, interviewees were assured of the anonymity of their responses and verbal consent was sought to continue with and record the interview.

Analysis

The analysis involved a two-step process. The first step involved coding each interview on issues that were easily categorized and that could provide some basic quantitative data, such as how often a particular adverse event was mentioned. This process assists in organizing the interview data in a more easily manageable and accessible format. During the second step, larger themes emerging from the data were identified. These themes were not restricted to responses to individual interview questions and often spanned a variety of questions. Themes were identified, in part, through the initial coding and categorization process as well as by reading and re-reading the interview transcripts.

Table 1—Key Informant’s Region and Work Place Setting.

Location	Frequency (%)		Workplace Setting	Frequency (%) ^a	
Canada	15	79%	Academia	9	47%
• BC	1	5%	Clinical	7	37%
• Alberta	2	11%	Patient Safety	3	16%
• Ontario	9	47%	Patient Advocacy	2	11%
• Quebec	1	5%	Advisor/Consultant	5	26%
• Nova Scotia	2	11%	Management/Administration	12	63%
Australia	1	5%	Legal/Risk Management	2	11%
United Kingdom	1	5%			
United States	2	11%			
Total Number of Interview Participants			N = 19		

^aSome interviewees held more than one position.

Results

Defining the Issue, Recognizing Unique Barriers, and Setting Priorities

As the review of the literature demonstrated, concerns about patient safety in mental health are an emerging issue that has only recently received attention from the health sector and other interested parties. The ‘newness’ of the issue is linked to the most basic finding; a diversity of perspectives on patient safety in mental health exists and there is little agreement on how patient safety should be defined in this context and what should be the associated priorities. Patient safety in mental health can be defined narrowly or broadly. Both perspectives are present in the data used for this analysis. Some interviewees conceptualized patient safety as a collection of specific adverse events such as suicide, medication errors, or harm resulting from the use of seclusion and restraints. Others adopted a wider definition that included issues such as quality of care provided, adequacy of available services, and the impact of ongoing stigmatization of mental illness.

Patient safety is not an issue that can be considered on its own, independent from other concerns involved in the treatment of mental health. According to 32% of the interview participants, patient safety concerns need to be balanced with patient rights and autonomy. Furthermore, patient safety in mental health is context dependent and issues around patient safety in mental health vary by the service setting.

A significant issue that pervaded many of the responses provided by interview participants was the impact of stigma surrounding mental illness. Approximately 42% of participants felt that stigma and discrimination impacted the care that patients received in mental health settings, in acute care settings, and in emergency departments, thereby compromising the safety of patients. Stigma and discrimination against mental illness has also created the situation where mental health services are under funded and undervalued.

Priority Issues – Adverse Events, Service Availability, and Quality of Care

As was mentioned in the previous section, setting priorities is necessary for shaping an effective response to safety concerns in mental health. Medication safety (78.9%), suicide (63.2%), slips and falls (47.3%), and aggression/violence (47.3%) were the most frequently mentioned adverse events when interview participants were asked what they considered to be the primary issues related to patient safety. Similarly, medication safety concerns

(21.1%), aggression/violence (21.1%), and substance use related harms (15.8%) were commonly identified as emerging issues. Interestingly, the adverse events that were most frequently referred to as primary issues of concern vary somewhat from the adverse events interviewees reported experiencing in their organization. Suicides were reported by 68.4% of the interview participants. Other adverse events that were commonly mentioned included medication safety concerns (44.4%), aggression/violence (31.6%), slips and falls (15.8%), and patient absconding/elopeing (15.8%).

In addition to adverse events, interview participants identified service availability and quality of care as issues. Concern about mental health services being offered (or not offered) has a number of different manifestations in the context of patient safety. To begin with, there is a general concern that the demand for services outstrips the supply of available services. This creates a situation where patients requiring care in inpatient settings are having to wait for long periods of time to get treatment or are not getting treatment at all. Alternatively, once treatment is initiated it may not be delivered at the appropriate level. Service availability is a particularly acute concern in the community; for both health care and social services. There has been a switch to community care but the services have not followed. Other quality of care concerns centred on staff attitudes and assessment skills, particularly physical health assessment skills.

Responding to Patient Safety – Current Practices and Initiatives

As the previous discussion indicates, there are many concerns linked to patient safety in mental health, in hospitals as well as in the community. This raises the question; what is currently being undertaken to respond to patient safety concerns? Interview participants were not overly confident in how their organization managed patient safety. Some participants suggested that systems were in place to assess risk, report and analyze incidents, and provide feedback. They also reported increased awareness and changes in staff attitudes towards patient safety. However, they pointed out that these were new developments and further change was needed, particularly with regard to attitudes and ensuring that policies were fully implemented. Insufficient resources were also mentioned as hindering an organization’s ability to respond to safety concerns. Other shortcomings mentioned included staff complacency and resistance to change, a failure to translate good intentions and policies into practice, and a lack of services and staff, combined with heightened patient acuity.

Interviewees were asked more specifically about how their organizations respond to adverse events. A variety of different strategies were employed, ranging from no response at all to complex systems for reporting and analyzing incidents. A common response was to have a review committee in place that reviewed serious adverse events. Review committees might examine the root causes of the incident or make suggestions for how to improve risk management strategies, as well as other policies and practices. Other responses mentioned were incident-reporting processes and protocols for responding to specific adverse events. Improvements to facility design, documentation practices, and education and training were also mentioned as responses to adverse events.

Responses to patient safety concerns are not necessarily driven by reactions to adverse events and can include more proactive initiatives. Interview participants were asked about what initiatives or research their organization was participating in or were being carried out elsewhere. Many of the initiatives mentioned essentially involved adjustments to an organization's internal policies and practices. Internal committees often lead these initiatives but outside agencies, such as patient advocates, could also provide advice. Other initiatives were more broad-based and not limited to a single organization. Examples provided included the creation of standards of practice around medication safety, organization accreditation systems, conferences on patient safety, and the creation of committees, commissions, and task forces.

Knowledge Transfer from Other Health Care Settings

Strategies for promoting patient safety need not come directly from mental health. The delivery of safe patient care is a priority across all health care settings. Other fields have developed best practice models and tools to prevent safety concerns. Interview participants were asked to rate how relevant patient safety findings from other health care settings were to mental health. The majority (61.1%) felt that information from other settings was very relevant or extremely relevant to mental health. A further 33.3% felt they were quite relevant and only one interviewee suggested that they were only somewhat relevant. The majority of interview participants (73.7%) suggested that findings and practices from other health care settings were relevant to mental health because some issues and concerns, such as slips and falls or medication errors, are universal. Many interviewees (42.1%) also made the point that there are concerns unique to mental health such as suicide, self-harm, restraint and seclusion, and the stigma

associated with mental illness. These differences can be a barrier to applying findings and practices from other health care settings to mental health. However, even if particular practices or tools are not directly transferable to mental health, the principles and concepts employed in other fields are applicable.

Improvements, Barriers, and Challenges

Clearly there is no single response to patient safety issues in mental health. The interview participants made a variety of suggestions for how patient safety could be improved including the following:

- Education and awareness for the public, police, mental health care workers, and health care professionals in general.
- Staff training.
- Greater acknowledgement /awareness of physical health concerns.
- More information sharing and research.
- Greater communication and cooperation between organizations and across jurisdictions.
- More practical tools and actionable solutions.
- Improvements to facility design.
- Improved documentation practices.
- More systematic patient monitoring and community follow-up.
- More effective discharge planning and improved handover/handoff strategies.
- Better reporting procedures or mandatory incident reporting.
- Improvements in service availability and quality of care.
- Improvements in staff attitudes and changes to institutional cultures.
- Breaking down professional silos.
- Independent patient advocate.

In addition to discussing strategies for improving patient safety, the interview participants also acknowledged some of the barriers or challenges to creating safer environments for mental health patients. Many of the barriers are simply the converse of the suggestions provided for improving patient safety and include:

- Insufficient resources (funding and workforce).
- Staff attitudes and institutional culture.
- Ignorance and a lack of awareness of patient safety issues and mental illness in general.
- The low priority often assigned to patient safety.
- Silos in the health care system which limit inter-professional collaboration.
- The stigma associated with mental illness and corresponding marginalization of mental health patients.

Discussion

The key informant interviews provide a wealth of information to consider regarding patient safety in mental health as well as potential responses to deal with the unique issues. The interviews highlighted that patient safety in mental health is an emerging concern in health care, and as such, there is a lack of awareness of the issues as well as a shortage of research and information on the topic in general. More work needs to be done to establish a clear definition, set priorities, and develop strategies for responding to patient safety concerns.

Coming to a relative consensus on what falls under the purview of patient safety in mental health is a daunting but necessary task. It is a necessary task because a clear understanding of what patient safety in mental health entails is needed to develop concise, workable solutions with clear objectives. Arriving at a clear definition and consensus on patient safety priorities is a daunting task because it involves making a decision on whether a narrow definition of patient safety, which focuses on the prevention of a collection of adverse events, or a broad definition, which includes issues around service availability, quality of care, and the stigma associated with mental health, is most appropriate. The following questions need to be considered. Should a patient safety mandate include addressing service shortages, quality of care issues, and stigma, or, would taking on these issues dilute a patient safety mandate to the extent that it is no longer focused or productive? Alternatively, would a decision not to actively pursue improvements in patient care and actions to reduce the stigma associated with mental illness undermine the effectiveness of any patient safety initiatives?

What is clearly demonstrated here is a link between patient safety and service availability, quality of care, and mental illness stigma. The stigma associated with mental illness can undermine the quality of care patients receive at a systems and an individual level. At a systems level, the marginalized status of mentally ill persons has resulted in mental health services being considered a low priority with regard to health funding and resources. At an individual level, practitioner biases can result in the urgency of mental health crisis being underestimated or patient concerns and complaints being disregarded. As such, stigma against the mentally ill can result in patient safety being given a low priority. The lack of available services and resource shortages can result in patients not receiving treatment, patients not being monitored and care not being properly planned, as well as insufficient staff development and training.

A recent shift in the delivery of psychiatric care from institutional settings to community mental health centres, combined with resource shortages, has made understanding patient safety issues pertaining to community care settings an urgent issue. Up until this point patient safety in mental health has largely been conceptualized as safety within an in-patient setting. Community patient safety is an issue that needs to be included in any efforts to frame the scope and nature of patient safety in mental health.

Although the scope of patient safety in mental health is not agreed upon, it is safe to conclude its principal goal is to prevent harm to patients. Within an organization, preventing harm to patients is a multi-level undertaking. At a broad level, this involves establishing a 'culture of patient safety'. This requires commitment from staff and administrators as well as open reporting and open communication. Staff attitudes have an important role to play in this because it is unlikely that policies will be translated into practice if staff does not actively support the principals behind the policies. Comprehensive and accountable incident review processes, which include reporting and feedback mechanisms, are also important. Incident review processes need to focus on a systems analysis looking at the root causes rather than individual causes of the incident.

It is clear from the results of this research that addressing patient safety concerns must include action beyond individual organizations. The demand for standardization of practice and the need for collaboration and cooperation between organizations are evidence of this. The call for increased awareness, greater information sharing, and additional research is an indication that the nature and scope of patient safety in mental health needs to be considered at a regional, national, and even international level. Furthermore, mental health professionals need to look to other healthcare settings for new and potentially useful information as well as potential allies in promoting the issue and developing awareness.

This research has found that there is widespread acceptance among the key informants interviewed here that greater action is required to improve patient safety but there are significant challenges to doing this. Barriers such as resource shortages, staff attitudes and institutional cultures, a lack of awareness, and the low priority given to patient safety in mental health are not insurmountable. Time and the work of energetic, dedicated advocates can make patient safety a high priority and reduce the harms to patients in hospitals as well as communities.

Roundtable Event

Background

As the third and final research methodology, an invitational Roundtable Event was held in September 2008 in Toronto, Ontario, to discuss the preliminary findings from the literature review and key informant interviews, as well as the issue of patient safety in mental health more generally. Seventy two professionals with expertise in patient safety and mental health participated in the Roundtable Event.

Method

Akin to the key informants, the Roundtable Event participants were selected by the Advisory Committee, OHA, and CPSI, and identified as participants because of their knowledge and expertise in patient safety and/or mental health. Seventy one participants were from Canada and one from the United Kingdom (guest speaker for the Roundtable Event). Two participants departed after the first small group discussion. As highlighted in Table 2, the participants were drawn from different regions across Canada. The majority were from Ontario (55.6%) and British Columbia (26.4%), and worked in management/administration (30.6%) or academia/research (25%) settings. Signed consent was obtained from each participant.

The Roundtable Event was coordinated by a professional facilitator. Each participant was provided in advance with a summary paper outlining the preliminary findings from the literature review and key informant interview analysis. On the day of the Roundtable Event, an overview of

the preliminary findings was presented. Following this, the participants divided into nine separate breakout discussion groups, and were asked to discuss and provide their perspectives on three topics (attached as Appendix E). The breakout groups were designed to consist of a mix of participants with various professional roles (i.e., administration, clinical, research etc) and geographic representation across Canada. Each group was assigned a small group facilitator (Advisory Committee Member) who guided the discussion, and a scribe (research team member or Advisory Committee Member) who took notes on flip charts. After each topic was discussed in the small groups, a representative from each table presented the main themes of their discussion to the larger group. At the conclusion of the Roundtable Event, the scribe notes were collected. The data generated from the small group discussions were analyzed and are summarized below.

Analysis

The analysis of the data collected from the Roundtable Event involved identifying common themes from each discussion topic and providing a detailed discussion of each of these themes. Themes were identified by reading and re-reading the notes from each of the nine discussion groups. Once the themes were identified the information from each group was organized or categorized under each of these themes. This information was then used to provide a more detailed discussion of the theme. When available, examples which illustrated the intent of the theme or a specific detail were included.

Table 2—Roundtable Participants’ Region and Work Place Setting.

Location	Number		Workplace Setting	Number	
Canada	71	98.6%	Academia/Research	18	25.0%
BC	19	26.4%	Clinical	16	22.2%
Alberta	6	8.3%	Patient Safety	12	16.7%
Ontario	40	55.6%	Patient Advocacy	2	2.8%
Quebec	1	1.4%	Management/Administration	22	30.6%
Nova Scotia	3	4.2%	Legal/Risk Management	2	2.8%
Manitoba	2	2.8%			
United Kingdom	1	1.4%			
Total Number of Interview Participants			N = 72		

Results

Discussion Topic 1: *‘What are the themes, priority issues, and actions for patient safety in mental health?’*

Stigma

The stigma associated with mental illness and its ramifications for patient safety was a principal theme arising from this discussion. All but one table brought it forward as an issue of concern. Participants suggested that stigma creates a cascade of negative effects that thread through a variety of settings including the mental health care system and the larger health care system.

Stigma among staff, health care professionals, and the larger health care system is particularly important to patient safety because it directly influences an individual’s ability to access care and the quality of care they receive. For example, some practitioners refuse to treat persons with mental health concerns or patients may be denied mental health treatment because of active addictions. In emergency rooms, mental health concerns are often assigned a low priority, which can result in patients leaving without treatment or not receiving the type of treatment they need. Physical health concerns of mental health patients are often under-treated because they may be assumed to be a symptom of the patient’s psychiatric illness. Stigma can also lead to the situation where patients are reluctant to disclose a psychiatric diagnosis and treatment, which can result in insufficient psychiatric care or impact care for other medical conditions. At a systems level, stigma can also influence access to care and quality of care. Mental health services are often considered less worthy of resources than other areas of medicine or are considered a low priority. As such, there is a shortage of services and resources for mental health patients.

Strategies for overcoming the stigma of mental illness are integral to improving patient safety in mental health. Suggested approaches to overcoming stigma included:

- Increasing awareness through education: Providing education to health care providers and the public in general to increase awareness that stigma influences health care practices and system-wide responses to mental illness³.

³ It is noted that one table questioned whether large scale anti-stigma campaigns had any effect on discriminatory behaviours and attitudes and thought that a targeted approach might produce better results (e.g., targeting specific health care providers, such as those working in emergency rooms).

- Patient perspective: Listening to a patient’s experiences with stigma could provide valuable insight and information into overcoming stigma.
- Tool development: Developing an intervention or checklist tool that is designed to identify stigma.

Access to Care

Access to care was identified as a patient safety issue. There are a variety of obstacles to accessing care including: stigma (as was mentioned above), geographic distance, exclusion or admission criteria, a shortage of services in general, a shortage of specialized services, and a shortage of trained professionals.

Special populations including children/youth, seniors, and individuals residing in rural areas were identified as populations facing increased barriers to accessing services. It was recognized that mental health patients should have the same right to timely assessment and treatment as persons with physical health concerns.

Patient Voice or Involvement

Seven of the nine tables identified the need to consider safety issues from the perspective of patients and caregivers/family, and not just staff or health care professionals. Patients and their caregivers/family can provide valuable information on safety concerns, strategies for preventing incidents or responding to incidents when they do occur, and an overall better understanding of how patients experience the mental health care system. Likewise, including patients and their caregivers/family in the development of care plans could reduce patient safety incidents by ensuring patients and their families understand and agree to the plan.

The need for a framework or strategy for eliciting patient input as well as fully incorporating that input in initiatives to improve patient safety was identified. Some suggestions for soliciting patient input were:

- Including at least two patients on review boards.
- Creating groups (e.g., Patients for Patient Safety Canada) where patients have a forum for voicing their experiences and concerns, and are able to contribute to patient safety programs and improvement initiatives.
- Ensuring that patient input is received from all levels, commencing from the bedside or clinicians office to local advisory committees to provincial and national initiatives.

Standardization of Definitions, Nomenclature, Measurement, and Practice

All nine tables identified the need for standardization of language (i.e., standardization of patient safety definitions and terminology) and practice across all mental health settings (i.e., hospitals, corrections, community mental health, and private care). There is also a need to establish the limits of the patient population under consideration (i.e., Would this include only persons 'in service' or also persons in need of service?). Without clear, agreed upon definitions and nomenclature it is difficult to develop meaningful responses or initiatives that are based on the best available research or information.

There is also the need to identify and standardize best practices across organizations, health regions, and provinces/territories. Patient safety incident and close call reporting was identified as one area of practice that could benefit from standardization; reporting procedures can vary between hospitals as well as health authorities and geographic regions. Professional practice guidelines and standardized training for health professionals were also suggested as a way of ensuring comparable standards of care both within and between provinces as well as between care settings. Similarly, it was suggested that standardized assessment tools were needed to avoid misdiagnosis and improve risk assessment. The need for further research to ensure practices and tools are evidenced based was acknowledged.

Communication, Service Integration, and Inter-Professional Collaboration

Five tables suggested that improving communication, service integration, or inter-professional collaboration would improve patient safety. Patient safety concerns often arise during handovers and transitions of care, including transitions within facilities (e.g., between wards/units), between facilities (e.g., general to psychiatric hospitals) and between health-care systems (e.g., emergency to mental health care, hospital to community services, child to adult services). The comment was made that there are too many silos and communication problems between different health care providers. Collaborative or coordinated care plans were suggested as a specific tool to improve cooperation between care settings or organizations.

Promoting a Patient Safety Culture

Some participants indicated that mental health care providers require a cultural shift in understanding patient safety; policies and decisions contribute to a culture of complacency, blame, and lack accountability, instead of promoting a patient safety culture. Participants felt that

adverse events were under reported and that little use was made of information garnered from close calls. A number of suggestions were made on how to promote a culture of patient safety:

- Exploring the root causes of an incident.
- Shifting the focus from individual factors or behaviours to system factors.
- Encouraging openness and transparency in reporting and learning from adverse events.
- Improving skills for responding to potential incidents through training and education.

Some roundtable participants were sceptical about how far the idea of a blame free culture could go and whether this could actually be achieved in practice.

Adverse Events and the Growing Complexity of Mental Health Patients

Comorbidity and the growing complexity of mental health patients were raised as issues because they can create additional safety risks. Addiction and the interaction between illicit drugs and anti-psychotic medications were identified as increasing areas of concern. Other concerns were raised around specific adverse events such as aggression; the misuse of seclusion and restraints; medication errors; and misdiagnosis or under-diagnosis. There was a call for more information on how to manage and prevent these more effectively. On the other hand, it was also suggested that mental health service providers do well at managing medications and preventing medication errors, and that this was an area where there was Canada-wide action on preventing errors.

***Discussion Topic 2:** 'What best practices, tools, programs and initiatives are currently being utilized to optimize patient safety for patients receiving mental health services?'*

Participants were able to identify many patient safety tools and practices for mental health settings, yet also noted that it was difficult to know what tools/practices were available. There was also concern that the tools/practices that were available were not standardized across different groups or care settings and were not necessarily evidenced based. Similarly, there was concern that tools/practices were not being implemented correctly or applied in a consistent fashion, and due to time constraints, often abandoned in favour of more efficient methods. Further research and evaluation were suggested, along with the creation of an inventory of available patient safety tools and practices for mental health settings.

Specific gaps in available tools and practices were identified. For instance, it was suggested that there was a need for mental health assessment tools that could be used in acute or continuing care settings, which would identify patients with specific co-morbidities who might have unique safety risks. There is also a need to better integrate hospital and community resources and to develop effective, safe practices for transitions of care and handovers. Tools and practices for children and older adult populations were identified as needing improvement and further development. Another suggestion was to focus attention on the development and implementation of preventative or proactive tools and practices, such as the development of risk assessment tools, safety checklists, and implementing safety protocols, rather than solely reactive tools/practices (responding after an event).

Discussion Topic 3: *‘What are the next steps/future directions for patient safety in mental health?’*

Action at the National Level

There seemed to be agreement among the roundtable participants that national action was required to promote patient safety in mental health settings, such as the development of a national framework for action or patient safety strategy. It was suggested that such a strategy be long-term (i.e., 10 years) and include provisions for getting information and tools to frontline workers. Participants also suggested that inter-professional guidelines, practice standards, core-competencies, evaluation frameworks, and common definitions and nomenclature need to be created at the national level to ensure standardization. One group recommended identifying one best practice which could be implemented in various settings across Canada as a trial for uniform national action; suicide risk assessment was identified as a good place to start. Another suggestion was to develop a national adverse event reporting and learning system, similar to the system in the United Kingdom. Each province would voluntarily collect information on critical incidents and adverse events but this information would be available at the national level. Likewise, there appeared to be significant interest in creating national health records or electronic records that were standardized and could be shared between jurisdictions. A number of tables also recommended the creation of a national clearinghouse or vetting agency for information on patient safety specific to mental health.

Leadership

Paired with the idea of national action on patient safety, was the view that leadership was needed to champion the cause. The Mental Health Commission of Canada and CPSI were identified as two agencies that could provide this leadership. For instance, it was suggested that CPSI could engage experts, evaluate any progress made on patient safety in mental health, act as a hub for information and standards of practice, and facilitate discussion and action. Similarly, the Mental Health Commission of Canada could set national priorities, encourage reliable science, create practice standards and common definitions, and include a patient safety section in the Commission’s knowledge exchange centre. Cooperation between these two agencies, as well as other national agencies, was emphasized. Collaboration with Accreditation Canada to further the patient safety agenda and ensure patient safety initiatives or standards were implemented was also recommended.

Research and Evaluation

A common suggestion from this discussion was that additional research would help develop our understanding of patient safety concerns and assess where we are at in terms of promoting safe practice or creating safe care settings. Further research is needed to determine priorities in patient safety and mental health as well as to evaluate existing tools and practices. For instance, one table suggested that an auditing system be developed which contained structure, process, and evaluation outcomes to measure our current successes in implementing patient safety practices. This information could then be used to help determine what the next steps would be in promoting patient safety. Another suggestion was to apply knowledge from other health care sectors to mental health settings and knowledge from other countries to Canada. In all, there was a call to truly integrate clinical practice, research, and knowledge transfer to ensure that change actually occurred.

Patient and Family Involvement

The position, that input from patients and their families is required, was revisited in this discussion (see discussion topic one). It was suggested that input from patients and their caregivers/family should be sought before proceeding with any initiatives or further action on patient safety and that their input should be integrated in a meaningful fashion in future initiatives.

Education

Education was presented as a key area for improving patient safety. Further, education is critical to breaking down the stigma around mental illness, both in the public and the health care system itself. It is also critical to achieving standardization of core-competencies and safe practices. As such, educating new health care providers involved in mental health care was presented as an important step in promoting patient safety.

Funding

Participants acknowledged that funding for patient safety initiatives was critical to their success. It was suggested that funding should be provided at a national level and that funding needed to be dedicated to research, implementing policies and practices, and to mental health care in general. Funding and resource allocation needs to be proportional to the amount of skill and care required to help mental health patients. Specific funding suggestions included funding patient safety and quality representatives in mental health facilities and directing targeted funding to the accreditation process within health regions and hospitals.

Expanding the Breadth of Patient Safety

Participants identified that many patient safety initiatives and tools focus on adult populations in inpatient settings. A next step in promoting patient safety is to move beyond this setting and population, to include community care as well as concerns specific to children and youth, older adults, cultural groups, and rural areas. In this regard, there is a need for tools and practices specifically designed for target populations and generalizable across settings.

Discussion

The findings from the Roundtable Event indicate concerted effort is needed to include the voice and perspective of patients and their caregivers/family in patient safety initiatives. It is also necessary to assess what tools and best practices are currently available, and to develop a common patient safety language. Expanding existent knowledge of patient safety in community care settings and recognizing the unique safety concerns of special populations such as children and youth, older adults, and Aboriginal people is also an area requiring attention.

The need for a common standardized approach to patient safety in mental health settings across Canada was strongly voiced by the participants at the Roundtable Event. Developing a national patient safety strategy and standardizing practices, core-competencies, and training will ensure comparable standards of care across Canada and promote patient safety. However, there are significant challenges unique to mental health that must be overcome. Stigma and access to care (or the lack of access) are two systemic issues that potentially negatively impact patient safety for persons with mental illness which need to be addressed through a comprehensive strategy.

Increasing our understanding of patient safety in mental health and improving available tools through research and knowledge translation are also important avenues for improving patient safety, as is promoting a culture of patient safety and inter-professional collaboration and communication. Reaching frontline workers and equipping them with the knowledge, attitudes, and tools to prevent adverse events is necessary for achieving safe care and safe environments for mental health patients.

Findings and Emerging Themes

An examination of common barriers to improving patient safety in mental health settings and gaps in knowledge, research, and practice across the three methodologies, revealed the emergence of several themes and priority areas. These are presented below.

Planning and Policy

- There is an identified gap for an agency or agencies to provide leadership and advocacy for patient safety in mental health. For example; CPSI, *Safer Healthcare Now!*, Accreditation Canada or the Mental Health Commission of Canada, could take the lead on different activities through other initiatives and communities of practice. There is also a need for a standardized national patient safety framework specific to mental health settings. This framework could consider four areas:
 - I. Standardization of patient care practices across mental health settings; including the implementation of evidence-based practice guidelines and interventions which have demonstrated measurable effects on improved patient outcomes and safer care (e.g. suicide risk assessment).
 - II. Implementation of the Safety Competencies Framework (Frank & Brien, 2008) into education and professional development for all health care providers in mental health settings.
 - III. A common language regarding patient safety terminology specific to mental health. For example, defining adverse events, close calls, and patient safety incidents as they apply to mental health.
 - IV. A structured classification system for categorizing mental health patient safety incidents, including:
 - a) the type of incident (e.g., slips/falls, absconding/elopement, aggression, self-harm and suicide, including emotional/psychological harms);
 - b) the incident severity (close call, no harm, physical/psychological harm, and death);
 - c) the setting (e.g., community mental health centres, residential homes, outpatient departments, private clinics, emergency departments, and general and psychiatric hospitals); and
 - d) the population/s (e.g., adult, geriatric, forensic, child and adolescent, mental health rehabilitation, and substance abuse).

- There is considerable variation between provinces in incident reporting legislation and procedures for reporting and managing safety incidents in mental health settings. Lacking is a consistent reporting and learning structure to facilitate the collection and analysis of critical patient safety incidents between jurisdictions across Canada. An interesting CPSI initiative currently in progress is the development of a national reporting and learning system (the Canadian Adverse Event Reporting and Learning System, CAERLS). CAERLS will allow for information about critical incidents to be reported, sorted, integrated, evaluated and acted upon in a highly coordinated and timely manner, whilst maintaining a system-based emphasis on seeking and understanding the lessons that can be learned from event analysis.
- There has been a cultural shift in understanding patient safety incidents from one that focuses on accountability at the human level (identifying who committed the incident) to the organizational responsibility at the systems level (identifying what and why it happened in a just and fair environment, and how the system can prevent it from happening again).

Practice

- The deinstitutionalization movement, combined with improvements in community care, has seen a change in acute, tertiary, and forensic mental health care; compared to other mental health settings. These settings are disproportionately populated with severely mentally ill individuals. As the complexity of care increases on inpatient units, so too does the likelihood of patient safety incidents.
- Poor communication, service integration, and inter-professional collaboration during transitions of care may place a patient's safety at risk. Improving standards of care during handovers or handoffs between health care providers and during transitions within and between health care settings will ultimately improve patient safety and quality of care.
- The patient's social network is an under-utilized resource in helping to either prevent or minimize the impact of safety incidents in mental health. Patients

(and their family and caregivers) could play a more active role in their safety, such as greater participation in decision making, delivery and monitoring processes around medications, or identifying and reporting unsafe acts or infrastructure in their environments.

- Patient safety risk assessment in mental health is a proactive approach to reducing safety incidents and as important as reactive approaches, such as critical incident analysis. Often lacking in risk assessment is the translation of findings from research into evidence-based, structured, risk assessment tools (e.g. suicide, aggression, restraint use) for use in clinical settings. There is confusion among practitioners and decision makers as to what risk assessment tools are available, and among the tests that are available, how to determine the quality of the test, competently implement it and interpret the test data. The need to identify and evaluate existing risk assessment tools and create some sort of compendium was identified. Such a resource would include: a) an outline of concepts relating to risk assessment, b) issues to consider when critically evaluating tools for clinical use; and c) a description of the tests that are available including information on how the test items were derived; the reliability, validity, clinical utility, measurement error, and stability of the test; normative data; and information on how to administer the test and interpret the data. The identification and implementation of a standardized suicide risk assessment tool was put forth as a priority and good place to start, which would coincide with Accreditation Canada's requirement of suicide risk assessment starting January 2009.
- Essential to improving patient safety in mental health settings is the provision of staff training and education programs on policies and procedures, incident prevention and response, and safe care practices. This training and education needs to be organizational/professional development proprietary, ongoing, and updated on a regular basis.
- Discrimination and stigma is a pervasive factor experienced by people living with mental illness. Stigma, although not a focus of patient safety per se, undermines the quality of patient care and contributes to patient safety incidents. Identifying national organizations already involved in addressing discrimination

and stigma related to mental illness (e.g., the Mental Health Commission of Canada and the Canadian Mental Health Association) and working with them to raise awareness about how stigma in the healthcare setting negatively impacts patient safety could be an important avenue to explore for future targeted stigma campaigns.

Research

- Overall, patient safety in mental health is still an emerging field. As such, the existent literature is largely in the early stages; most findings studied to date reflect small-scale, retrospective, descriptive findings. The advancement of the field will require a move to more rigorous methodologies including prospective longitudinal studies, validated indicators and measures, consistency in terminology, and a sufficient number of participants to obtain necessary statistical power.
- Canadian research on patient safety in mental health is sparse leaving our understanding of the area to come from international research (in particular, United States, the United Kingdom, and Australia) and ultimately overlooking factors that are unique to Canada. In order for research to occur in Canada and to attract high quality researchers and research, funding for patient safety research in mental health settings needs to be a priority.
- Certain populations and settings are under-researched; in particular, older adults and child/adolescent populations; different cultural, ethnic, and religious groups; aboriginal populations, and patients from the private sector, rural settings, and other community-based mental health care services.
- There is a lack of research reflecting the patient's, their family, and caregiver's perspectives on mental health safety incidents (most of the research is from the perspective of the staff). Understanding patient safety from the perspective of the patient and their family/caregivers could provide valuable insight into patient safety in mental health settings.
- Harm associated with patient safety is generally regarded as physical harm. Little research has looked at the emotional and psychological outcomes associated with patient safety events.

Conclusion

In the past, due to a lack of literature specific to patient safety in mental health settings, it has been acceptable to apply patient safety principles from acute medical care to mental health. While some of the patient safety issues across health care settings are common and interrelated, mental health has unique patient safety issues that warrant further consideration. In some circumstances, the uniqueness is associated more with the diagnosis and patient population than with the mental health setting, and in other circumstances the uniqueness is related more to the setting than the patient population or diagnosis. This research paper identifies several potentially important future directions for improving patient safety in mental health settings.

As highlighted by the key informants and roundtable participants, there is a need for some form of national leadership and advocacy for patient safety in mental health settings across Canada. Paired with the notion of leadership and advocacy is a framework or patient safety strategy which considers the unique concerns related to mental health care, including the standardization of patient safety terminology and nomenclature, practices, reporting mechanisms, and policies.

This research clearly highlights that in order for patient safety in mental health settings to improve, a culture of safety needs to be embedded within all levels of an organization. In a safety culture, patient safety is viewed as an organizational priority and reporting of unsafe acts and adverse events is promoted as an important organizational responsibility. The concept of using close calls and adverse events as unique opportunities to learn is vital to implementing change to improve the safety and quality of care of all patients. Adopting a systems level approach and including staff in the examination of patient safety incidents is imperative for learning and improvement initiatives. Most importantly, staff and patients (including family and caregivers) feel confident that the organization will support them in reporting incidents and foster a non-

punitive environment. Interrelated to this is recognition that information from patients and their family/caregivers can provide valuable insight into identifying and understanding unsafe acts and infrastructure within the environment. Allowing patients and their family/caregivers to play a more active role in decision making, patient care, and risk assessment, could play a large role in improving safety for mental health patients.

Also contributing to a just culture is acceptance that discrimination and marginalization of people with mental illness undermines access to care, quality and safety of care, and health outcomes. The stigma associated with mental illness and its ramifications for patient safety was strongly voiced among key informants and roundtable participants. It is critical to address the impact of discrimination and stigma against people with mental illness to improve patient safety and quality of care.

To reduce the risk of adverse event occurrences in mental health settings, effective communication, service integration, and inter-professional collaboration; especially during transitions of care; is required. This also requires the development and implementation of evidence-based care and interventions which utilize well-validated and consistently accepted risk assessment tools and training programs. In order to create and strengthen this evidence, research funds need to be available to attract high quality researchers who can develop and implement rigorous research methodologies. Patient safety research within Canadian mental health settings is particularly sparse. Certain populations and settings are also under-researched including older adults and child/adolescent populations; different cultural, ethnic, and religious groups; Aboriginal populations; and patients from the private sector, rural settings, and other community-based mental health care services. Finally, research looking at the physical, emotional, and psychological harm associated with patient safety events is required.

Appendix A: White Literature Search Strategy

Orvie Dingwall, Canadian Patient Safety Institute, May 2008

Mental Health and Patient Safety Search Results

Medline Search Strategy (April 9, 2008), n=2,561

PsycINFO Search Strategy (April 21, 2008), n=972

Embase Search Strategy (May 4, 2008), n=1,643

CINAHL Search Strategy (May 14, 2008), n=1,057

Mental Health and Patient Safety Search Results

Database	Initial Search	After De-Dup	Level 1 Screening
Medline	2,561	2,484	362
PsycINFO	972	846	188
Embase	1,643	1,385	371
CINAHL	1,057	876	
Total		5,612	

Medline Search Strategy (April 9, 2008), n = 2,561

#	Searches	Results
1	*Mental health/	8170
2	exp *Mental health services/	35870
3	*Community mental health centers/	1550
4	(mental\$ adj4 health\$).tw.	45285
5	*mental disorders/	70257
6	exp *anxiety disorders/	34848
7	*Delirium/	2502
8	*dementia/	19966
9	exp *Dissociative Disorders/	1872
10	exp *Factitious Disorders/	1711
11	exp *Impulse Control Disorders/	2638
12	exp *Mental Disorders Diagnosed in Childhood/	81836
13	*mood disorders/	4409
14	*Affective Disorders, Psychotic/	1205
15	*Depressive Disorder/	33504
16	*neurotic disorders/	8393
17	exp *personality disorders/	15081
18	exp *"Schizophrenia and Disorders with Psychotic Features"/	71477
19	exp *Somatoform Disorders/	6357
20	*"Substance-Related Disorders"/	44505
21	exp *psychiatry/	50744
22	*"Diagnosis, dual (psychiatry)"/	122
23	*Hospitals, psychiatric/	11051
24	*Psychiatric department, hospital/	2661
25	*Psychiatric nursing/	9928
26	*Emergency services, psychiatric/	1318
27	*Community psychiatry/	874
28	*Forensic psychiatry/	4763
29	*Forensic nursing/	44
30	Psychiat\$.tw.	124459
31	exp *impulsive behavior/	3516
32	*suicide/	16586
33	*Suicide, attempted/	5880
34	Suicid\$.tw.	34986
35	*Electroconvulsive therapy/	5830
36	*Restraint, physical/	2473
37	*Behavior control/	492
38	Restrain\$.tw.	19871
39	Seclusion\$.tw.	597
40	or/1-39	556964
41	*safety management/	5682
42	(safe\$ adj3 manage\$).tw.	2469
43	*medical errors/	4985
44	*medication errors/	4378

45	(medica\$ adj3 error\$).tw.	3666
46	(patient\$ adj3 safe\$).tw.	14093
47	patient safety.jw.	292
48	(adverse\$ adj3 event\$).tw.	37333
49	(health care adj3 error\$).tw.	137
50	(healthcare adj3 error\$).tw.	47
51	(sentinel adj3 event\$).tw.	412
52	*diagnostic errors/	4324
53	(diagnos\$ adj3 error\$).mp.	26829
54	failure to diagnos\$.tw.	438
55	failure of diagnos\$.tw.	39
56	lack of diagnos\$.tw.	238
57	underdiagnos\$.tw.	2975
58	under diagnos\$.tw.	891
59	misdiagnos\$.tw.	11369
60	(miss\$ adj1 diagnos\$).tw.	878
61	(nurs\$ adj3 error\$).tw.	233
62	(physician\$ adj3 error\$).tw.	276
63	(patient care adj3 error\$).tw.	53
64	(surg\$ adj3 error\$).tw.	687
65	(safe\$ adj3 cultur\$).tw.	616
66	(safe\$ adj3 climate\$).tw.	125
67	near\$ miss\$2.tw.	667
68	(critical\$ adj3 incident\$).tw.	1004
69	(critical\$ adj3 outcome\$).tw.	1396
70	(adverse\$ adj3 outcome\$).tw.	12390
71	(unanticipated adj4 outcome\$).tw.	54
72	*accidental falls/	4506
73	(fall or falls or falling).tw.	86032
74	Elope\$.tw.	60
75	Wander\$.tw.	1823
76	*Runaway behavior/	164
77	Abscond\$.tw.	135
78	or/41-77	207089
79	RANDOMIZED CONTROLLED TRIAL.pt.	252479
80	CONTROLLED CLINICAL TRIAL.pt.	77565
81	RANDOMIZED CONTROLLED TRIALS/	53318
82	RANDOM ALLOCATION/	60583
83	DOUBLE BLIND METHOD/	96360
84	SINGLE BLIND METHOD/	11843
85	CLINICAL TRIAL.pt.	446937
86	exp clinical trial/	533979
87	(clin\$ adj25 trial\$).ti,ab.	143136
88	((singl\$ or doubl\$ or trebl\$ or tripl\$) adj25 (blind\$ or mask\$)).ti,ab.	95683
89	PLACEBOS.sh.	27035
90	placebo\$.ti,ab.	108617
91	RESEARCH DESIGN/	51838

92	comparative study.pt.	1389869
93	exp EVALUATION STUDIES/	100912
94	FOLLOW UP STUDIES/	363370
95	PROSPECTIVE STUDIES/	240379
96	(control\$ or prospectiv\$ or volunteer\$).ti,ab.	1909868
97	qualitative research/	5566
98	focus groups/	7729
99	qualit\$ improve\$.tw.	8092
100	or/79-99	3702041
101	limit 100 to animals	1060395
102	limit 101 to humans	238425
103	100 not (101 not 102)	2880071
104	and/40,78,103	3978
105	limit 104 to english language	3690
106	Mental health/	13390
107	exp Mental health services/	57391
108	Community mental health centers/	2234
109	(mental\$ adj4 health\$).tw.	45285
110	mental disorders/	94348
111	adjustment disorders/	3546
112	exp anxiety disorders/	45333
113	delirium/	3563
114	dementia/	26413
115	exp Dissociative Disorders/	2629
116	exp eating disorders/	16366
117	exp Factitious Disorders/	2059
118	exp Impulse Control Disorders/	3398
119	exp Mental Disorders Diagnosed in Childhood/	108665
120	mood disorders/	7342
121	Affective Disorders, Psychotic/	1928
122	Depressive Disorder/	45856
123	neurotic disorders/	14659
124	exp personality disorders/	25265
125	exp "Schizophrenia and Disorders with Psychotic Features"/	91478
126	exp sleep disorders/	39173
127	exp Somatoform Disorders/	10172
128	"Substance-Related Disorders"/	61386
129	exp psychiatry/	72532
130	"Diagnosis, dual (psychiatry)"/	2008
131	Hospitals, psychiatric/	20013
132	Psychiatric department, hospital/	5269
133	Psychiatric nursing/	13362
134	Emergency services, psychiatric/	1721
135	Community psychiatry/	1457
136	Forensic psychiatry/	6592
137	Forensic nursing/	68
138	Psychiat\$.tw.	124459

139	exp impulsive behavior/	6186
140	suicide/	24255
141	Suicide, attempted/	11056
142	Suicid\$.tw.	34986
143	Electroconvulsive therapy/	7995
144	Restraint, physical/	7778
145	Behavior control/	991
146	Restrain\$.tw.	19871
147	Seclusion\$.tw.	597
148	or/106-147	712874
149	safety management/	8736
150	(safe\$ adj3 manage\$).tw.	2469
151	medical errors/	7032
152	medication errors/	6824
153	(medica\$ adj3 error\$).tw.	3666
154	(patient\$ adj3 safe\$).tw.	14093
155	patient safety.jw.	292
156	(adverse\$ adj3 event\$).tw.	37333
157	(health care adj3 error\$).tw.	137
158	(healthcare adj3 error\$).tw.	47
159	(sentinel adj3 event\$).tw.	412
160	diagnostic errors/	24603
161	(diagnos\$ adj3 error\$).mp.	26829
162	failure to diagnos\$.tw.	438
163	failure of diagnos\$.tw.	39
164	lack of diagnos\$.tw.	238
165	underdiagnos\$.tw.	2975
166	under diagnos\$.tw.	891
167	misdiagnos\$.tw.	11369
168	(miss\$ adj1 diagnos\$).tw.	878
169	(nurs\$ adj3 error\$).tw.	233
170	(physician\$ adj3 error\$).tw.	276
171	(patient care adj3 error\$).tw.	53
172	(surg\$ adj3 error\$).tw.	687
173	(safe\$ adj3 cultur\$).tw.	616
174	(safe\$ adj3 climate\$).tw.	125
175	near\$ miss\$2.tw.	667
176	(critical\$ adj3 incident\$).tw.	1004
177	(critical\$ adj3 outcome\$).tw.	1396
178	(adverse\$ adj3 outcome\$).tw.	12390
179	(unanticipated adj4 outcome\$).tw.	54
180	accidental falls/	8478
181	(fall or falls or falling).tw.	86032
182	Elope\$.tw.	60
183	Wander\$.tw.	1823
184	Runaway behavior/	287
185	Abscond\$.tw.	135

186	or/149-185	214766
187	148 and 186	13346
188	limit 187 to english language	11850
189	RANDOMIZED CONTROLLED TRIAL.pt.	252479
190	CONTROLLED CLINICAL TRIAL.pt.	77565
191	RANDOMIZED CONTROLLED TRIALS/	53318
192	RANDOM ALLOCATION/	60583
193	DOUBLE BLIND METHOD/	96360
194	SINGLE BLIND METHOD/	11843
195	CLINICAL TRIAL.pt.	446937
196	exp clinical trial/	533979
197	(clin\$ adj25 trial\$).ti,ab.	143136
198	((singl\$ or doubl\$ or trebl\$ or tripl\$) adj25 (blind\$ or mask\$)).ti,ab.	95683
199	PLACEBOS.sh.	27035
200	placebo\$.ti,ab.	108617
201	RESEARCH DESIGN/	51838
202	comparative study.pt.	1389869
203	exp EVALUATION STUDIES/	100912
204	FOLLOW UP STUDIES/	363370
205	PROSPECTIVE STUDIES/	240379
206	(control\$ or prospectiv\$ or volunteer\$).ti,ab.	1909868
207	qualitative research/	5566
208	focus groups/	7729
209	qualit\$ improve\$.tw.	8092
210	or/189-209	3702041
211	limit 210 to animals	1060395
212	limit 211 to humans	238425
213	210 not (211 not 212)	2880071
214	187 and 213	5484
215	aggression/	20451
216	violence/	17331
217	sex\$ assault\$.tw.	1835
218	physical\$ assault\$.tw.	452
219	patient acceptance of health care/	19455
220	*psychotropic drugs/	8824
221	or/215-220	65623
222	214 and 221	202
223	222 or 105	3735
224	limit 223 to yr = 1999-2008	2561

PsycINFO Search Strategy (April 21, 2008), n = 972

#	Searches	Results
1	exp mental health/	19830
2	exp mental health services/	21802
3	community mental health centers/	1129
4	(mental\$ adj4 health\$.tw.	67695
5	Mental health programs/	2388
6	crisis intervention services/	892
7	suicide prevention centers/	65
8	exp mental health personnel/	26247
9	mental disorders/	38243
10	adjustment disorders/	338
11	anxiety disorders/	9260
12	exp chronic mental illness/	1074
13	delirium/	1322
14	dementia/	15126
15	exp dissociative disorders/	3673
16	exp factitious disorders/	481
17	exp impulse control disorders/	352
18	affective disorders/	7824
19	exp neurosis/	3568
20	exp personality disorders/	14151
21	psychosis/	10531
22	exp somatoform disorders/	6446
23	exp psychiatry/	21809
24	dual diagnosis/	1345
25	exp psychiatric hospitalization/	5734
26	psychiatric patients/	17056
27	psychiatric hospitals/	3519
28	impulsiveness/	2989
29	suicide/	12379
30	behavior disorders/	5590
31	electroconvulsive shock therapy/	3285
32	physical restraint/	1297
33	restrain\$.tw.	6254
34	patient seclusion/	208
35	seclusion\$.tw.	579

36	patient violence/	804
37	or/1-36	237925
38	(safe\$ adj3 manage\$.tw.	422
39	Errors/	4728
40	(medica\$ adj3 error\$.tw.	338
41	(patient\$ adj3 safe\$.tw.	951
42	(health care adj3 error\$.tw.	19
43	(healthcare adj3 error\$.tw.	10
44	(sentinel adj3 event\$.tw.	32
45	misdiagnosis/	222
46	(diagnos\$ adj3 error\$.mp.	223
47	failure to diagnos\$.tw.	41
48	failure of diagnos\$.tw.	2
49	lack of diagnos\$.tw.	50
50	underdiagnos\$.tw.	567
51	under diagnos\$.tw.	156
52	(nurs\$ adj3 error\$.tw.	40
53	(physician\$ adj3 error\$.tw.	25
54	(patient care adj3 error\$.tw.	3
55	(surg\$ adj3 error\$.tw.	10
56	(safe\$ adj3 cultur\$.tw.	243
57	(safe\$ adj3 climate\$.tw.	222
58	near\$ miss\$2.tw.	143
59	(critical\$ adj3 incident\$.tw.	1499
60	(critical\$ adj3 outcome\$.tw.	281
61	(unanticipated adj4 outcome\$.tw.	45
62	Falls/	456
63	Elope\$.tw.	56
64	Wandering behavior/	110
65	Runaway behavior/	439
66	Abscond\$.tw.	75
67	Accident prevention/	665
68	or/38-67	11293
69	limit 68 to english language	10818
70	limit 69 to yr = 1999-2008	6412
71	37 and 70	972

Embase Search Strategy (May 4, 2008), n = 1,643

1	Mental health/	24507	47	misdiagnos\$.tw.	8905
2	Community mental health/	1476	48	(miss\$ adj1 diagnos\$).tw.	654
3	exp Mental health care/	30568	49	(nurs\$ adj3 error\$).mp.	202
4	Mental health center/	982	50	(physician\$ adj3 error\$).mp.	372
5	Community mental health center/	367	51	(patient care adj3 error\$).mp.	237
6	(mental\$ adj4 health\$).tw.	31303	52	(surg\$ adj3 error\$).mp.	949
7	*Mental disease/	24215	53	(safe\$ adj3 cultur\$).tw.	398
8	exp *anxiety disorder/	33145	54	(safe\$ adj3 climate\$).tw.	105
9	delirium/	5679	55	near\$ miss\$2.tw.	428
10	Dementia/	30935	56	(critical\$ adj3 incident\$).mp.	640
11	exp dissociative disorder/	2418	57	(critical\$ adj3 outcome\$).mp.	1915
12	exp Psychosomatic Disorder/	10825	58	Adverse outcome/	705
13	exp *mood disorder/	72829	59	(unanticipated adj4 outcome\$).tw.	31
14	exp neurosis/	25846	60	*Falling/	2761
15	Personality disorder/	10509	61	Elope\$.tw.	52
16	exp schizophrenia/	52614	62	Wandering behavior/	50
17	exp addiction/	70460	63	Runaway behavior/	62
18	exp psychiatry/	28961	64	Abscond\$.tw.	82
19	psychiatric department/	1271	65	or/31-64	68863
20	Social psychiatry/	1234	66	RANDOMIZED CONTROLLED TRIAL/	148355
21	Forensic psychiatry/	3259	67	CONTROLLED CLINICAL TRIAL/	45027
22	Forensic nursing/	2	68	RANDOM ALLOCATION/	25359
23	Impulsiveness/	4136	69	DOUBLE BLIND METHOD/	64572
24	exp suicidal behavior/	25168	70	SINGLE BLIND METHOD/	7496
25	Suicide\$.tw.	19616	71	exp CLINICAL TRIALS/	493232
26	exp *psychiatric treatment/	41954	72	(clin\$ adj25 trial\$).ti,ab.	126424
27	Behavior control/	475	73	((singl\$ or doubl\$ or trebl\$ or tripl\$) adj25 (blind\$ or mask\$)).ti,ab.	76751
28	Restrain\$.tw.	13749	74	PLACEBOS/	87291
29	Seclusion\$.tw.	312	75	placebo\$.ti,ab.	90891
30	or/1-29	394000	76	RESEARCH DESIGN/	196197
31	(safe\$ adj3 manage\$).mp.	2359	77	COMPARATIVE STUDY/	105553
32	exp medical error/	25695	78	exp EVALUATION STUDIES/	51997
33	(medica\$ adj3 error\$).mp.	7329	79	FOLLOW UP STUDIES/	252114
34	patient safety/	8271	80	PROSPECTIVE STUDIES/	73445
35	(patient\$ adj3 safe\$).mp.	23054	81	(control\$ or prospectiv\$ or volunteer\$).ti,ab.	1439200
36	Adverse event/	9	82	qualitative research/	2535
37	(health care adj3 error\$).mp.	152	83	qualit\$ improve\$.tw.	5075
38	(healthcare adj3 error\$).mp.	27	84	exp methodology/	1004322
39	Sentinel event/	23	85	or/66-84	2656604
40	(sentinel adj3 event\$).tw.	214	86	and/30,65,85	2093
41	(diagnos\$ adj3 error\$).mp.	18616	87	limit 86 to yr = 1999-2008	1787
42	failure to diagnos\$.tw.	281	88	limit 87 to english language	1646
43	failure of diagnos\$.tw.	18	89	limit 88 to animals	3
44	lack of diagnos\$.tw.	175	90	limit 89 to humans	0
45	under diagnos\$.tw.	871	91	88 not (89 not 90)	1643
46	underdiagnos\$.tw.	2659			

CINAHL Search Strategy (May 14, 2008), n = 1,057

S93	S90 and S92	(1,057)
S92	S91 - Limiters: Publication Year from: 1999-2008; Language; English	(2422)
S91	S29 and S65	(3078)
S90	S89 or S88 or S87 or S86 or S85 or S84 or S83 or S82 or S81 or S80 or S79 or S78 or S77 or S76 or S75 or S74 or S73 or S72 or S71 or S70 or S69 or S68 or S67 or S66	(536239)
S89	MH Research Methodology +	440738)
S88	MH Quality Improvement +	(13134)
S87	MH Qualitative Studies +	(34983)
S86	(TI Control* or prospective* or volunteer*) OR (AB Control* or prospective* or volunteer*)	(209328)
S85	MH Prospective Studies +	(79922)
S84	MH experimental studies	(7847)
S83	MH study design +	267712)
S82	MH Evaluation Research +	(12378)
S81	MH Community trials	(64)
S80	MH comparative studies	(45877)
S79	MH Research Methodology +	440738)
S78	TI placebo* OR AB placebo*	(13125)
S77	MH Placebos	(4591)
S76	(TI singl* or doubl* or trebl* or tripl* N25 blind* or mask*) OR (AB singl* or doubl* or trebl* or tripl* N25 blind* or mask*)	(51395)
S75	TI clin* N25 trial* or AB clin*N25 trial*	(5369)
S74	MH Clinical Trials +	(65393)
S73	MH Single-Blind Studies	(3130)
S72	MH Double-Blind Studies	(12200)
S71	MH Triple-Blind studies	(40)
S70	MH Random Sample +	(36035)
S69	MH Nursing Practice, Evidence-Based +	(4800)
S68	MH Medical Practice, Evidence-Based	(5747)
S67	MH Data Collection Methods +	(163792)
S66	(TI randomi* control* trial* or AB randomi* control* trial*)	(12931)
S65	S64 or S63 or S62 or S61 or S60 or S59 or S58 or S57 or S56 or S55 or S54 or S53 or S52 or S51 or S50 or S49 or S48 or S47 or S46 or S45 or S44 or S43 or S42 or S41 or S40 or S39 or S38 or S37 or S36 or S35 or S34 or S33 or S32 or S31 or S30	(44054)
S64	TI abscond* or AB abscond*	(38)
S63	MH runaways	(159)
S62	MH wandering behavior	(338)
S61	TI elope* or AB elope*	(62)
S60	MH Accidental Falls	(5472)
S59	TI unanticipated N4 outcome* or AB unanticipated N4 outcome*	(33)
S58	MW adverse N3 outcome* or TI adverse N3 outcome* or AB adverse N3 outcome*	(2756)
S57	MW critical* N3 outcome* or TI critical* N3 outcome* or AB critical* N3 outcome*	(654)
S56	MW critical* N3 incident* or TI critical* N3 incident* or AB critical* N3 incident*	(1029)
S55	TI near* N1 miss* or AB near* N1 miss*	(245)
S54	MW safe* N3 climate* or AB safe* N3 climate* or TI safe* N3 climate*	(72)
S53	MW safe* N3 culture* or AB safe* N3 cultur* or TI safe* N3 cultur*	(569)
S52	MW surg* N3 error* or TI surg* N3 error* or AB surg* N3 error*	(477)
S51	MW patient care N3 error* or TI patient care N3 error* or AB patient care N3 error*	(33)
S50	MW physician* N3 error* or AB physician* N3 error* or TI physician* N3 error*	(87)
S49	MW nurs* N3 error* or TI nurs* N3 error* or AB nurs* N3 error*	(405)

S48	TI miss* N3 diagnos* or AB miss* N3 diagnos*	(448)
S47	TI misdiagnos* or AB misdiagnos*	(1289)
S46	TI underdiagnos* or AB underdiagnos*	(524)
S45	TI lack N1 diagnos* or AB lack N1 diagnos*	(75)
S44	TI failure N1 diagnos* or AB failure N1 diagnos*	(291)
S43	MH Failure to diagnose	(641)
S42	MW diagnos* N3 error* or TI diagnos* N3 error* or AB diagnos* N3 error*	(3261)
S41	MH Diagnostic Errors	(2884)
S40	MW sentinel N3 event* or TI sentinel N3 event* or AB sentinel N3 event*	(522)
S39	MH sentinel event	(363)
S38	MW healthcare N3 error* or TI healthcare N3 error* or AB healthcare N3 error*	(63)
S37	MW health care N3 error* or TI health care N3 error* or AB health care N3 error*	(1282)
S36	MH Health care errors +	(13836)
S35	MH Adverse Health Care Event +	(16124)
S34	MW patient* N3 safe* or AB patient* N3 safe* or TI patient* N3 safe*	(16855)
S33	SO patient safety	(1365)
S32	MH patient safety +	(26180)
S31	MW medica* N3 error* or AB medica* N3 error* or TI medica* N3 error*	(6500)
S30	MH safe* N3 manage* or AB safe* N3 manage* or TI safe* N3 manage*	(771)
S29	(S28 or S27 or S26 or S25 or S24 or S23 or S22 or S21 or S20 or S19 or S18 or S17 or S16 or S15 or S14 or S13 or S12 or S11 or S10 or S9 or S8 or S7 or S6 or 5 or S4 or S3 or S2 or S1)	(139191)
S28	MH Psychiatric Nursing +	(14266)
S27	MH Patient seclusion	(268)
S26	MH Restraint, Physical	(2127)
S25	MH Psychiatric Care +	(3357)
S24	TI suicid* or AB suicid*	(6792)
S23	MH Suicide +	(7656)
S22	MH Forensic Nursing	(836)
S21	MH Psychiatric Emergencies	(439)
S20	MH Psychiatric Units	(1069)
S19	MH Psychiatry +	(4426)
S18	(MH "Behavior, Addictive +")	(25345)
S17	MH Schizophrenia +	(5927)
S16	MH Personality disorders	(1134)
S15	MH neurotic disorders +	(34074)
S14	MH psychophysiological disorders +	(673)
S13	(MH "Dissociative Disorders +")	(366)
S12	MH Dementia	(8893)
S11	MH Delirium	(1209)
S10	MH affective disorders +	(25581)
S9	MH adjustment disorders +	(162)
S8	MH anxiety disorders +	(8637)
S7	MH "Mental disorders diagnosed in childhood"	(227)
S6	MH Mental disorders, chronic	(1031)
S5	MH Mental disorders	(14356)
S4	TI mental* N4 health* or AB mental* N4 health*	(24577)
S3	MH Mental health personnel	(1261)
S2	MH mental health services +	(23750)
S1	MH mental health	(6363)

Appendix B: Websites Searched

Website	URL
Canadian Health Network	www.canadian-health-network.ca
Health Canada	http://www.hc-sc.gc.ca/index_e.html
Health Insite (Australia)	http://www.healthinsite.gov.au/
Department of Health, UK	http://www.dh.gov.uk/en/index.htm
Department of Health and Aging, Australia	http://www.health.gov.au/
National Health Service (UK)	http://www.nhsdirect.nhs.uk/
The Cochrane Collaboration	http://www.cochrane.org/
US Department of Health and Human Services	http://www.hhs.gov/
World Health Organization	http://www.who.int/en/
British Library	http://www.bl.uk/
Health and Human Services Library, Ministry of Health	http://www.health.gov.bc.ca/library/
Health Library at Stanford	http://healthlibrary.stanford.edu/
Library of Congress	http://www.loc.gov/index.html
Mayo Clinic	http://www.mayo.edu/library/
McGill Health Sciences Library	http://www.health.library.mcgill.ca/
McMaster Health Sciences Library	http://hsl.mcmaster.ca/
National Health Service	http://www.londonlinks.ac.uk/
National Library of Australia	http://www.nla.gov.au/
National Library of Canada	http://www.collectionscanada.gc.ca/amicus/
National Library of Health, UK	http://www.library.nhs.uk/Default.aspx
National Library of Medicine	http://www.nlm.nih.gov/
Alberta Mental Health Board	http://www.amhb.ab.ca
American Psychiatric Association – Patient Safety	http://www.psych.org/MainMenu/PsychiatricPractice/QualityImprovement/PatientSafety_1.aspx
Anxiety Disorders Association of Canada	http://www.anxietycanada.ca/
BC Mental Health and Addiction Services	www.bcmhas.ca
Canadian Centre on Substance Abuse	http://www.ccsa.ca/CCSA/EN/TopNav/Home/
Canadian Mental Health Association	http://www.cmha.ca/
Canadian Network for Mood and Anxiety Disorders	http://www.canmat.org/
Canadian Psychiatric Research Foundation	www.cprf.ca
Centre for Addiction and Mental Health	http://www.camh.net/
Centre for Suicide Prevention	www.suicideinfo.ca
Mental Health America	http://www.nmha.org/
Mental Health Commission of Canada	http://www.mentalhealthcommission.ca/newsevents.html
Mental Health Europe	http://www.mhe-sme.org/
Mental Health First Aid Australia	www.mhfa.com.au
Mental Health Foundation	http://www.mentalhealth.org.uk/
Mind (National Association for Mental Health)	http://www.mind.org.uk/
Mood Disorders Society of Canada	http://www.mooodisorderscanada.ca/
National Institute of Mental Health	http://www.nimh.nih.gov/
National Organization for Drug-Induced Disorders	http://nodid.org/dynamic/
Sane	http://www.sane.org.uk/
Sainsbury Centre for Mental Health	http://www.scmh.org.uk/
Schizophrenia Society of Canada	http://www.schizophrenia.ca/

Scotland’s Mental Health First Aid	http://www.healthscotland.org.uk/smhfa/
Substance Abuse and Mental Health Services Administration (SAMHSA)	http://mentalhealth.samhsa.gov/
The Alabama Department of Mental Health and Mental Retardation	http://www.mh.alabama.gov/
Vancouver Island Mental Health and Addiction Services	http://www.viha.ca/mhas/
World Fellowship For Schizophrenia and Allied Disorders	http://www.world-schizophrenia.org/index.html
Agency for Healthcare Research and Quality (AHRQ) Patient Safety Network (PS Net)	http://psnet.ahrq.gov/
Australian Council for Safety and Quality in Health Care	http://www.safetyandquality.org
Australian Patient Safety Foundation (APSF)	http://www.apsf.net.au/
British Columbia Patient Safety Task Force	http://www.bcpatientsafety.ca/
Canadian Patient Safety Institute	http://www.patientsafetyinstitute.ca/index.html
Health Quality Council (Saskatchewan)	http://www.hqc.sk.ca/
Health Quality Council of Alberta (HQCA)	http://www.hqca.ca/
Institute for Healthcare Improvement	http://www.ihl.org/ihl
Institute for Safe Medication Practices Canada (ISMP Canada)	http://www.ismp-canada.org/
Institute for Safety Medication Practices (ISMP) (US)	http://www.ismp.org
Joint Commission International Center for Patient Safety	http://www.jcipatientsafety.org/
Manitoba Institute for Patient Safety (MIPS)	http://mbips.ca/wp/
National Patient Safety Agency (UK)	http://www.npsa.nhs.uk/
National Patient Safety Foundation (US)	http://www.npsf.org/
Patient Safety International	http://www.patientsafetyint.com/
The Joint Commission	http://www.jointcommission.org/
VA National Center for Patient Safety	http://www.va.gov/ncps/
World Health Organization, Patient Safety	http://www.who.int/patientsafety/en/

Total Number of Websites	66
Sites not searchable	16
Percentage Not Useable	24%

NOTE: Sites not useable includes websites with no search boxes, no publication sections, not functioning properly (i.e., error message), inconsistent search results, or an inability to track results.

Additional websites searched for specific patient safety in mental health information.

Canadian Alliance on Mental Illness and Mental Health	http://casp-acps.ca/Publications/BlueprintFINAL.pdf
Canadian Association of Suicide Prevention	http://casp-acps.ca/Publications/BlueprintFINAL.pdf
Canadian Institute for Health Information	http://secure.cihi.ca/cihiweb/dispPage.jsp?cw_page=home_e
Accreditation Canada	http://www.cchsa.ca/default.aspx

Appendix C: Sample Spreadsheet

Date	Website Searched	Search Terms Used	Search Results (Total)	Positive Search Results
17/03/08	http://www.ihl.org/ihl	mental	42	N/A
17/03/08	http://www.ihl.org/ihl	mental AND safety	10	3
17/03/08	http://www.ihl.org/ihl	mental AND error	10	1
17/03/08	http://www.ihl.org/ihl	mental AND accident	0	0
17/03/08	http://www.ihl.org/ihl	mental AND quality	13	0
17/03/08	http://www.ihl.org/ihl	mental AND adverse	3	1
17/03/08	http://www.ihl.org/ihl	mental AND toxicity	2	0
17/03/08	http://www.ihl.org/ihl	mental AND reporting	21	1
17/03/08	http://www.ihl.org/ihl	mental AND incident	3	0
17/03/08	http://www.ihl.org/ihl	mental AND suicide	1	0
17/03/08	http://www.ihl.org/ihl	mental AND restraint	2	0
17/03/08	http://www.ihl.org/ihl	mental AND protective	0	0
17/03/08	http://www.ihl.org/ihl	mental AND isolation	0	0
17/03/08	http://www.ihl.org/ihl	mental AND seclusion	0	0
17/03/08	http://www.ihl.org/ihl	mental AND immobilization	0	0
17/03/08	http://www.ihl.org/ihl	mental AND runaway	0	0
17/03/08	http://www.ihl.org/ihl	mental AND confusion	4	0
17/03/08	http://www.ihl.org/ihl	mental AND security	0	0
17/03/08	http://www.ihl.org/ihl	mental AND elopement	0	0
17/03/08	http://www.ihl.org/ihl	mental AND wandering	0	0
17/03/08	http://www.ihl.org/ihl	mental AND rape	0	0
17/03/08	http://www.ihl.org/ihl	mental AND sexual	1	0
17/03/08	http://www.ihl.org/ihl	mental AND victim	0	0
17/03/08	http://www.ihl.org/ihl	mental AND violence	0	0
17/03/08	http://www.ihl.org/ihl	mental AND assault	0	0
17/03/08	http://www.ihl.org/ihl	mental AND aggression	0	0
17/03/08	http://www.ihl.org/ihl	mental AND diagnostic	0	0
17/03/08	http://www.ihl.org/ihl	mental AND misdiagnosis	0	0
17/03/08	http://www.ihl.org/ihl	mental AND "under diagnosis"	0	0
17/03/08	http://www.ihl.org/ihl	mental AND undiagnosed	0	0
17/03/08	http://www.ihl.org/ihl	mental AND co-morbidity	0	0
17/03/08	http://www.ihl.org/ihl	mental AND "under treatment"	0	0
17/03/08	http://www.ihl.org/ihl	mental AND fall	5	0
17/03/08	http://www.ihl.org/ihl	psychiatry	2	1
17/03/08	http://www.ihl.org/ihl	psychiatric	12	2
17/03/08	http://www.ihl.org/ihl	psychiatrist	4	0
17/03/08	http://www.ihl.org/ihl	psychotic	1	0
17/03/08	http://www.ihl.org/ihl	psychotropic	1	1
17/03/08	http://www.ihl.org/ihl	forensic	1	0

Sample Spreadsheet

Paper ID	Type of Paper	Title	Authors	Date Retrieved	Date Published	Organization	Location	Document URL	Website of Origin	Search Terms Used	Comments	Status
A001	Report	With Safety in Mind: Mental Health Services and Patient Safety	Scobie S., Minghella E., Dale C., Thomson R., Lelliott P., Hill K.	14/03/08	Jul-06	National Patient Safety Agency	London, UK	http://psnet.ahrq.gov/resource.aspx?resourceID=4238	http://psnet.ahrq.gov/	mental + safety		pdf saved
A002	Study	Medication safety in a psychiatric hospital	Rothschild J.M., Mann K., Keohane C.A., Williams D.H., Foskett C., Rosen S.L., Flaherty L., Chu J.A., Bates D.W.	15/03/08	Mar-Apr-07	Division of General Medicine and Primary Care, Brigham and Women's Hospital	Boston, MA	http://www.ncbi.nlm.nih.gov/pubmed/17336665?dopt=Abstract	http://psnet.ahrq.gov/	psychiatric + safety		pdf saved
A003	Study	Incident monitoring in psychiatry	Wright M., Parker G.	18/03/08	Dec-98	Academic Psychiatry, Royal North Shore Hospital	St. Leonards, NSW, Australia	document & document URL unavailable	http://www.apsf.net.au/	psy-chiatry	full-text not available	Pub - Med citation saved
A004	Report	Patient Safety and Psychiatry: Recommendations to the Board of Trustees of the American Psychiatric Association	Herzog, A., Shore, M.F., Beale, R.R., Padrino, S.L., Vogel, A.V., Freshman, M. & Hart, C.	02/04/08	approved Nov 24-02 & Jan 24-03	American Psychiatric Association Task Force on Patient Safety	not available	http://www.psych.org/Departments/QIPS/Downloads/TaskForceReport.aspx	http://www.npsf.org	psy-chiatry		pdf saved

Appendix D: Key Informant Interview Questions

1. *Two part question*

- a) What is your current position/role?
- b) What has been your past experience / work in patient safety in mental health?

2. What would you consider to be the primary areas / issues relevant to patient safety in mental health?

- *Probe:* examples slips, falls, suicide, sexual safety, medication errors

3. *Two part question*

- a) What types of adverse events in regard to patient safety in mental health have occurred in your organization / have you heard of occurring in other organizations?
- b) How did your organization / that organization respond to those adverse events?

4. If applicable: How effectively would you say your institution is able to manage patient safety in mental health currently?

- 0 = not at all effectively
- 1 = somewhat effectively
- 2 = quite effectively
- 3 = very effectively
- 4 = extremely effectively

- *Probe:* Please explain the reasons for choosing this response.

5. Are you aware of any existing best-practices model for patient safety in mental health that you would recommend for implementation?

- If so, please describe and provide contact details (request permission to contact this person/organization and that the interviewee will remain confidential).

6. *Two part question*

- a) What initiatives are your organization and country currently participating in / engaged in with in relation to patient safety in mental health?

Organization
Country

- b) What research is your organization and country currently participating in / engaged in with in relation to patient safety in mental health?

Organization
Country

7. What problems/issues/questions would you say research in patient safety in mental health needs to answer?

- *Probe:* Are there gaps in knowledge about patient safety?

8. What would you consider to be the challenges in applying findings/outcomes from patient safety research/initiatives from other areas (e.g., acute care) to mental health?

- *Probe:* What findings from the other literature are relevant to mental health?
- *Probe:* What makes patient safety in mental health unique?

9. Overall, how relevant would you say that the patient safety findings from other settings (e.g., acute care) are to mental health?

- 0 = not at all
- 1 = somewhat
- 2 = quite relevant
- 3 = very relevant
- 4 = extremely relevant

- *Probe:* Please explain the reasons for choosing this response.

10. What would you consider to be the emerging themes/ issues in patient safety and mental health?

- *Probe:* In what direction is patient safety in mental health in your country/organization heading?

11. *Two part question*

- a) In your opinion, what needs to be done to increase patient safety in mental health?

- b) What would you identify as the obstacles to achieving those objectives?

Appendix E: Breakout Discussions Participant Guide

The mental health and patient safety roundtable discussions will provide the opportunity to share your unique perspectives and to guide the process of broadening the patient safety agenda in Canada to include mental health services. These discussions will complement the literature search and key informant interviews that have already taken place, under the guidance of the research team.

Over the course of the day, you will explore three topics in a small group discussion format. (Table groups of 8-10 people) as indicated on your handout package. Each Table has been assigned a Facilitator from the Advisory Committee to support the discussion and a Scribe to capture the discussion input.

The key ideas from each of the breakout groups will be shared with the larger group after each topic. All of the Table input will be captured and shared with the researchers.

As your group begins each discussion topic, we invite you to keep these ideas in mind:

- Use the preliminary research findings and the context for Patient Safety described at the beginning of the meeting as the backdrop for the group's discussion.
- Keep the primary focus of the discussions on Patient Safety. If other/related topics arise that don't really fit, but need to be captured, do so on a "Parking Lot" page.
- Consider your responses from a provincial lens, as well as a national lens.
- Keep the ideas flowing. There is no such thing as a dumb idea in brainstorming.
- Draw on evidence and Best Practices during the discussions versus anecdotes.

Breakout discussions will be 40 minutes for each of the three topics.

Breakout Topic #1 Question

What are the themes, priority issues and actions for patient safety and mental health?

Breakout Topic #2 Question

What best practices, tools, programs and initiatives are currently being utilized to optimize patient safety for patients receiving mental health services?

Breakout Topic #3 Question

What are the next steps/future directions for patient safety in mental health?

Enjoy the conversations!

Appendix F: Key Informants and Roundtable Participants

Key Informants

- Dr. James Bagian, Chief Patient Safety Officer, Veterans Health Administration, U. S. Department of Veterans Affairs
- Dr. Ross Baker, Professor, Department of Health Policy, Management and Evaluation, University of Toronto
- Teresa Belluz, Quality Management Leader, British Columbia Mental Health and Addiction Services
- Dr. Peggy Brown, Director of Mental Health, Australian Capitol Territory; Chair of the Safety and Quality Partnership Subcommittee of the Mental Health Standing Committee
- Dr. Patrick Croskerry, Professor, Emergency Medicine, Dalhousie University
- Christine Davis, Professor, Laurentian University; President of the Canadian Federation of Mental Health Nurses
- Dr. David S. Goldbloom, Senior Medical Advisor, Education & Public Affairs, Centre for Addiction and Mental Health; Professor of Psychiatry, University of Toronto; Vice-Chair, Mental Health Commission of Canada
- Dr. John Hirdes, Professor, Department of Health Studies and Gerontology, University of Waterloo; Scientific Director of the Homewood Research Institute
- Dr. Katharina Kovacs Burns, Patient Champion of WHO World Alliance for Patient Safety; Board Member of Patients for Patient Safety Canada
- Dr. François Lespérance, Chief, Département de Psychiatrie, Centre hospitalier de l'Université de Montréal; Medical Co-manager, Psychiatrie-Mental Health Program
- Eleanor Morton, Vice President, Risk Management, Healthcare Insurance Reciprocal of Canada
- Maryann Murray, Patient Champion of WHO World Alliance for Patient Safety; Board Member of Patients for Patient Safety Canada
- The Honourable Mr. Justice Edward Ormston, Ontario Court of Justice; Chair, Consent and Capacity Board Ontario; Chair, Law and Mental Health Committee of the Mental Health Commission of Canada
- Diane C. Pinakiewicz, President, National Patient Safety Foundation
- David Simpson, Program Manager, Psychiatric Patient Advocate Office
- Dr. Wendy Stanyon, Assistant Professor, Faculty of Health Sciences, University of Ontario Institute of Technology
- Dr. P. Scott Theriault, Clinical Director, East Coast Forensic Hospital
- Dr. Ben Thomas, Head of Mental Health and Learning Disabilities, National Patient Safety Agency
- Dr. Patrick White, President, Canadian Psychiatric Association; Chair, University of Alberta Psychiatry Department; Regional Clinical Program Director, Mental Health

Roundtable Participants

- Teresa Belluz, Quality Management Leader, BC Mental Health and Addiction Services
- Lynda Bond, Director, Quality, Safety and Performance Improvement, BC Mental Health and Addiction Services
- Norma Brown, Executive Director, Health Quality Council of Alberta
- Charlotte Burkhardt, Director of Quality and Risk Management, Homewood Health Centre
- Saulo Castel, Director, Inpatient Unit, Dept of Psychiatry, Sunnybrook Health Sciences Centre
- John Charles, Clinical Services Manager, Forensic Psychiatric Services, BC Mental Health and Addiction Services

- Marg Colquhoun, Project Leader, Institute for Safe Medication Practices
- Linda Courey, Director, Mental Health Services, Cape Breton District Health Authority
- Peter Croxall, Director, Mental Health Program, Capital District Mental Health Program
- Deborah Cumming, Policy Analyst, Policy, Legislative & Legal Affairs, Ontario Hospital Association
- Robert Cunningham, President and CEO, Northeast Mental Health Centre
- Simon Davidson, Psychiatrist/Chief Strategic Planning Executive, Provincial Centre of Excellence for Child and Youth, Mental Health Children's Hospital of Eastern Ontario
- Jana Lea Davidson, Medical Director, Child and Youth Mental Health and Addictions Program, BC Children's Hospital
- Christopher Dean, Research and Product Development Specialist, Accreditation Canada
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Please note that written consent was not obtained from two participants and as such their names were omitted from the list.

Observing methodological consistency observation during small group discussions

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