

The Triage Process for Behavioral Emergencies

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Published online: 19 October 2017
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Abstract

Purpose of Review This review describes methods used by Emergency Departments (EDs) to identify patients with mental health problems. It additionally reviews their ease of use, statistical validity and the effects of their use on the attitudes of patients and ED personnel.

Recent Findings Multiple interventions including additional screening tools, consultation-liaison support, and increased education for triage nurses have been studied. The majority of studies evaluated scales for general mental health concerns, as well as those specifically targeted for suicide, depression, anxiety, and substance abuse.

Summary All the available interventions contributed to improve patient and staff satisfaction. Implementation of universal screening potentially over-identifies risk as many of the screening tools studied show excellent sensitivity, but lower specificity. Anticipating the expansion of hospital- and community-based resources can ease this expansion and might even be facilitated by automatic processes built into electronic screening systems.

Keywords Emergency · Triage · Mental health · Psychiatric emergency · Screening

Introduction

Successful emergency department (ED) triage correctly identifies the urgency of the patient's complaint. Traditionally, this process relies on a tiered measure of acuity which incorporates objective measures (such as vital signs) and unstructured assessments based primarily on triage nurses' experience. Patients presenting with mental health problems pose particular challenge for effective triage due to the dearth of objective data available for determining acuity. Self-report therefore becomes more important, but can be unreliable if the patient mis-represents their symptoms or is cognitively unaware of them. This increases the potential for deteriorating medical conditions such as alcohol withdrawal or ingestion, and hidden internal risks such as suicidal ideation (SI) or psychosis to go unrecognized. Missing these states poses risk to patients, but also to hospital staff who may become the target of patient aggression and violence. Successful mental health triage therefore includes screening tools that reproducibly show good sensitivity for high-risk behaviors as well as attention to the triage physical space should such behaviors arise.

Strategies to improve triage of patients with mental health conditions have included triage scales modified to assess mental health symptoms or supplemental screens that target specific complaints such as suicide or substance use. Efforts to improve the subjective aspect of mental health triage include increased education of ED nurses or triage by trained mental health providers. Modification of the triage space can also provide a safer and more private space for patients. Finally, community diversion has also been effective in connecting patients to appropriate mental health or substance programs. Research describing the relative benefits and drawbacks to these approaches is reviewed below.

This article is part of the Topical Collection on *Behavioral Health*

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Screening Tools

The standard ED triage screen for the USA uses the Emergency Severity Index (ESI), a 5 tiered scale that labels patients with suicidality and homicidality as high risk, and any mental health concern as relatively high risk [1]. Other English language triage scales include the Manchester Triage System (MTS), Australasian Triage Scale (ATS), and the Canadian Triage and Acuity Scale (CTAS), which is based on the ATS [2]. These latter scales include language to assess mental health issues; however, analysis of their ability to correctly assign acuity to patients with mental health complaints can be highly variable and often inaccurate [3, 4]. Comparison between ED and psychiatric nurses shows ED nurses over-triage, or assign higher acuity scores, compared to their psychiatric counterparts (16.7% for ED nurses vs. 5.1% for psychiatric nurses). They were also less likely to under-triage, ranking less patients with mental health concerns as non-urgent compared to psychiatric nurse consultants (6.5 vs 27%) [5]. Assigning patients to a higher triage category can contribute to overutilization of ED staff, 1:1 sitters, or other resources. Problems arising from lower triage scores include increased patient wait times, renegeing, and consumer dissatisfaction [6–8].

Attempts to improve classification of mental health complaints have yielded tools that rely variably on symptoms observed at triage, those reported by 3rd parties or self-reported by patients. The Royal Hobart Mental Health Triage Scale (MHTS) is one instrument which incorporates nurses' observations of patient behavior [9]. It is a 4 tiered scale assigning urgency based on observed behaviors (violence), level of patient's distress, length of time patient has suffered the problem, and the presence of emergency or mental health personnel. Thoughts of suicide or presence of police escort triggers the highest acuity rating, whereas a long-standing, semi-acute problem or presence of a community mental health professional results in a semi-urgent rating. Long-standing, non-acute problems and absence of supporting agency personnel yields the lowest acuity rating. Initial testing of this scale showed decreased wait times and improved patient satisfaction. Extensive nurse education was provided prior to implementation yet subsequent analysis showed, as with the ATS, triage nurses continued to assign more patients to higher acuity levels compared to psychiatric nurses reviewing the same cases [10]. The Australian Emergency Mental Health Triage Scale (AEMHTS) was considered an improvement over the subjectivity of the MHTS rating system as it incorporates both observed and reported symptoms or behaviors [11]. Although evaluation of these tools showed improvement in nurses' comfort with assessing mental health disorders, they failed to improve inter-rater reliability or accuracy assigning triage level [12–14]. These challenges inevitably rest on the limited objective information available to assess mental health issues

and subsequent reliance on nurse experience to judge acuity. A patient who is aggressive or yelling at unseen stimuli becomes much easier to accurately triage than one who reports depression. Elaborating risk or symptoms can appear beyond the time and expertise available at triage. Yet US policy requires all EDs to act on medical screening that reveals an acute psychiatric condition by either treatment or referral [15]. Additionally, efforts to reduce suicide in the USA have identified emergency departments and primary care sites as necessary locations to screen for suicide and depression, a goal formalized by The Joint Commission and Centers for Medicare and Medicaid [15, 16]. Towards this goal, screening tools that more specifically target symptom lists have been tested and modified for potential use at ED triage.

Suicide Screening

There are several factors to consider when reviewing options for suicide assessment in the ED. Time constraints and ease of administration will impact screening options; however, sensitivity and specificity of the instruments used will also impact utilization of resources. Suicide attempts account for only 0.4% of chief complaints in US EDs [17]. However, positive screens for depression or thoughts of suicide in the general ED population suggests the potential for suicide is much higher and might be preventable if patients were routinely identified and referred for treatment. Many tools demonstrate sensitivity for detecting patients at low risk of suicide, but specificity for identifying those at high risk is relatively poor [18, 19]. It can therefore be anticipated universal screening will increase demand for referral sources for treatment, use of sitters in the ED and psychiatric consultation. The challenge for EDs is managing this increase in demand for resources with current healthcare policies.

Fortunately, attempts to develop brief suicide screens have been fairly effective. The ED Safety Assessment and Follow-up Evaluation (ED-SAFE) describes a multi-center study to universally screen all patients for risk of suicide and report on outcomes and feasibility for widespread application [20]. Patients were asked three questions assessing depressed mood, active SI in the past 2 weeks and suicide attempts in the past 6 months using this screen. Positive results showed good correlation with those using the Beck Scale for Suicide Ideation, a well-studied, but longer tool for evaluation for suicide risk [21]. Prior to the study, screening for suicide in these hospital systems occurred primarily in those with mental health concerns. Following implementation of universal screening, the percentage of patients screening positive increased from 2.9 to 5.2%, suggesting routine ED triage missed at least half the patients at risk for suicide. An even briefer screen was suggested from evaluation of The Patient Health Questionnaire, a 9-item screen for depression. Since

endorsement of item 9 (thoughts of death or self-harm) correlated with future suicide attempts, this question alone could be adopted as part of an ED assessment [22]. Another tool, The Risk for Suicide Questionnaire (RSQ), consists of only four questions and takes an average of 2 min to administer. As with other brief screens, it showed good sensitivity (98%), but low specificity (37%) and only fair positive predictive value (55%) [23]. Therefore, implementation of any of these screens benefits from advanced consideration whether a positive screen necessitates consultation with a mental health provider in the ED or referral to outpatient resources.

Substance Use

Substance use may not be the stated reason a patient seeks treatment in the ED; however, it contributes to a wide range of ED presentations including overdose, motor vehicle accidents, and assault. Although only 1–5% of patients report substance use, toxicology results show between 35 and 40% of injured patients screen positive for either alcohol or drugs [24]. Review of medical records shows as many as 7% of all ED presentations can be associated with either drug or alcohol use [25], yet formal screening for substance use remains infrequent [26]. Surveys of EDs in the USA and England reveal a willingness by ED directors to screen for substance use, but only a minority used a standardized screen (2–24%) or had access to substance use workers (9–17%) [26, 27]. Since patients who arrive at the ED with substance-related complications appear more willing to recognize substance use as a problem, a formal policy for screening could provide the window these patients need to begin treatment [28]. The AUDIT-C is a 3-item screen assessing alcohol use with good statistical validity [29]. Standardized screens for other substances have not been studied in EDs and instead consist of dichotomous questions about use of a list of drugs. The DAST-10 can be used [30]; however, the single question “How many times in the past year have you used an illegal drug or used a prescription medication for nonmedical reasons?” showed 100% sensitivity and 73.5% specificity for substance misuse when answered in the positive [31], suggesting this is a timely and reasonable approach.

Electronic Screening

Electronic screening has also been examined as a means to expand mental health screening at triage. It potentially saves time since patients can answer questions themselves, mediates complaints about lack of privacy at triage, and can be integrated into a wider referral system built into the medical record. Consistent with other studies of the general ED population, these evaluations revealed mental health symptoms in patients

who did not otherwise report them at triage. In a study of 1590 patients presenting with something other than a psychiatric complaint, completion of the Quick PsychoDiagnostics panel revealed 11% endorsed SI and 2% reported suicidal intent. Of those endorsing SI, 97% reported mood, anxiety, or substance problems. Comparison to routine triage screening showed the latter missed 80% of the patients who reported SI [32]. Another study compared the results of an electronic mental health screen (PRIME-MD) to evaluations by the ED clinicians. It took approximately 7 min and technicians were available for questions; however, patients completed the electronic entry themselves. The screen was given to people with chief complaints other than mental health concerns, but symptoms suspicious for an emotional component such as long-standing headache, abdominal pain or back pain. Forty-two percent of patients completing the Prime-MD screened positive for a mental health problem. This compared to clinician’s identification rate of 5% [33]. A follow-up study to examine whether identification of a mental health problem resulted in referral revealed less than 20% of those patients identified were referred for treatment, even when both the patient and the physician were informed of its presence [34]. This finding illustrates the importance of simultaneously increasing availability of trained staff and referral sources if one expands the number of patients identified who need treatment.

Electronic screening of pediatric ED patients also showed promise as an effective triage tool. One study using a 10-min screen in patients who did not self-report any mental health issues as their primary concern revealed 4.2% of these patients screened positive for a psychiatric illness, compared to 2.5% prior to its use. Eleven percent of patients reported SI in the past year and 3.6% reported SI in the past 2 weeks, suggesting the screen also effectively captured patients with occult risk of suicide [35]. Indeed, pediatric patients may be more amenable than adults to technology-based interventions [36]. Teens may also share more mental health information through an electronic screen than in an interview conducted by their primary care provider [37].

Electronic screening for substance use also lends itself particularly well to a model of self-report as diagnosis relies on only a few measures and may be preferentially completed outside of a public triage area. Although most research on technology and substance use focuses on intervention, there are brief screens appropriate to the ED setting. The Alcohol Use Disorders Identification Test (AUDIT) developed by the World Health Organization contains 10 questions and takes 2 min to complete [38]. The 3-item AUDIT-C can also be used, though it removes the questions assessing high-risk behaviors and instead only assesses consumption. Electronic systems can also easily incorporate expanded screening triggered by a single positive answer. In one study, ED patients 12–17 years old first answered questions about frequency of use for eight drug classes. Positive answers prompted an additional three questions

assessing frequency of heavy use and associated adverse events. This approach demonstrated sensitivity of 90% for any substance use, 100% for severe substance use, and specificity of 94% for use compared to 94% for severe use [39]. Electronic screens can also be programmed to automatically access additional resources for those who screen positive. One ED incorporated three questions into the triage process that assessed substance use. Positive results automatically populated a referral list to a substance treatment team who met with patients to provide education and referrals [40]. Even when patients presented with something other than a substance-related complaint, intervention based on a positive screen could prove effective [41].

Violence

In addition to determining patient acuity, effective triage can also identify patients who might pose a risk to triage staff. Emergency departments see some of the highest rates of workplace violence [42]. Most reported violence is verbal; however, physical assault, confrontation outside the workplace, and stalking have also been reported [43–46]. Since almost 2/3 of violence was propagated by patients suspected of intoxication or mental illness, identifying reliable, objective measures of these conditions might help reduce risk [47]. A number of violence assessment tools are available which can reveal risk of future violence [48•]. The M55 Violence Risk Assessment Tool and the STAMP violence assessment framework show some efficacy in general medical settings [49, 50]. The Aggressive Behavior Risk Assessment Tool (ABRAT) incorporates six items from the M55 and three items from the STAMP tools. All 17 items in this combined scale correlated with at least 1 or more violent events [51]. Use of these scales at triage might prove cumbersome, but education about the items in the scales and other behavioral cues can prove worthwhile in identification of patients at risk.

In particular, indicators associated with mental illness such as suspiciousness, poor self-care, staring or poor eye contact, anxiety, mumbling and pacing correlated with patient aggression [50, 52, 53]. Research on observational cues suggests education about patient appearance, behaviors and physiological indicators of intoxication could aid judgment of violence risk [54, 55]. Yelling, aggressive statements, abusive language, and resisting health care statistically predicted escalation to violence [56]. In addition to improved detection, modification of the triage space can also help reduce violence. A well-lit area with video monitoring, metal detection, security presence, panic button, and controlled access to the triage space can all help improve staff safety and potentially create a more private space for patient triage [57, 58]. Should personnel encounter

patient violence, there should be a protocol to address critical incidents and clear policy around reporting and remediation.

Pediatrics

Although both adult and pediatric patients presenting to EDs for non-psychiatric complaints screen positive for mental health problems, the incidence in pediatric populations is particularly startling. As many as 70% of pediatric ED patients screen positive for a mental health disorder [59], 45% have a mental health problem affecting psychosocial function [60] and 10% report significant emotional distress at time of presentation [35]. Prevalence of major depressive disorder, anxiety disorders, and SI range from 4% for the presence of suicidal thoughts to 33% for symptoms of an anxiety disorder [61–65]. Consistent with these results, several regulatory bodies recognized the importance of routine screening for mental health disorders in emergency settings [66, 67]. Both the US Preventative Task Force and Joint Commission recommend screening for major depression and SI in 12–18 year olds, along with some provision to ensure accurate diagnoses and provide follow-up [68, 69]. The Pediatric ED additionally provides an opportunity to screen teens who might otherwise not be assessed. Impediments to primary care treatment for pediatric patients includes lack of a primary care doctor, homelessness and the tendency for adolescent males to avoid mental health treatment [70–72]. Capturing these patients in the ED can potentially prevent future psychiatric problems and their sequelae [73–75].

Various screens introduced in pediatric ED settings include both broad measures and screens focused on specific psychiatric symptoms. The HEADS-ED screen is a tool that assesses home life, education, activities/peers, drug and alcohol use, suicidality, emotions/behaviors, and discharge resources. It showed good reliability, accuracy, and predictive validity for both subsequent psychiatric consultation and hospitalization [76]. Briefer screens using only 1–2 questions demonstrate reasonable sensitivity and surprisingly high specificity compared to studies in adult populations. A modified version of the Center for Epidemiologic Studies Depression Scale (CES-D) exhibited 78% sensitivity and 82% specificity using only the questions, “during the past month, have you been bothered by feeling down, depressed or hopeless?” and “During the past month, have you often been bothered by little interest or pleasure in doing things?” [77]. The Columbia Suicide Screen is a measure showing similar results, with a sensitivity of 75% and specificity of 83% [78]. Two-question screens for substance use can also be reasonably effective, with positive answers associated with a 7–8-fold increase in endorsement of an alcohol or cannabis misuse disorder, respectively [79].

Barriers to mental health screening in the pediatric ED are similar to those seen in adults. Time restrictions, inadequate training of personnel, acuity of the setting, and potential confidentiality problems stemming from the public location of triage are all cited [80]. However, interviews with consumers show both parents and their children accepted mental health screening, even when that was not the presenting complaint (82% for parents and 75% for their children). Further, those children who objected were more likely to suffer from mental health problems, suggesting a universal approach to screening might help those who are otherwise resistant to engage in treatment [81].

Facilitation

Approaches to facilitate ED triage include consultation models using mental health personnel at triage and training of first responders who can sometimes divert patients with substance treatment needs prior to their arrival in the ED. Consultation models can include mental health trained nurses or licensed independent practitioners who are readily available to the ED. Using an advanced nurse practitioner for consultation to ED triage reduced the time patients waited to be seen from an average of 235 to 36 min [82]. This provider offered additional qualitative advantages to triage staff who perceived decreased patient violence and an increased sense of confidence and support. Implementing such a program relies on rapid availability of the consult staff, however, as a delay would be expected to increase wait times and nullify the triage nurses' sense of support. Consumers also benefitted from the presence of a specialty mental health nurse. They noticed and appreciated the reduced wait times and felt the mental health advanced nurses spent time providing support and listening to their problems [83].

Efforts to identify patients in need of non-hospital based substance treatment have focused on training emergency medical technicians (EMT) to identify the treatment needs of patients intoxicated with alcohol. EMTs used checklists with both objective and subjective data to determine which patients required an ED visit and which ones could be diverted to a non-hospital based substance treatment program. EMTs correctly identified patients requiring hospital based care 93% of the time [84]. A study on diversion directly to a detoxification facility showed EMTs escorted 19.2% directly to detox and took 80.8% to ED after evaluation. Four (0.6%) of those taken directly to a detox facility were subsequently transported to an ED, though only one reflected an event potentially related to intoxication/withdrawal. Data sharing between treatment centers and outreach teams have also been effectively utilized to divert patients directly to substance programs.

Conclusion

ED triage now routinely includes assessment of mental health problems. Although improved education of triage personnel might seem to be helpful in this screening process, research shows more success when the education is concrete and reproducibly applied. Education in pharmacology, substance use and toxicology meet nurses' identified deficits and can be covered through brief in-service training. Developing protocols to manage agitated patients can also standardize the ED's approach and identify potential problems with either space or staffing needs. Screening for acuity can still pose challenges if the screening process relies too heavily on subjective interpretation by triage personnel as this is strongly affected by experience and bias. In contrast, research into brief, 1–2 question screens with binary responses (yes/no) can more reliably be used as an initial filter for further evaluation. The second tier in evaluation can be a more detailed self-administered screen, one provided by triage personnel or consultation with a mental health team member. Each of these options demonstrates success and choice can be dependent on available resources. As improved screening will likely expand the number of patients requiring treatment, consideration should also be given to providing effective inpatient and outpatient referrals.

Compliance with Ethical Standards

Conflict of Interest The author declares that she has no conflict of interest.

Human and Animal Rights and Informed Consent This article does not contain any studies with human or animal subjects performed by any of the authors.

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- Of major importance

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