



REVIEW ARTICLE

Factors influencing clinical decision making used by mental health nurses to provide provisional diagnosis: A scoping review

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ABSTRACT: Medical diagnosis has traditionally been the role of medical officers. However, mental health nurses working in crisis/emergency settings within Australia are expected to provide a provisional diagnosis postassessment of a consumer. There is limited literature and understanding how mental health nurses develop a provisional diagnosis. In this scoping review, we aimed to first identify and describe the clinical decision-making processes used by mental health nurses across a variety of clinical settings. Second, we sought to explore the factors influencing mental health nurse's diagnostic practice in a variety of settings. Literature was searched using CINAHL (EBSCOhost), PubMed, and ProQuest. Peer-reviewed literature published between 2007 and 2017 was used for this scoping review. Two major themes were identified: clinical decision making (CDM) in mental health nursing and diagnostic practice in nursing. A combination of clinician, environmental, and patient factors were found to have influenced CDM. Furthermore, mental health nurses rely heavily on tacit knowledge when making clinical decisions. Little is known about the use of diagnostic practice in mental health nursing in Australia; however, the limited literature revealed an overlap between the factors which influence CDM and diagnostic practice, respectively. Further research is needed into the use of diagnostic practice in mental health nursing to develop frameworks to assist with CDM pertaining to application of provisional diagnosis by mental health nurses working in assessment environments.

KEY WORDS: assessment, clinical decision making, diagnosis, emergency department, mental health nurses.

INTRODUCTION

Emergency departments (EDs) play a pivotal role in the assessment and treatment of mental health

consumers in Australia (Australian Institute of Health and Welfare 2013; Marynowski-Traczyk *et al.* 2015). Emergency department staff assist mental health consumers by providing mental health care after hours and are often used as the first point of entry into mental health care (Australian Institute of Health and Welfare 2013; Clarke *et al.* 2015). Since 2011, all ED presentations have increased annually by 3.8% (Australian Institute of Health and Welfare 2016), and since 2009, mental health presentations via the ED have increased annually by 5% (Australian Institute of Health and Welfare 2016). The actual increase in mental health presentations via EDs is unclear because certain diagnostic categories are not captured by the current

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reporting data (Australian Institute of Health and Welfare 2013). It is estimated that 248 500 annual presentations to EDs in Australia are related to mental health conditions (Australian Institute of Health and Welfare 2016). The significant increase in mental health presentations via the ED is correlated to the ongoing decrease in mental health funding within community services as well as the integration of mental health services with general services (Alarcon Manchego *et al.* 2015; Shafei *et al.* 2011). ED staff are often poorly equipped to triage, diagnose, and manage patients with mental health conditions (Ngo *et al.* 2017; Shafei *et al.* 2011). Morphet *et al.* (2012) argue that the physical environment of the ED negatively impacts the way in which mental health consumers are managed and assessed. This is further supported by Broadbent *et al.* (2010), who identified the models of care, referral, and response are problematic for effective triage and management of this client group, and this may lead to higher incidence of violence and aggression towards staff. Marynowski-Traczyk *et al.* (2015) suggest the differences in understanding of recovery models of care within the ED between general nurses and mental health nurses (MHNs) can have a negative impact on the overall service delivery received by a consumer. The implementation of MHNs within the ED setting can assist to bridge this knowledge difference as well as assist with accurate diagnosis, treatment plans, and management of consumers to enhance health outcomes.

General nurses without mental health qualifications working in EDs often find caring for mental health consumers psychologically and socially challenging (Clarke *et al.* 2015). This can be attributed to lack of confidence in managing the mental distress a consumer may experience, their frustration regarding the frequent re-presentations of mental health consumers to the ED, and stigma towards mental health in general (Clarke *et al.* 2015). Worryingly, consumers with a mental illness presenting to general hospitals seeking treatment are less likely to receive the same level of health care as people without a mental illness due to stigma and lack of education regarding mental illness assessment, diagnosis, and treatment (Knaak *et al.* 2017). This can have dire effects on mental health consumers' care and negatively impact on patient safety (Knaak *et al.* 2017).

The challenges of assessing and managing mental health consumers in the ED require novel and innovative roles, models, and clinical practice to achieve the highest standard of care for nurses in this environment.

An example of practice innovation is the integration of mental health services with general services enabling MHNs to work in EDs (Clarke *et al.* 2015; Wand & Fisher 2006).

Accurate diagnosis is imperative to ensure that appropriate referral and treatment are provided (Leontieva & Gregory 2013). MHNs who are embedded in the ED have a fundamental role in the assessment of consumers who present to the ED seeking treatment. The nurses in this role perform assessments, manage risk, provide provisional diagnoses, and implement treatment plans (Wand & Fisher 2006). MHNs working in ED require advanced clinical decision-making skills to promote safe and evidence-based care (Wand & Fisher 2006). Currently, there is a limited understanding of how MHNs in EDs make clinical decisions, the theoretical frameworks they use to underpin their decision making, and thus, their clinical practice (Brown & Clarke 2014; Phillips *et al.* 2015). As a result, nurse educators are unable to provide education for professional development at a graduate and undergraduate level to enhance consistent and competent decision making as performed by MHNs working in EDs, negatively affecting consumer outcomes. An understanding of the mechanisms behind the clinical decision making (CDM) undertaken by MHNs working in EDs is needed in order to tailor nursing education to improve consumer outcomes (Johansen & O'Brien 2016; Tait 2010; Thompson *et al.* 2013).

Clinical decision making

Healthcare providers have embraced an evidence-based practice model of healthcare delivery to reduce the theory to practice gap and enhance consumer outcomes (Mackey & Bassendowski 2017). The evidence-based model has been influential in challenging the status quo and driving political and clinical innovations, for example, the recent development of the Queensland Mental Health Act (MHA) 2016 (Queensland Government 2016). It is important to note in Australia mental health legislation varies between each state and territory because this alters the treatment plan and setting for the consumer. The Queensland MHA (2016) places emphasis on consumers being treated within the least restrictive means, that is, least restrictive to the individuals' rights and liberties (Queensland Government 2016). The Queensland MHA (2016) guides the treatment of mental health consumers, particularly those presenting to EDs who require assessment. Subsequently, nurses assessing consumers with mental health concerns in EDs are

required to frame their CDM within the boundaries and procedures of this important piece of legislation.

Nurses' CDM is underpinned by scope of practice, accountability and autonomy (Johansen & O'Brien 2016). CDM can be defined as the relationship between knowledge of pre-existing pathological conditions, specific patient information, nursing care, and experiential learning to draw conclusions to enhance patient outcomes (Banning 2007; Simmons 2010). Currently, there is no formal definition of CDM for MHNs in the ED and little is known about how CDM is used by MHNs in EDs. Given that assessments of mental health often incur a high-risk environment, this limited knowledge has proven to be problematic in the areas of risk assessment and treatment planning due to disagreement between MHNs' opinions. Until more is known about the process of CDM in MHN in EDs, the practice of these nurses cannot be adequately evaluated or improved.

Clinical reasoning (CR) supplements CDM and is defined using general practice environments (Banning 2008; Simmons 2010). CR has recently emerged as an important component of CDM (Simmons 2010). CR is often used interchangeably with CDM (Simmons 2010) but differs from CDM because CR is the thought process used to inform decision making, whereas CDM pertains to the outcome achieved through the use of CR (Banning 2008; Simmons 2010). CR is defined as '...the assimilation and analysis of evidence which is categorised based on its usefulness, efficacy and application to a specific group of patients' (Banning 2008, p. 177). Similar to CDM, CR employs both formal and informal thinking strategies to analyse consumer information to reach a rational conclusion (Simmons *et al.* 2003; Zamani *et al.* 2017). The process of CR then informs clinical decisions which are fundamental to quality patient care and management (Banning 2008; Zamani *et al.* 2017). The role of MHNs CR and CDM in the ED setting has not been explored. This is an important gap in knowledge because to understand CDM, in terms of provisional diagnosis, we need to obtain an understanding of the CR processes used by MHNs. An understanding of CR and CDM will allow for the development of educational frameworks to enhance consumer outcomes.

Clinical reasoning and CDM skills are used widely throughout nursing. MHNs face an additional challenge within their CDM skill set, as they are required to provide provisional diagnosis following assessment (Sands 2009). Diagnostic practice within the nursing profession remains controversial. Traditionally, medical

diagnostic practice has been the primary responsibility of medical officers and considered to be outside the scope of practice of nurses (Buckingham & Adams 2000; Cashin *et al.* 2010). Developments in nursing, however, have led to increased autonomy, responsibility, CDM, and innovative and extended roles, for example the Mental Health Nurse Practitioner (Wand & Fisher 2006). Nurse practitioners are now involved in medical diagnostic practice alongside MHNs in the ED (Cashin *et al.* 2010; Lee *et al.* 2006). Cashin *et al.* (2010) also argue that nurses have been providing nursing diagnoses since 412 AC as it was once perceived that nurses could cure. NANDA International has recognized the complexities of nurse's work and CDM and has responded to these challenges by providing nursing diagnoses, which are planning tools that enable the nurse to direct care in specific clinical situations. Nursing diagnosis differs from medical diagnosis in that nursing diagnosis is a clinical judgement about individual/family/community responses to actual or potential health problems or life processes (NANDA International 2013), whereas a medical diagnosis aims to classify a patient as having a particular disease or condition (Bertaud-Gounot *et al.* 2012). Despite the development of NANDA I nursing diagnosis, they have not been widely adopted or embraced in the Australian healthcare context (de Carvalho *et al.* 2018). It is unclear why the NANDA I nursing diagnosis framework is no longer used in Australia. Interestingly, the Australian Medical Practitioners Registration and Amendments Act (2005) No. 30-Sect 6 section five dictates that it is illegal for anyone other than medical practitioners to purport to diagnose an illness or the absence of illness. However, it has long been an expectation that MHNs will provide a provisional diagnosis, as opposed to a nursing diagnosis, for consumers as it is considered a part of the bio-psychosocial assessment (Sands 2009). In the Australian Health Care System, there is an expectation and requirement to submit a medical diagnosis in the electronic medical records. Thus, organizational and political drivers rather than professional expectations drive the practice of MHNs developing and providing a provisional diagnosis to consumers. MHNs formulate a provisional diagnosis following assessment because it assists with the development of a nursing treatment plan (Crowe *et al.* 2008; Sands 2009). The formulation of a provisional diagnosis relies on the CDM skills possessed by the MHN. For example, limited exposure and clinical experience will impact on the MHNs' knowledge, and this then can affect the accuracy of the provisional diagnosis and ultimately the

overall treatment. Nurses' decisions positively influence health care through minimizing patient harm and improving quality of care (Thompson *et al.* 2013). Tait (2010) argues that suboptimal care has negative implications on health services resulting in increased hospital admissions, which leads to an increased cost burden on the healthcare service lines. In many instances, suboptimal care is avoidable. Research identifies communication as the leading cause of sentinel events in health care (Australian Commission on Safety and Quality in Healthcare 2016). Tait (2010) argue nurses CDM is a key factor in the recognition and response to clinical deterioration and the provision of high-quality care. Consumers with mental health conditions presenting to ED are at increased risk of clinical deterioration, and clinical deterioration is associated with poorer outcomes of care, increased consumer distress, and increased length of stay in hospitals (Tait 2010). Recently, the *Australian Commission on Safety and Quality in Health Care* (ACSQHC) has recognized the role and importance of recognizing and responding to mental health clinical deterioration (Australian Commission on Safety and Quality in Healthcare 2016). Thus, gaining an understanding of the CDM used by MHNs assessing consumers will assist with recognizing and responding to clinical deterioration and enhance consumers' outcomes and meeting the ACSQHC standards.

There is a dearth of knowledge of how CDM is undertaken by MHN working in EDs, more specifically CDM in relation to MHNs in the ED who are required to provide a provisional diagnosis as part of their work. It is clear that clinical, political, and technological advances have increased the complexities of the MHNs role in the ED. MHNs in the ED are required to make complex decisions surrounding consumers' risk and treatment planning as well as a provisional diagnosis, yet there is limited literature surrounding the exploration of these topics. MHNs CDM in relation to assessment of consumers presenting to the ED is the focus of this scoping review.

Aim and objectives

The aim of this review was to synthesize and analyse the diagnostic decision making undertaken by MHNs working within EDs.

The specific objectives are to:

1. Identify the current knowledge and understanding of CDM processes used by MHNs in the ED and in doing so identify gaps in knowledge;

2. Synthesize and analyse the clinical decision-making processes used by MHNs when assessing and providing a provisional diagnosis for consumers with mental health complaints.

METHODOLOGY

A scoping review of the current literature was undertaken using Arksey and O'Malley's (2005) framework. This framework assists with the selection of relevant literature, the extraction of relevant data, and the collation/summarization of the results (Davis *et al.* 2009). In addition, this approach allows for a focus to be placed on an interpretive model, whereby the relevance, credibility, and contribution of the evidence form the basis of the literature critique (Davis *et al.* 2009). A scoping review allows for a range of studies with variable designs to be evaluated and analysed with the aim of collating the current knowledge base and informing the reader of knowledge deficits.

The steps undertaken for this review were set out into six stages (Table 1).

Method

The following databases were used to search the literature, CINAHL (EBSCOhost), PubMed, and ProQuest. Initially, a broad search was conducted using Boolean phrases and MeSH headings. The initial search (Decision making [MeSH Major Topic] AND Registered Nurse [MeSH Terms] revealed 1682 results. Articles were read to gain an understanding of the decision-making processes used by registered nurses to form the background information for this scoping review. A separate search was then conducted through each of the databases using the terms 'CDM' AND 'Mental health nursing' and 'decision making' and 'mental health nursing'. Inclusion and exclusion criteria were then identified to focus the search to identify relevant literature as follows (Table 2):

Data selection

See Figure 1.

Papers synthesized

Decision making in mental health nurses

See Table 3.

Nurses providing diagnosis

See Table 4.

TABLE 1: *Scoping review steps*

Processes	Procedures
<p>Stage 1: Identify the initial research questions. Determine which aspects of the question are particularly important to facilitate the most appropriate search</p>	<p>The research questions/aims used for the initial stages of this review were as follows:</p> <ol style="list-style-type: none"> 1. Identify the current knowledge and understanding of CDM processes used by MHNs in the ED and in doing so identify gaps in knowledge; 2. Explore and analyse the clinical decision-making processes used by MHNs when assessing and providing a provisional diagnosis for consumers with mental health complaints.
<p>Stage 2: Identify the relevant studies. Comprehensively answer the central research questions including any time, date, budget constraints, and range of sources</p>	<p>PRISMA flow diagram (Fig. 1). CINAHL, PubMed, and ProQuest databases were used to conduct the literature search. Two different searches were conducted using the Boolean phrases 'Decision making' AND 'Mental health nursing' (1); and 'Clinical decision making' AND 'Mental health nursing' (2), respectively.</p> <p><i>Initial searches</i></p> <p><i>CINAHL:</i></p> <ol style="list-style-type: none"> 1. Initial results returned 42 papers. Specific search criteria were then used. Results were restricted to 'peer-reviewed articles'. This showed 33 results. The years were restricted to 2007–2017. This returned 26 results. The major subject headings were then reduced to 'Clinical decision making' and 'Mental health nursing'. This returned eight papers. From this, the abstracts and titles of the paper were read which returned four papers. 2. Initial results returned 110 papers. Specific search criteria were then used. Results were restricted to 'peer-reviewed articles'. This showed 89 results. The major subject headings were then reduced to 'Clinical decision making'. This returned 10 papers. From this, the abstracts and titles of the paper were read, of this, six papers were removed due to being duplicates which left four papers. <p><i>PubMed:</i></p> <ol style="list-style-type: none"> 1. Initial results returned 354 papers. Specific search criteria were then used. The years were restricted to 2007–2017. This returned 194 results. The article types were then reduced to 'clinical trial' and 'review'. From this, the abstracts and titles of the paper were read which returned 14 papers. 2. The search terms 'Clinical decision making' and 'psychiatric nursing' were used which returned 157 papers. Articles were reduced to peer-reviewed, dates 2007–2017 which revealed 73 results. Of this, the titles were read which revealed 14 papers. The papers were duplicates of the first PubMed search and as such were not included in the overall count. <p><i>ProQuest:</i></p> <ol style="list-style-type: none"> 1. Initial results returned 119 065 results. Limited to peer-reviewed articles which returned 31 650 papers. Reduced to scholarly articles which returned 30 362 papers. Limited to papers published between 2007 and 2017 returning 19 502 papers. MeSH topics were reduced to decision making and psychiatric nursing which returned 203 papers. Titles of these were read and 11 journal articles obtained for review. <p>Articles were also obtained through searching the reference lists of articles used for the scoping review. Some of these articles were outside the dates 2007–2017 but were used because the content was relevant to the search review.</p>

(Continued)

TABLE 1: (Continued)

Processes	Procedures
<p>Stage 3: Study selection adopts similar methods to systematic review from the outset adopts greater flexibility with inclusion and exclusion criteria, as familiarity with data progresses search terms may be redefined</p>	<p>(See Table 2 for inclusion and exclusion criteria) Abstracts of the returned results were read and studies were included and excluded based on the following:</p> <ul style="list-style-type: none"> • The focus being on clinical decision making in mental health nurses.
<p>Stage 4: Charting the data is representative of data extraction processes in a systematic review, but it takes a broader approach. Uses narrative descriptive-analytical framework method but does not attempt to 'weight' the methodological quality of evidence</p>	<p>Literature was excluded if it focused on shared decision making in mental health nursing. Whilst this is an important component of mental health nursing, it was not relevant to the research questions or aims developed in this scoping review. The selected articles were read and summarized into a table explaining the aims, research design, conclusions, and literature gaps. Two major themes were identified:</p> <ol style="list-style-type: none"> 1. Decision making pertinent to mental health nurses; 2. Diagnostic practice among mental health nurses. <p>Within the theme of decision making pertinent to mental health nurses, three subthemes were identified:</p> <ol style="list-style-type: none"> 1. Clinical decision making in the context of aggression and seclusion. 2. Clinical decision making informed by tacit knowledge. 3. Decision making informed by Organizational and clinician factors. <p>The common theme present among the papers exploring diagnostic practice was the limited research supporting diagnostic practice in nursing. Narrative synthesis was used to initially produce general groupings of the findings and then identify themes. We did not undertake this stage in this scoping review because it did not fit with our aims.</p>
<p>Stage 5: Collate, summarize, and report the results using a framework approach</p> <p>Stage 6: Optional consultation stage with key stakeholders has potential to add value, additional references, and valuable insights</p>	

RESULTS

Narrative synthesis was used to identify and present the findings. A narrative synthesis involves the use of a formal analytical process of evidence synthesis to produce innovative knowledge and insights with the aim of being both systematic and transparent (Mays *et al.* 2005). This allows for a variety of study designs, both qualitative and quantitative, to be utilized minimizing bias and producing a more holistic exploration of the phenomena/topic. A total of 16 papers were used in this scoping review. Fifteen papers were qualitative, and one paper was quantitative (See Tables 3,4).

Preliminary synthesis was conducted to generate general groupings of data as set out in Figures 2 and 3. Limited literature surrounding CDM and diagnostic practice specific for MHNs was found. Publication of articles was more prevalent in the last decade than the preceding decade with some years having no articles published (Fig. 2). The majority of articles pertaining

to CDM and diagnostic practice in mental health nursing emanated from Australia, followed by the United Kingdom (UK) (Fig. 3). Most of the Australian articles published focused on CDM surrounding aggression, self-injurious behaviour, risk assessment, and triage (Muir-Cochrane *et al.* 2011; Patterson *et al.* 2016; Phillips *et al.* 2015; Sands 2004; Usher *et al.* 2009). In addition, one of the four articles found pertaining to diagnostic practice was authored by Australians (Cashin *et al.* 2010). By contrast, the UK articles adopted a broader approach identifying the nature and factors influencing CDM (Crook 2001; Welsh & Lyons 2001). The articles from USA, Canada, Finland, and the Netherlands focused on CDM in aggressive behaviours resulting in the implementation of seclusion practices (Laiho *et al.* 2013; Mann-Poll *et al.* 2011; Moylan 2015; Riahi *et al.* 2016). The remaining articles published in New Zealand and Hong Kong focused on diagnostic practice in mental health nursing (Crowe *et al.* 2008; Lee *et al.* 2006).

TABLE 2: *Inclusion/exclusion criteria*

Inclusion criteria	Exclusion criteria
Articles published between 2007 and 2017	Articles published before 2007 were excluded due to the research being dated and not reflecting contemporary practice
Peer-reviewed articles	Articles that were not peer-reviewed were not included
Major topic headings: 'clinical decision making' and 'mental health nursing'	Articles that did not have these major headings once they had been refined by peer-reviewed and dates of publication were not included
Articles written in English	Articles not written in English were not included
Articles relevant to mental health nursing decision making	Articles not relevant to mental health nursing were not included. The refined search returned numerous articles regarding shared decision making. Whilst shared decision making is important in mental health care, it was not relevant to this scoping review, thus excluded. Studies relating to student nurses were also excluded from this process due to the clinical experience of nurses placed in a role requiring provisional diagnosis being made is that of a senior level.

Six of the articles were literature reviews, and characteristics and concepts surrounding diagnostic practice in mental health nursing were identified in two of the articles (Crowe *et al.* 2008; Lee *et al.* 2006). Factors influencing CDM were explored in four articles (Crook 2001; Laiho *et al.* 2013; Moylan 2015; Riahi *et al.* 2016).

A descriptive exploratory design emphasizing the CDM behind administration of PRN medications, seclusion, assessment of deliberate self-harm, and assessment to inform nursing care plans respectively was used by a number of authors (Mann-Poll *et al.* 2011; Muir-Cochrane *et al.* 2011; Phillips *et al.* 2015; Usher *et al.* 2009; Welsh & Lyons 2001). Sands (2004) utilized a methodological triangulation design that used semistructured interviews and surveys to produce a comprehensive description of triage mental health nursing. Diagnostic practice in nursing was identified in four papers (Cashin *et al.* 2010; Crowe *et al.* 2008; Lee *et al.* 2006; Sharma *et al.* 2008). A discussion paper exploring the influence of situational awareness on the decision to admit or not admit consumers voluntarily was also analysed and included in the review (Patterson *et al.* 2016).

Following the general groupings of data, articles were then read and analysed to generate overarching themes and subthemes (Mays *et al.* 2005). Two tables were developed separating the two overarching themes: firstly, CDM in mental health nursing. This was informed by three subthemes: CDM in the context of aggression and seclusion; decision making informed by tacit knowledge; and organizational and clinician factors influencing CDM. The second theme was diagnostic practice in mental health nursing.

Theme one: CDM in mental health nursing

CDM in the context of aggression and seclusion

Aggression with psychiatric settings is on the rise (Moylan 2015). MHNs have an ethical and professional responsibility to ensure the safety of the consumer as well as health professionals, visitors, and other consumers within the psychiatric environment (Moylan 2015). Often decisions pertaining to aggression management are made in high stress situations, requiring rapid decision making to maintain safety (Moylan 2015). CDM in the context of aggression and seclusion refers to the judgements formed in order to preserve safety (Moylan 2015).

Riahi *et al.* (2016) explored the factors which influence MHNs' decision making in the use of restraint in their literature review and suggest that that decision making is influenced by ethical, safety, interpersonal, and staff-related factors. Mann-Poll *et al.* (2011), examined factors which contribute to the decision to use seclusion, using a vignette study with mental health professionals ($n = 82$) working across four inpatient settings. Mann-Poll *et al.* (2011) argue that specific inpatient features as well as clinician characteristics, diagnosis, consumer variables, and problem behaviours are equally influential in decision making regarding the use of seclusion. Similarly, Laiho *et al.* (2013) conducted a literature review of situations and CDM leading to the use of seclusion. The results of Laiho *et al.* (2013) also support Mann-Poll *et al.* (2011) findings and suggest that previous experience and history of consumers, as well as the consumer's current behaviour's, influence the decision making regarding the use of restraint (Laiho *et al.* 2013). By contrast, Moylan (2015) conducted a literature review of decision making of MHNs regarding the management of aggressive consumers from a theoretical perspective. Using a model for general nurses' decision making, Moylan (2015) discussed further developing this model to apply to MHNs CDM with the aggressive consumer. Moylan

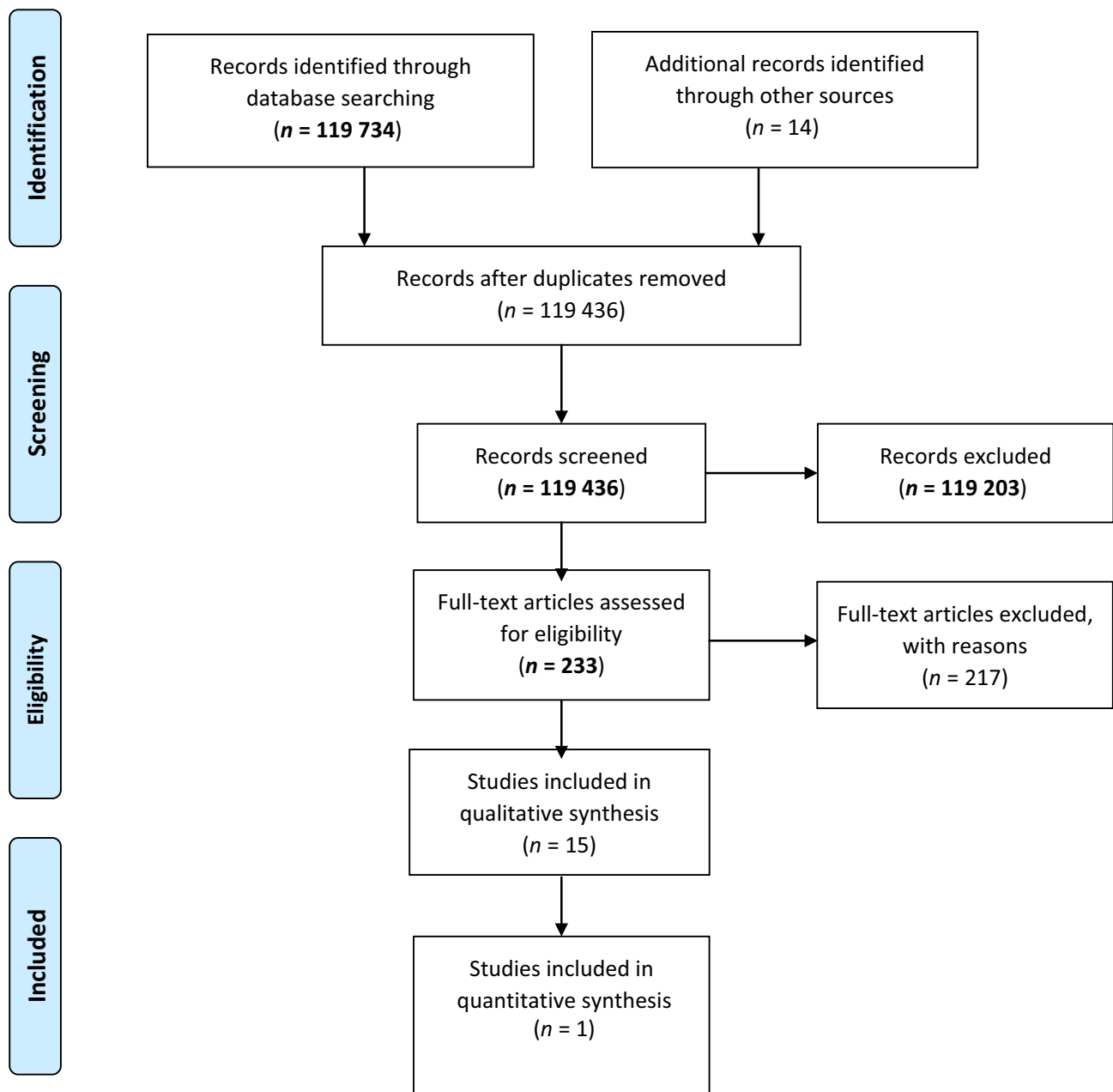


FIG. 1: PRISMA flow diagram indicating the steps taken to retrieve relevant articles for the scoping review.

argues that the theory behind effective communication as well as individual clinician factors influenced CDM and this needs to be acknowledged when developing CDM models.

Decision making informed by tacit knowledge

Tacit knowledge involves interpretations of situations based on observations and experiences (Johansen & Brown 2016), focusing explicitly on an individual's

experience and belief systems (Johansen *et al.* 2016; Lamond & Thompson 1999). Ongoing controversy surrounding the role and use of tacit knowledge exists because it can result in incorrect conclusions being drawn, due to the limitations on perspective stemming from prior experience (Johansen *et al.* 2016; Lamond & Thompson 1999).

Muir-Cochrane *et al.* (2011) conducted a study exploring multidiscipline clinicians' approach to risk

TABLE 3: *Decision making in mental health nurses*

Author(s)	Study aims	Study design	Sample/participants	Results	Knowledge gap	Themes
Crook (2001) UK	A review of decision making in mental health nursing.	Literature review. Specific design not reported.	Not reported.	Decisions often made during high-risk situations. Nurses may make decisions they do not agree with due to protocol surrounding at risk behaviours.	Further research is required into the nature of expertise and expert decision making within psychiatric nursing.	Clinical decision making informed by tacit knowledge.
Welsh and Lyons (2001) UK	To examine how mental health nurses use formal and informal knowledge to undertake holistic assessment to inform the individualized care plan.	Descriptive exploratory approach using the principle of case study design.	Data collected from eight staff working in psychiatric assessment centre and short-term treatment centre over a 6-month period.	Empirical and tacit knowledge informs the assessment and treatment of individuals with suicidal thinking.	Not reported.	Clinical decision making informed by tacit knowledge.
Muir-Cochrane <i>et al.</i> (2011) Australia	To investigate risk assessment practices of a multidisciplinary health service; clinical decision making, perception, knowledge and attitudes within the service, and barriers and enablers experienced by clinicians to effective risk management procedures.	Case study using semistructured interviews exploring participants approach to risk management.	Fifteen multidisciplinary team members from one mental health service.	Participants use both managerial view and therapeutic review to make decisions about risk assessments.	Future research should investigate consumer and caregiver perspectives on risk assessment and management.	Clinical decision making informed by tacit knowledge.
Laiho <i>et al.</i> (2013) Finland	To describe different factors involved in the decision making of mental health nurses process of using seclusion or restraint.	Integrative literature review.	PsycINFO and MEDLINE. CINAH. Thirty-two studies selected.	Results suggest that the situations that lead to the use of seclusion or restraint are always dynamic and circumstantial. Tacit knowledge largely influences decisions.	Future research should also address dynamic factors of decision making and consider their effect in different situations.	Clinical decision making in the context of aggression and seclusion.
Usher <i>et al.</i> (2009) Australia	To explore the medical and nursing decision-making process associated with the prescription and administration of 'as needed' psychotropic medication.	Qualitative exploratory study.	Nineteen medical and nursing staff from three mental healthcare sites (acute, secure, and rehabilitation) participated in semistructured interviews.	PRN medications were administered due to patient requests, agitation, and level of distress, aggression, psychosis, and concern for patient safety. Influences by race.	Further, an extensive review of 'as needed' medication prescription and administration compared to best practice guidelines is needed.	Clinical decision making informed by organizational and clinician factors.

(Continued)

TABLE 3: (Continued)

Author(s)	Study aims	Study design	Sample/participants	Results	Knowledge gap	Themes
Riahi <i>et al.</i> (2016) Canada	To explore influencing factors of mental health nurses' decision making in the use of restraint.	Integrative literature review.	The databases searched were MEDLINE, Cochrane, CINAHL (Ebsco), PsycINFO, and EMBASE. Eighty-two were analysed.	diagnosis, resources, and environmental factors. Mental health nurses' decision making is influenced by interrelated issues of ethical and safety responsibilities, interpersonal, and staff-related factors.	Research to further understand the experience and actualization of 'last resort' in the use of restraint and to provide strategies to prevent restraint use in mental health settings is needed.	Clinical decision making in the context of aggression and seclusion.
Phillips <i>et al.</i> (2015) Australia	To explore variations in mental health nurses' disposition decisions for patients following risk assessment for deliberate self-harm.	Descriptive exploratory design surveyed participants about their decision making regarding the assessment and management of deliberate self-harm.	30-item survey. Participants were members of the Australian College of Mental Health Nurses.	There was a lack of consensus regarding dispositional outcomes. This suggests a high level of subjectivity in decision making which needs to be taken into account within clinical governance.	Further research is needed to investigate the role that clinician factors play in disposition decisions.	Clinical decision making informed by organizational and clinician factors.
Patterson <i>et al.</i> (2016) Australia	To explore the application of situation awareness in nursing to determine its suitability as a framework to study the decision-making process behind admitting or not admitting a patient under the Mental Health Act.	Discussion paper.	Search terms: situation awareness and mental health nursing. Papers from 2000 to 2016.	Decision is made based on the following: perception, comprehension, and projection of their environmental cues (also known as situational awareness).	Limited research on situational awareness with regards to MHN. Further research needed to examine a framework at a deeper level which explores the decision making as to why MHN's admit or do not admit.	Clinical decision making informed by organizational and clinician factors.
Sands (2004) Australia	To produce a comprehensive definition and description of psychiatric triage nursing in Victoria, Australia.	Survey and semistructured interviews.	200, 33-item surveys were distributed to the estimated population of Victoria's triage mental health nurses. A total of 139 surveys were returned.	Psychiatric triage nursing in Victoria is complex, stressful, requires high level of responsibility, clinical decision making, and multiple role	Further research needed to investigate the conditions necessary to ensure confident, high-quality evidence-based practice.	Clinical decision making informed by organizational and clinician factors.

(Continued)

TABLE 3: (Continued)

Author(s)	Study aims	Study design	Sample/participants	Results	Knowledge gap	Themes
Mann-Poll <i>et al.</i> (2011) the Netherlands	To construct an explanatory model of factors that contribute to the decision of mental health professionals to use seclusion to manage aggressive consumers.	Vignette study.	Twenty-one participants agreed to a follow-up semistructured interview.	Found to have overlapped into the domain of medicine, diagnosis, assessment, and referrals. Clinician characteristics were at least as important as patient variables, including problem behaviours and diagnosis, and ward features.	Knowledge gap not reported.	Clinical decision making in the context of aggression and seclusion.
Moylan (2015) USA	Examined clinical decision making from a theoretical perspective and discussed application of the related principles to the development of a model for nurses' decision making with the aggressive patient.	Literature review.	Not reported.	Moylan's model for nurses was tailored to aggressive behaviour in psych settings, found to be effective in clinical decision making.	Further research and testing of the model is recommended. Modifications of the model depending on outcomes of further study may be indicated.	Clinical decision making in the context of aggression and seclusion.
Sands (2009) Australia	Identify the key features of mental health triage decision making, the process of triage decision making, the influences, issues, and other factors impacting of triage decision making.	Mixed methods research design.	Mental health triage nurses in Victoria were used. A total of 139 surveys were distributed, and 21 semistructured interviews were conducted.	Education, organizational factors, and clinician factors influenced triage clinical decision making. Triage CDM was found to have high levels of responsibility.	Clinical decision-making frameworks for mental health triage clinicians need to be developed to inform and guide best practice.	Clinical decision making informed by organizational and clinician factors.

TABLE 4: *Nurses providing diagnosis*

Author (s)	Study aims	Study design	Sample/participants	Results/conclusions	Knowledge gap	Themes
Lee <i>et al.</i> (2006) Hong Kong	Critical review and synthesis of the literature related to the general concepts and the process of diagnosing the client's condition and the possible variables which influence diagnostic practice in nursing. Collate data regarding nurses making diagnosis, specifically to prove they can make diagnosis in Australia.	Literature review.	Articles from 1970s to 1990s databases.	Conceptual framework useful for nurses diagnosing. It articulates the underlying structures and processes of diagnostic practice in nursing.	No studies revealed a conclusive explanation to delineate diagnostic practice in nursing.	Diagnostic practice.
Cashin <i>et al.</i> (2010) Australia	Feasibility of using computer-assisted diagnostic interview by nurses and to examine the level of agreement between the Global Mental Health Assessment Tool diagnosis and psychiatrists' clinical diagnosis.	Discussion paper.	Not reported.	Mental health nurses in Australia can make diagnosis.	No clear gaps identified.	Diagnostic practice.
Sharma <i>et al.</i> (2008) UK	Explored the characteristics of clinical formulations, differences from diagnoses, draws on the psychotherapeutic nature of mental health nursing care to make the case for the use of clinical formulations.	Cross-sectional validation study.	215 pts aged 16–75 were assessed by nurses and psychiatrists in various settings.	GMHAT can assist nurses to diagnose and is accepted by patients.	Further research needed to implement the GMHAT across a variety of settings, to test its efficacy.	Diagnostic practice.
Crowe <i>et al.</i> (2008) New Zealand	Explored the characteristics of clinical formulations, differences from diagnoses, draws on the psychotherapeutic nature of mental health nursing care to make the case for the use of clinical formulations.	Literature review utilizing a case study.	Case study presented and followed by four formulations using differing clinical perspectives.	Mental health nurses use a variety of theoretical frameworks to underpin their practice; psychodynamic, psychoanalytic and eclectic models. These do assist with the client-centred approach in holistic mental health care. Using the neurobiological approach, the nursing care becomes medical focused with psychoeducation being the primary nursing responsibility.	Further research regarding the theoretical frameworks underpinning the therapeutic relationship in mental health nursing practice.	Diagnostic practice.

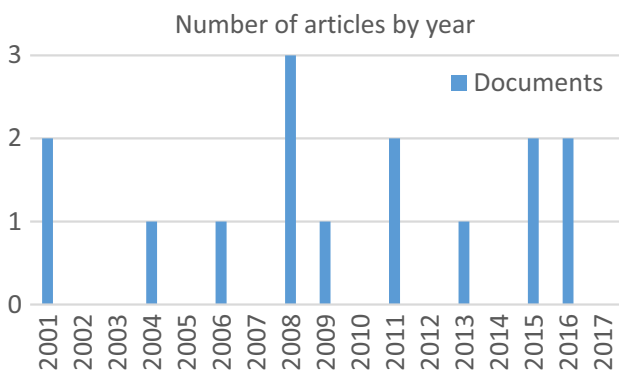


FIG. 2: Number of articles published per year. Whereby the vertical axis represents the number of articles and the horizontal axis represents the year of publication.

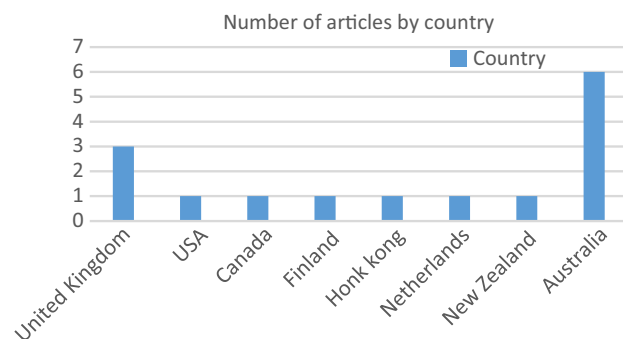


FIG. 3: Number of articles by country. Whereby vertical axis is the number of articles identified and the horizontal axis is the country of origin.

management in their day-to-day practice. The results revealed that MHNs hold tacit knowledge in high regards when making clinical decisions; however, CDM was also influenced by organizational factors such as local protocol and policies (Muir-Cochrane *et al.* 2011). This is further supported by Crook (2001) who identified that decisions are often made in high-risk situations and are heavily influenced by protocols and policies used by the organization. In addition, Crook (2001) also identified that clinicians will alter their decisions, even if they do not agree, if being watched by other clinicians so they are not viewed as straying from protocol or procedure. By contrast, one study used case studies examining the way in which MHNs working in psychiatric assessment centres use tacit and empirical knowledge to form individual care plans (Welsh & Lyons 2001). Similar to Muir-Cochrane *et al.* (2011), the results showed that MHNs use both forms of knowledge and

it is therefore important to acknowledge the relevance of tacit knowledge in relation to CDM in mental health nursing (Welsh & Lyons 2001).

Decision making informed by organizational and clinician factors

Patterson *et al.* (2016) suggest that organizational characteristics, clinician characteristics, consumer characteristics, and other contextual characteristics influence CDM. They identified that CDM is based on perception, comprehension, and projection of their environmental cues; that is, a combination of organizational and clinician factors (Patterson *et al.* 2016). Sands (2009) supports this, suggesting that there are five factors which impact on CDM. These include the following: (i) scope of practice; (ii) colleague's opinions; (iii) availability of resources; and (iv) tacit and (v) explicit knowledge. In this particular research, Sands (2009) examined the mechanisms MHNs use to make clinical decisions in triage. MHNs participating in the study had, on average, 15.5 years experience, and they attributed this experience to their ability to make decisions (Sands 2009). Phillips *et al.* (2015) explored dispositional decisions regarding patient outcomes. The participants included nurses who were members of the Australian College of MHNs working in EDs who conduct assessments as part of their role. The participants were asked to review nine case vignettes and rate the individual's intent to end their life as well as provide a treatment plan (i.e. to admit or not). There was consistency among responses for each of the case studies regarding the individuals' intent to die. However, there were significant discrepancies regarding the decision to admit the consumer or engage them in community services. Overall, the results showed that a variety of factors influences risk decision making, most notably, the clinicians' past experiences significantly altered their decision making (Phillips *et al.* 2015). By contrast, Usher *et al.* (2009) explored the CDM of both medical officers and nurses on the use of pro re nata (PRN) medication in mental health and revealed that individual consumer and environmental factors largely influenced the decision to prescribe or administer PRN medications (Usher *et al.* 2009).

Diagnostic practice in mental health nursing

Diagnostic practice in mental health nursing refers to the process of information processing both during and after an assessment to form clinical judgements (Lee *et al.* 2006). Lee *et al.* (2006) conducted a literature review exploring the history and influencing factors of

diagnostic practice in nursing. They identified that knowledge, experience, discipline, and psychosocial-cultural factors were important in the process of diagnostic practice. Sharma *et al.* (2008) conducted a cross-sectional study exploring the feasibility of computer-assisted diagnostic interviews for nurses to examine the level of agreement between nurses and psychiatrist diagnosis. Consumers ($n = 215$) were assessed by psychiatrists and nurses across a variety of psychiatric settings. The results showed that the Global Mental Health Assessment Tool (GMHAT) can assist nurses to diagnose mental health consumers. Crowe *et al.* (2008) support this, suggesting that diagnostic practice should be within the MHNs's scope of practice. Crowe *et al.* (2008) utilized a case study to explain the reframing of diagnosis to clinical formulation postassessment of mental health consumers.

DISCUSSION

This review aimed to identify the current knowledge and understanding of CDM processes used by MHNs in a variety of settings and to synthesize and analyse MHNs' CDM processes in relation to providing a provisional diagnosis using a scoping review methodology. We identified that CDM in mental health nursing is reported in the literature in the context of aggression and seclusion and is influenced by tacit knowledge, organizational, and clinician factors. Importantly, we found limited literature exploring the process of diagnostic practice in mental health nursing. We argue that this is an important finding because the role of the MHN has expanded within Australia and MHNs are expected to provide a provisional diagnosis (Sands 2009). To the best of the authors' knowledge, there is no literature exploring, and identifying, the processes used by MHNs to provide a provisional diagnosis.

Clinical decision making in nursing and mental health nursing has been widely researched, and several researchers have identified that CDM is influenced by a number of important variables including clinician, environmental, consumer, and organizational factors (Crook 2001; Laiho *et al.* 2013; Muir-Cochrane *et al.* 2011; Patterson *et al.* 2016; Phillips *et al.* 2015; Sands 2009; Welsh & Lyons 2001). Clinician factors include previous experiences with diagnosis, level of experience, level of education, and dispositional factors (Muir-Cochrane *et al.* 2011; Patterson *et al.* 2016; Sands 2009; Welsh & Lyons 2001). Clinicians with extensive experience attribute their ability to make sound and timely decisions with their clinical

experience, suggesting MHNs CDM will vary dependent on the clinical settings they have been employed in (Sands 2009). For example, with specific regards to the use of restraint and seclusion, it appears that both clinicians' previous experience with aggressive consumers and the actual psychiatric diagnosis of the consumer heavily influence CDM (Laiho *et al.* 2013; Mann-Poll *et al.* 2011; Moylan 2015; Riahi *et al.* 2016). This may be attributed to the fact that some MHNs working in mental health inpatient settings have reduced responsibility and less variety of experience in comparison with those working in triage and assessment environments (Cioffi 1998; Clarke *et al.* 2015; Laiho *et al.* 2013; Mann-Poll *et al.* 2011; Moylan 2015; Riahi *et al.* 2016). This finding has been replicated by other researchers in emergency settings (Cioffi 1998; Clarke *et al.* 2015), critical care settings (Hicks *et al.* 2003), and subacute settings (Benner & Tanner 1987). Clearly, experience is an important element in CDM. The link between tacit knowledge and CDM has been identified by a number of researchers (Cioffi 1998; Clarke *et al.* 2015). Cioffi (1998) suggests that more experienced triage nurses utilize tacit knowledge in their CDM whereas beginner triage nurses utilize scientific-based knowledge in their CDM. In a recent think aloud study exploring the decision-making processes utilized by triage nurses, intuition was identified as an important element of CDM (Clarke *et al.* 2015). Interestingly, Clarke *et al.* (2015) utilized a triage decision-making tool to assist with triage of consumers, which is aligned with an empirical approach to CDM. However, the nurses manipulated the tool with tacit knowledge to formulate their triage. It was noted that previous experience and their colleague's opinions swayed the way in which the nurses chose to use this triage tool (Clarke *et al.* 2015). In this scoping review, we identified that CDM is heavily influenced by previous experience indicating that a combination of organizational, consumer, and tacit knowledge are important factors in CDM.

We identified that diagnostic practices of MHNs were an important element of the role (Crowe *et al.* 2008; Lee *et al.* 2006; Sands 2009; Sharma *et al.* 2008). MHNs work in a variety of settings ranging from community clinics to EDs and inpatient settings (Sands 2009). MHNs who provided provisional diagnosis are typically located in community and emergency department settings. They hold a high level of responsibility and are faced with making decisions in high-risk situations (Sands 2004, 2009). However, the role and importance of diagnostic nursing practice remains under

researched in general and mental health nursing with limited empirical evidence available (Cashin *et al.* 2010; Sands 2009).

Diagnostic practice within the nursing profession is controversial, with many nurses, medical officers, and allied health professionals arguing that it is outside of the nurse's scope of practice (Baid 2006; Cashin *et al.* 2010; Sands 2009). In the United States, NANDA has been influential in developing a common language reflecting the complexities of nursing practices through the use of nursing diagnosis which facilitates nursing care (de Carvalho *et al.* 2018); however, these are not used in Australia. Interestingly, a Turkish study found 15–20% of nurses do not value nursing diagnosis when providing care (Akbulut & Akpinar 2017). A significant barrier to developing nurse's diagnostic capabilities is the ongoing concerns over litigation (Sands 2009; Zanotti & Chiffi 2015). Baid (2006) identified that concerns over role blurring between nurses and medical staff was another barrier to developing nurse's diagnostic capabilities.

Over the last two decades, the accuracy of nursing diagnoses has been questioned (Akbulut & Akpinar 2017; Lunney 2003; Nurjannah *et al.* 2013). The level and quality of education have been identified as important predictors of MHNs diagnostic capabilities (Akbulut & Akpinar 2017). This has been attributed to the level and quality of education nurses receive whilst training and once employed (Akbulut & Akpinar 2017). The quality of education was not identified as an influencing factor on nurse's diagnostic practice within this scoping review. However, there was a correlation between the amount of knowledge a nurse possessed and their ability to identify diagnosis (Lee *et al.* 2006). Knowledge is a largely influential factor in diagnostic practice. Lee *et al.* (2006) suggest diagnosis is impossible if the health practitioner does not recognize or understand what is in front of them. Nurses with a greater knowledge base are more likely to possess advanced logical reasoning skills (Lee *et al.* 2006). This suggests that experienced and knowledgeable nurses are able to identify more diagnosis than those with less knowledge and exposure in their field (Akbulut & Akpinar 2017; Lee *et al.* 2006). In addition, previous experience of nurses was found to influence diagnostic reasoning (Lee *et al.* 2006). This indicates that nurses with more clinical experience had sharper recognition of patient symptoms, which enhanced diagnostic capabilities (Lee *et al.* 2006). It was very clear within the literature identified that the use of diagnostic practice in mental health nursing was held in high regards by MHNs (Cashin *et al.* 2010; Crowe *et al.* 2008; Fedele

2017; Sands 2009) and that it does have a place within the nursing profession.

The concept of MHNs providing a diagnosis has been identified as important by nurses (Sands 2009) as it links a diagnosis with the data obtained via assessment (Crowe *et al.* 2008). Currently, nurses use clinical formulations as a method of making sense of the assessment (Crowe *et al.* 2008); yet, literature exploring diagnostic practice and the role of the MHN is sparse (Lee *et al.* 2006; Sharma *et al.* 2008). Increasing role autonomy and expanding scope of practice will continue to place demands on MHNs to develop their diagnostic practices (Cashin *et al.* 2010; Lee *et al.* 2006; Sands 2009). MHNs are unique in the sense that they conduct comprehensive assessments and are required to interpret these data diagnostically to plan care. Thus, further research is needed into to use of diagnostic practice for MHNs working in ED assessment environments.

Implications for practice

There are several recommendations arising from this scoping review. Firstly, there are important differences between experienced MHNs and those with less years of clinical experience, which can significantly alter the treatment outcomes for the patient. Secondly, the shift in responsibility of the MHN's scope of practice and the expectation of MHNs providing provisional diagnoses has seen a blurring between medical and nursing roles allowing for potential litigation and misdiagnosis (Sands 2009). Finally, there is limited understanding of the influencing factors of CDM used by MHNs who are expected to provide provisional diagnosis following assessment (Sharma *et al.* 2008; Lee *et al.* 2006; Phillips *et al.* 2015). At this stage, there is not enough knowledge or understanding of this concept to develop implications that may impact practice. Models of care and current procedures need to be examined to establish implications for practice. Future research surrounding the factors influencing CDM is needed.

Implications for research

Further research should be aimed at developing clear professional boundaries and expectation regarding MHNs providing provisional diagnosis following assessment. Ideally, this research should be aimed at gaining an understanding of the factors influencing CDM specifically by MHNs employed in roles where mental health assessment and provision of a diagnosis are carried out routinely, such as in EDs. Achieving this will

assist to develop best practice guidelines and CDM frameworks to support MHNs to provide accurate diagnosis and ensuring consumers receive the best possible treatment.

Implications for education

We do not have enough knowledge or understanding surrounding the factors which impact CDM. Once further research is conducted and a better understanding is obtained, education can be provided to MHNs to assist with the development of CDM skills to strengthen skill sets and ensure the provision of accurate diagnosis.

Limitations

This scoping review has some limitations. Firstly, only three databases were used to conduct the search. It is possible that additional literature may have become available if other databases had been included. The inclusion and exclusion criteria may have also impacted the number of articles located through the search. An example of this is the inclusion criteria of articles having to be written in English. There may have been other papers written in other languages relevant to our aims. Additionally, the scoping review does not rate the quality or level of evidence for the literature included and so this may affect the quality of data included in this paper.

CONCLUSION

This scoping review aimed to identify current knowledge what is known about factors influencing CDM and diagnostic practice in MHNs in a variety of settings. MHNs have a unique role in the care and treatment of their consumers. The added responsibility and growing pressures on the healthcare system have seen a significant shift in the role of the MHN resulting in the expectation and practice of providing a provisional diagnosis at the time of assessment. There is a clear link between the factors influencing CDM and diagnostic practice used by MHNs. Both of these are influenced by clinician and organizational factors, and previous studies have suggested that nurses with more experience have better CDM and capability for identifying more diagnosis. Future research is required to understand the process of CDM to develop the concept of diagnostic practice within mental health nursing.

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REFERENCES

- Akbulut, G. & Akpınar, R. B. (2017). Determining nurses' knowledgeability of nursing diagnoses. *International Journal of Caring Sciences*, *10*, 1129–1135.
- Alarcon Manchego, P., Knott, J., Graundis, A., Bartley, B. & Mitra, B. (2015). Management of mental health patients in Victorian emergency departments: A 10 year follow-up study. *Emergency Medicine Australasia*, *27*, 529–536.
- Arksey, H. & O'Malley, L. (2005). Scoping studies: Towards a methodological framework. *International Journal of Social Research Methodology*, *8*, 19–32.
- Australian Commission on Safety and Quality in Healthcare (2016). Patient-clinician communication in hospitals: Communicating for safety and transitions of care. [Cited 15 August 2017]. Available from: URL: [https://www.safetyandquality.gov.au/wp-content/uploads/2016/11/Information-sheet-for-executives-and-clinical-leaders-Improving-patient-clinician-communication.pdf]
- Australian Institute of Health and Welfare (2013). Australian hospital statistics 2012–13: Emergency department care. Health services series no. 52. Cat. no. HSE 142. Canberra, ACT: AIHW.
- Australian Institute of Health and Welfare (2016). Emergency department care 2015–16: Australian hospital statistics. Health services series no. 72. Cat. no. HSE 182. Canberra, ACT: AIHW. [Cited 5 September 2017]. Available from: URL: [https://www.aihw.gov.au/getmedia/ed894387-423b-42cd-8949-90355666f24d/20407.pdf.aspx?inline=true]
- Baid, H. (2006). Differential diagnosis in advanced nursing practice. *British Journal of Nursing*, *15*, 1007–1011.
- Banning, M. (2007). Clinical reasoning and its application to nursing: Concepts and research studies. *Nurse Education in Practice*, *8*, 177–183.
- Banning, M. (2008). A review of clinical decision making: Models and current research. *Journal of Clinical Nursing*, *17*, 187–195.
- Benner, P. & Tanner, C. (1987). Clinical judgment: How expert nurses use intuition. *American Journal of Nursing*, *87*, 23–31.
- Bertaud-Gounot, V., Duvauferrier, R. & Burgun, A. (2012). Ontology and medical diagnosis. *Informatics for Health and Social Care*, *37*, 51–61.
- Broadbent, M., Moxham, L. & Dwyer, T. (2010). Issues associated with the triage of clients with a mental illness in Australian emergency departments. *Australasian Emergency Nursing Journal*, *13*, 117–123.
- Brown, A. M. & Clarke, D. E. (2014). Reducing uncertainty in triaging mental health presentations: Examining triage decision making. *International Emergency Nursing*, *22*, 47–51.

- Buckingham, C. D. & Adams, A. (2000). Classifying clinical decision making: A unifying approach. *Journal of Advanced Nursing*, 32, 981–989.
- de Carvalho, E. C., Eduardo, A. H. A., Romanzini, A. *et al.* (2018). Correspondence between NANDA international nursing diagnoses and outcomes as proposed by the nursing outcomes classification. *International Journal of Nursing Knowledge*, 29, 66–78.
- Cashin, A., Buckley, T., Watson, N. *et al.* (2010). Can mental health nurses diagnose in Australia. *Issues in Mental Health Nursing*, 31, 819–823.
- Cioffi, J. (1998). Decision making by emergency nurses in triage assessments. *Accident and Emergency Nursing*, 6, 184–191.
- Clarke, D. E., Boyce-Gaudreau, K., Sanderson, A. & Baker, J. (2015). ED triage decision-making with mental health presentations: A “Think aloud” study. *Journal of Emergency Nursing*, 41, 496–502.
- Crook, J. (2001). How do expert mental health nurses make on-the-spot clinical decisions? A review of the literature. *Journal of Psychiatric and Mental Health Nursing*, 8, 1–5.
- Crowe, M., Carlyle, D. & Farmar, R. (2008). Clinical formulation for mental health nursing practice. *Journal of Psychiatric and Mental Health Nursing*, 15, 800–807.
- Davis, K., Drey, N. & Gould, D. (2009). What are scoping studies? A review of the nursing literature. *International Journal of Nursing Studies*, 46, 1386–1400.
- Fedele, R. (2017). Lean on me. The challenges and opportunities facing mental health nursing. *Australian Nursing and Midwifery Journal*, 2, 14–19.
- Hicks, F., Merritt, S. & Elstein, A. (2003). Critical thinking and clinical decision making in critical care nursing: A pilot study. *Heart and Lung: The Journal of Critical Care*, 32, 169–180.
- Johansen, M. L. & O’Brien, J. L. (2016). Decision making in nursing practice: A concept analysis. *Nursing Forum*, 51, 40–48.
- Knaak, S., Mantler, E. & Szeto, A. (2017). Mental illness related stigma in healthcare: Barriers to access and care and evidence based solutions. *Healthcare Management Forum*, 30, 111–116.
- Laiho, T., Kattainen, E., Astedt-Kurki, P., Putkonen, H., Lindenberg, N. & Kylmä, J. (2013). Clinical decision making involved in secluding and restraining an adult psychiatric patient: An integrative literature review. *Journal of Psychiatric and Mental Health Nursing*, 20, 830–839.
- Lamond, D. & Thompson, C. (1999). Intuition and analysis in decision making and choice. *Journal of Nursing Scholarship*, 32, 411–414.
- Lee, J., Chan, A. C. M. & Phillips, D. R. (2006). Diagnostic practice in nursing: A critical review of the literature. *Nursing and Health Sciences*, 8, 57–65.
- Leontieva, L. & Gregory, R. (2013). Characteristics of patients with borderline personality disorder in a state psychiatric hospital. *Journal of Personality Disorders*, 27, 222–232.
- Lunney, M. (2003). Critical thinking and accuracy of nurses’ diagnosis. *International Journal of Nursing Terminologies and Classifications*, 14, 96–107.
- Mackey, A. & Bassendowski, S. (2017). The history of evidence-based practice in nursing education and practice. *Journal of Professional Nursing*, 33, 51–55.
- Mann-Poll, P., Smit, A., De Vries, W. J., Boumans, C. & Hutschemaekers, G. (2011). Factors contributing to mental health professionals’ decision to use seclusion. *Psychiatric Services*, 62, 498–503.
- Marynowski-Traczyk, D., Moxham, L. & Broadbent, M. (2015). Mental health consumers’ recovery in the emergency department. *Australian Nursing and Midwifery Journal*, 22, 44.
- Mays, N., Pope, C. & Papay, J. (2005). Details of approaches to synthesis a methodological appendix to the paper: Systematically reviewing qualitative and quantitative evidence to inform management and policy making in the health field. [Cited 9 September 2017]. Available from: URL: [<http://researchonline.lshtm.ac.uk/19432/1/Systematically%20reviewing%20qualitative%20%20quantitative%20evidence%20to%20inform%20management%20%20policy%20appendix%20%28Mays%20et%20al%29%20July%202005.pdf>]
- Morphet, J., Innes, K., Munro, I. *et al.* (2012). Managing people with mental health presentations in emergency departments – A service exploration of the issues surrounding responsiveness from a mental health care consumer and carer perspective. *Australasian Emergency Nursing Journal*, 15, 148–155.
- Moylan, L. B. (2015). A conceptual model for nurses’ decision-making with the aggressive psychiatric client. *Issues in Mental Health Nursing*, 36, 577–582.
- Muir-Cochrane, E., Gerace, A., Mosel, K. *et al.* (2011). Managing risk: Clinical decision making in mental health services. *Issues in Mental Health Nursing*, 32, 726–734.
- NANDA International (2013). Glossary of terms. [Cited 29 August 2018]. Available from: URL: [<http://kb.nanda.org/article/AA-00226/30/English-/Resources/Glossary-of-Terms.html>]
- Ngo, S., Shahsahebi, M., Schreiber, S., Johnson, F. & Silberberg, M. (2017). Evaluating the effectiveness of community and hospital medical record integration on management of behavioral health in the emergency department. *The Journal of Behavioral Health Services and Research*, 45, 651–658.
- Nurjannah, I., Warsini, S. & Mills, J. (2013). Comparing methods of diagnostic reasoning in nursing. *GSTF International Journal of Nursing and Health Care*, 1, 89–96.
- Patterson, C., Procter, N. & Toffoli, L. (2016). Situation awareness: When nurses decide to admit or not admit a person with mental illness as an involuntary patient. *Journal of Advanced Nursing*, 72, 2042–2053.
- Phillips, G., Gertz, M. F., Elsom, S. J., Weiland, T. J. & Castle, D. (2015). Mental health Nurses’ dispositional decision-making for people presenting to the emergency department with deliberate self-harm: An exploratory study. *Perspectives in Psychiatric Care*, 51, 148–153.

- Queensland Government (2016). Mental health act 2016. [Cited 5 July 2017]. Available from: URL: [https://www.legislation.qld.gov.au/view/pdf/asmade/act-2016-005]
- Riahi, S., Thomson, G. & Dubury, J. (2016). An integrative review exploring decision-making factors influencing mental health nurses in the use of restraint. *Journal of Psychiatric and Mental Health Nursing*, 23, 116–128.
- Sands, N. (2004). Mental health triage nursing: An Australian Perspective. *Journal of Psychiatric and Mental Health Nursing*, 11, 150–155.
- Sands, N. (2009). An exploration of clinical decision making in mental health triage. *Archives of Psychiatric Nursing*, 23, 298–308.
- Shafei, T., Gaynor, N. & Farrell, G. (2011). The characteristics, managements and outcomes of people identified with mental health issues in an emergency department, Melbourne, Australia. *Journal of Psychiatric and Mental Health Nursing*, 18, 9–16.
- Sharma, V. K., Lepping, P., Krishna, M. et al. (2008). Mental health diagnosis by nurses using the global mental health assessment tool. *British Journal of General Practice*, 58, 411–416.
- Simmons, B. (2010). Clinical reasoning: Concept analysis. *Journal of Advanced Nursing*, 66, 1151–1158.
- Simmons, B., Lanuza, D., Fonteyn, M., Hicks, F. & Holm, K. (2003). Clinical reasoning in experienced nurses. *Western Journal of Nursing Research*, 25, 701–719.
- Tait, D. (2010). Nursing recognition and response to signs of clinical deterioration. *Nursing Management*, 17, 31–35.
- Thompson, C., Aitken, L., Doran, D. & Dowding, D. (2013). An agenda for clinical decision making and judgement in nursing research and educations. *International Journal of Nursing Studies*, 50, 1720–1726.
- Usher, K., Baker, J., Holmes, C. & Stocks, B. (2009). Clinical decision-making for ‘as needed’ medications in mental health care. *Journal of Advanced Nursing*, 65, 981–991.
- Wand, T. & Fisher, J. (2006). The mental health nurse practitioner in the emergency department: An Australian experience. *International Journal of Mental Health Nursing*, 15, 201–208.
- Welsh, I. & Lyons, C. M. (2001). Evidence- based care and the case for intuition and tacit knowledge in clinical assessment and decision making in mental health nursing practice: An empirical contribution to the debate. *Journal of Psychiatric and Mental Health Nursing*, 8, 299–305.
- Zamani, S., Amini, M., Masoumi, S., Delavari, S., Namaki, M. & Kojuri, J. (2017). The comparison of the key feature of clinical reasoning and multiple choice examinations in clinical decision makings ability. *Biomedical Research*, 28, 1115–1119.
- Zanotti, R. & Chiffi, D. (2015). Diagnostic frameworks and nursing diagnoses: A normative stance. *Nursing Philosophy*, 16, 64–73.