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Comparison of Canadian triage acuity scale to Australian Emergency Mental Health Scale triage system for psychiatric patients

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ABSTRACT

Objectives: The purpose of the study was to compare the Canadian Triage and Acuity Scale protocol to the Australian Emergency Mental Health Triage System protocol for evaluation of psychiatric patients and time to be evaluated in the emergency department.
Methods: A convenience sample of 105 patients who presented with psychiatric complaints at triage was given the Canadian Triage and Acuity Scale (CTAS) by the nurse at triage. A second triage assessment using the Australian Emergency Mental Health Triage Scale was performed by trained research fellows. The study was performed at an inner city level one trauma center with 40,000 visits per year during 2012. The study was approved by the IRB.
Results: Use of the CTAS rated almost half the patients (48%) urgent and (29%) emergent. The Australian Emergency Mental Health Triage Scale scored the same patients differently with (75%) coding as no danger to self or others, (18%) scoring as in moderate distress. The CTAS was not able to meet the recommended times to be seen, especially for patients rated as urgent. The Australian Emergency Mental Health Scale system, with the exception of triage level 1, was able to meet the recommendations for wait times to be medically evaluated and in the case of the lower levels seen sooner than recommended.
Conclusions: The use of the CTAS protocol does not correlate with patients' being medically evaluated within the time frames recommended especially for the more urgent patients. The Australian Emergency Mental Health Scale rated patients' presentations as far less urgent and thus the time frame recommendations to be evaluated were more closely aligned with the protocol as compared to the CTAS system. The Australian Emergency Mental Health Scale provided less ambiguous mental health specific triage guidelines that allowed for improvements in patient outcomes by better matching the ED's resources to the psychiatric patients' specific needs.

1. Background

Crowded, chaotic emergency departments (ED) have experienced a rising number of visits by patients in need of mental health services (American College of Emergency Physicians ACEP, 2004). According to the Centers for Disease Control and Prevention (CDC), Mental Illness Surveillance Among Adults in the United States (2013), there were nearly four million ED visits for mental disorders or related complaints (Centers for Disease Control, 2011). The American College of Emergency Physicians (ACEP) found that emergency psychiatric care is extremely limited and causes patients to be held in limbo in the ED, waiting for an ever-decreasing number of inpatient beds (American College of Emergency Physicians ACEP, 2004). This is not a problem limited to patients who present with psychiatric illnesses. Horwitz and Bradley stated that the percentage of all patients seen within the recommended time has decreased with the emergent patient being less likely to be seen within the triage target time frame (Horwitz and Bradley, 2009). A traditional triage system should be able to define patient care needs based on the acuity of their conditions. It identifies, based on severity of illness or injury, the way to sort patient care and treatment (Mezza, 1992). However, the issue is that triage systems were developed based on physical illness and injury and not based on patients who presented with mental health concerns (American College of Emergency Physicians ACEP, 2004; Haslop and Parker, 2000; Wuerz et al., 2000). It has been shown that this resulted in patients with mental health concerns receiving a lower triage level which resulted in long wait times (American College of Emergency Physicians ACEP, 2004; Haslop and Parker, 2000).

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Table 1
Comparison of Australian Emergency Mental Health triage and Canadian Triage and Acuity Scale benchmark times.

Acuity level	Australian Emergency Mental Health Scale time to doctor*	Canadian Triage and Acuity Scale Time to doctor†	Canadian Triage and Acuity Scale benchmarks‡
Level I	Immediate	Immediate	98%
Level II	10 minutes	15 minutes	95%
Level III	30 minutes	30 minutes	90%
Level IV	60 minutes	60 minutes	85%
Level V	120 minutes	120 minutes	80%

* Broadbent, M, Moxham, D.T. The development and use of mental health triage scales in Australia. International Journal of Mental Health Nursing. 2007;16(4):413–421.

† Manos, T.D., Petrie, D.A., Beveridge, R.C., Walter, S., Ducharme, J. Inter-observer agreement using the Canadian Emergency Department Triage and Acuity Scale. CJEM. 2002;4(1):16–22.

‡ Murry, M., Bullard, M., Grafstein, E. Revisions to the Canadian Emergency Department Triage and Acuity Scale implementation guidelines. Canadian Journal of Emergency Medicine. 2004;6(6):421–427.

Several triage systems have been tested for reliability and validity across all the patient populations seen within the emergency department (Fernandas et al., 2005; Fitzgerald et al., 2010; Wuerz et al., 2000). One widely used system, the Canadian Triage and Acuity System (CTAS) is a five point system in which there is a defined acceptable time delay prior to medical evaluation (Manos et al., 2002) (see Table 1). Many emergency departments in the United States and the vast majority in Canada use this five-tiered triage protocol. It has been shown that the Canadian five-level scale has a good inter-rater reliability in studies in which clinicians rated the acuity of written scenarios taken from actual patient cases (Fitzgerald et al., 2010; Manos et al., 2002; Murry et al., 2004; Worster et al., 2004). The CTAS system has been updated to include reassessment of patients waiting to be seen so that delays do not impact patient safety (Murry et al., 2004; Stenstrom et al., 2003; Worster et al., 2004). Although this tool does address patients with psychiatric complaints, it is not specific for their needs and has not been shown to have validity in evaluation of psychiatric patients (Fernandas et al., 2005; Fitzgerald et al., 2010; Manos et al., 2002; Wuerz et al., 2000). It has been shown by numerous studies to either under or over triage psychiatric patients (Broadbent et al., 2002, 2007; Creaton et al., 2008; Happell et al., 2003; McDonough et al., 2004). This results in either patients being triaged as urgent and being overtreated or in them being under triaged and spending long wait time to be seen in busy ED environments (Broadbent et al., 2002, 2007; Happell et al., 2003).

In response to the limitations of this and other triage systems and in the absence of a gold standard protocol for triage of psychiatric patients there have been two methods that have been adopted (Creaton et al., 2008; McDonough et al., 2004). The first method is use of a specific mental health triage operated by a consultancy service outside of the usual triage process. It was shown to have had a positive impact on the emergency department with reduced wait times, reduction in "left without being seen" patients, and improved management of patients who present with intent to self harm (McDonough et al., 2004). It was then integrated into the traditional triage system administered by nursing staff in the emergency department and is called the Australian Emergency Mental Health triage. It is a system within which each priority level is associated with a time frame by which the patient should be seen by a physician for assessment (Broadbent et al., 2002, 2007; Creaton et al., 2008). This mental health scale was initiated after the findings that the currently used Australasian Triage Scale (ATS) was not adequate for correctly assessing psychiatric patients (Broadbent et al., 2007). The new mental health scale has been shown to reduce the time to intervention and assessment (Broadbent et al., 2004; Happell et al., 2003). Previous studies have shown that triage nurses, who do the majority of triaging in the emergency department, do not feel comfortable in their ability to triage patients who present with psychiatric complaints thus impacting wait to be seen times for these patients (Broadbent et al., 2004, 2007; Happell et al., 2003). The new mental health scale however, has been shown to improve nurses' confidence in triaging patient with mental health presentations and to reduce the time to intervention and assessment (Broadbent et al., 2004; Happell et al., 2003). The use of the new triage scale often, according to Broadbent, resulted in decreased wait times due to not having to wait for unnecessary treatments using the previous triage scale (Broadbent et al., 2007).

It has shown a range of reliability dependent upon the level of workload in the emergency department (Broadbent et al., 2004; Happell et al., 2003). It has also been assessed in a study by McDounough et al. to reduce "seen by times", and a reduction in the number of patients with psychiatric/psychosocial problems who left the department without being seen (McDonough et al., 2004). This is in part due to its triage scale that incorporates mental health descriptors versus reliance on existing triage systems that use physical illness as their chief assessment indicators (Broadbent et al., 2002, 2007; Creaton et al., 2008; McDonough et al., 2004; Stenstrom et al., 2003). Despite the positive indicators of its usefulness the Australian Emergency Mental Health Scale system has not yet been used within North America in order to measure its effectiveness in use with psychiatric patients.

The purpose of the study was to compare the CTAS protocol to the Australian Emergency Mental Health Scale systems for triaging of psychiatric patients and their corresponding times to be assessed by a doctor. The CTAS and the Australian Emergency Mental Health Scale are five point systems that nearly correspond with identical times to be assessed by a doctor. The only exception is in the Australian scale level II assessment time being 10 minutes and the CTAS level II is 15 minutes (see Table 1). The CTAS triage scale uses patient presentation and types of diagnosis to determine the triage times while the Australian Emergency Mental Health Scale combines the patients observed presentation and reported information to assess triage levels.

2. Methods

A convenience sample of 105 patients who presented with psychiatric complaints at triage was given the CTAS assessment by the nurse at triage, followed by a second triage assessment done by research fellows using the Australian Emergency Mental Health Scale triage protocol. The second triage assessment was done by trained research fellows as to not impact or slow down the triage nurse's ability to triage other patients which could have potentially impacted study subjects' time to be seen. Research fellows were blinded to the CTAS levels given by the triage nursing staff. A sample of the CTAS and Australian Emergency Mental Health Scale protocols are attached (Appendices 1 & 2). The study was performed at an inner city level one trauma center with 40,000 visits per year during 2012. The ED was a catchment facility used by the police department for psychiatric patients in the area. It sees 2–4 percent of patients a year that present with primary psychiatric complaints.

Neither the nurses administering the CTAS, or the research fellows who administered the Australian Emergency Mental Health triage system had prior specialist psychiatric qualification. Research fellows were trained by the ED's medical director and were overseen by an emergency department research administrator, department chair and external academic researcher in order to have consistency in administration of and assessment of Australian Emergency Mental Health Scale triage. The administration of the Australian Emergency Mental Health Scale triage averaged 2–3 minutes. Patients were excluded if they were unable to communicate or had a non-psychiatric complaint. The five patients excluded from the study were due to confirmation of having either a drug or organic physical illness or they left without being seen. The study was IRB approved.