Contemporary Practices for Medical Evaluation of the Psychiatric Patient in the Emergency Department

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Although emergency department (ED) visits for patients with mental illness are frequent, medical evaluation (i.e., "medical screening") of patients presenting with psychiatric complaints is inconsistent. This may largely be related to differing goals for medical screening, which often vary according to specialty. Although emergency physicians typically focus on stabilization of life-threatening diseases, psychiatrists tend to believe that care in the ED is more comprehensive, which often places the two fields at odds. The authors discuss the concept of medical screening, review the literature on this topic, and offer a clinically oriented update to the 2017 American Association for Emergency Psychiatry consensus guidelines on medical evaluation of the adult psychiatric patient in the ED.

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According to data from the National Hospital Ambulatory Care Survey, an estimated 150,650,000 individuals in the United States visited an emergency department (ED) in 2019, and approximately 3.8% of these individuals were diagnosed at discharge as having a mental illness (1). This estimated visit rate of nearly 47 persons per 100 population has remained stable since approximately 2009 (2). Although corresponding data are not yet available from the COVID-19 pandemic, several studies reported an initial decrease in all ED visits, with a smaller initial decrease for mental or behavioral health patients (3), which are referred to in the remainder of this article by the shorthand terminology "psychiatric patients." This decrease was subsequently followed by an increase in the number of psychiatric patient visits compared with the same period in 2019 (4). Of note, this reduction in visits, however brief, marks the first decrease in ED visits for psychiatric reasons over the past several decades (3, 5).

As part of the ED visit, psychiatric patients commonly receive a medical evaluation—often called, perhaps inaccurately (6), "medical clearance" (7–9). This medical evaluation may account for only a small percentage of the total ED length of stay (10), but it is often considered one of the more important parts of the ED encounter. Despite this relative importance, however, there is little consensus between emergency medicine physicians and psychiatrists regarding the process of this evaluation (11). In fact, there is little to no agreement about the components of the history or physical exam, the role of laboratory testing, or even the proper documentation of this process.

MEDICAL EVALUATION OF THE PSYCHIATRIC PATIENT IN THE ED

This article is a clinical update of the 2017 expert consensus documents originally created by the American Association for Emergency Psychiatry (AAEP) on medical evaluation of the adult psychiatric patient in the ED (7, 8). In particular, this article incorporates some of the recommendations from evidence-based literature after 2017, including the largest systematic review on this topic to date (9), a clinical policy statement by the American College of Emergency Physicians (ACEP) (12), and a review and recommendations by the Wisconsin Task Force on medical screening (13). The review below details the process of medical evaluation for adult ED patients only and does not discuss other literature related to management of acute psychiatric conditions, such as screening of children (14), management of patients with thoughts of self-harm (15), or treatment of substance use disorders (16, 17).

Medical Screening for Stability

In 1979, Weissberg (18) presciently wrote that "The use of the label 'medically clear' in emergency room settings hinders patient care by impeding the flow of information between psychiatric and nonpsychiatric personnel." This may be in part because the term has been variously used to signify either that no medical conditions were identified during medical evaluation or that no medical conditions requiring treatment in the ED or inpatient setting were identified during the medical evaluation (7). Given this confusion, a 2017 AAEP task force proposed removing the term "medically clear" entirely (8). In 2019, a Wisconsin task force representing both emergency physicians and psychiatrists agreed with this recommendation and proposed a novel term "medical stability" (13). Importantly, medical stability includes not only identification of medical conditions that might be contributing to the presenting psychiatric symptoms but also the ability of providers to continue care for the patient after ED disposition. Consequently, the threshold for ensuring medical "stability" may vary depending on where the patient is dispositioned. In other words, patients being transferred to an outpatient freestanding psychiatric hospital may require more testing than patients being admitted to an inpatient psychiatric unit where medical consultation is readily available.

This lack of a fixed definition for medical stability may cause occasional conflict with ED physicians. Many ED studies in this domain have concluded that most ED evaluations are either unneeded or rarely change ED disposition (19-21). Unfortunately, the majority of these studies were either designed as retrospective chart reviews (20) or have other methodological limitations (9), meaning that the conclusions may not be generalizable. Nonetheless, given that ACEP devoted part of a recent clinical guideline to the lack of utility of laboratory testing for psychiatric patients in the ED setting (12), consulting psychiatrists may occasionally encounter ED physicians who are passionate about reducing testing for psychiatric patients. Because not all patients presenting with psychiatric symptoms would benefit from such routine testing, it may be wise to develop an agreedupon protocol in advance (see "Contemporary Principles of Medical Screening" section). In the absence of an agreed-upon protocol, psychiatric facilities might need to explicitly ask for studies that are thought to be necessary, especially if these tests are not available in a freestanding psychiatric facility.

Assessment of Delirium and Medical Mimics

Assessment of delirium. Although not considered a psychiatric illness, delirium is often missed by ED physicians in normal practice (22, 23). Delirium is defined as an acute decline in cognitive function characterized by restlessness, illusions, and incoherent thought and speech (24) and can be precipitated by any acute illness or injury or adverse drug reaction. Because it is difficult to detect delirium in short medical encounters, current practice recommendations are to screen all ED patients at risk (25).

Assessment of medical mimics. The most accepted definition of medical screening is the identification of medical problems that may either contribute to or be causative of psychiatric symptoms ("medical mimics") (7) and that are typically required to be stabilized under the Emergency Medical Treatment and Active Labor Act or EMTALA (26). In clinical practice, however, medical mimics are typically operationalized as illnesses, states of intoxication, or injuries that are better treated on a nonpsychiatric inpatient service. Although both definitions gloss over the generally accepted principle that all illnesses have both a mind and a body component (27), the definitions do capture the very realworld dilemma of an ED physician—namely, that although illness cannot be separated from the experience of the individual (28), the ED physician must disposition the patient to one place only.

Therefore, the identification of medical mimics has been the topic of multiple reviews (29-40). Although a thorough description of all possible medical mimics is beyond the scope of this article, some overarching principles can be articulated for identifying medical illness in a patient with psychiatric symptoms, which in everyday clinical practice typically means additional laboratory testing or neuroimaging. Some key indicators of the need for additional workup were originally proposed by Williams and Shepherd (41) and include age outside the expected range of psychiatric illnesses, sudden onset or fluctuating course of symptoms, disorientation, decreased consciousness, visual hallucinations, no psychiatric history, abnormal vital signs, or a history of substance abuse or exposure to toxins. Although many authors have found these factors to be generally useful for identification of medical illness, the precise definitions of age and vital signs have proven somewhat controversial since the original publication. For example, given a secondary although smaller incidence of bipolar disorder in midlife (42), Chennapan et al. (9) proposed a higher cutoff of age 65 for performing additional medical screening. Given that vital signs may be sometimes abnormal in agitated patients (43), Nordstrom et al. (44) proposed both relying on blood pressure and temperature and interpreting tachycardia in the context of the patient's clinical presentation.

Medical Screening Protocols

Despite the relative importance of medical screening of psychiatric patients for the field, there has been a surprising lack of rigorous prospective research (see also "Contemporary Principles of Medical Screening" section). Unfortunately, only four medical screening algorithms have been proposed in the literature (45–48). All have been designed for EDs transferring patients to outpatient psychiatric receiving facilities, and all have scant empiric support. The first medical screening protocol by Zun and Downey (45) asks five questions:

- Does the patient have a new psychiatric condition?
- Any history of medical illness needing evaluation?
- Any abnormal vital signs (temperature >101F, pulse <50 or >120, blood pressure (BP) <90 systolic or >200/120, or respiratory rate (RR) >24 breaths per minute?
- Any abnormal physical exam findings (absence of limb, acute or chronic trauma, breath sounds, cardiac dysrhythmia, skin or vascular signs, abdominal distention, neurological exam)?
- Any abnormal mental status indicating medical illness?

If the answer is "no" to all questions, no further medical workup is needed. Using this protocol, Zun and Downey calculated that the total cost decreased by \$83 per patient, although the protocol did not reduce throughput time. Returns to the ED were not measured.

In a second screening protocol, Shah et al. (46) created a different set of five questions that were adapted from the Zun and Downey protocol:

- Does the patient have stable vital signs (temperature <100.5F, heart rate (HR) 50–119, RR <25, diastolic BP <120, pulse oximetry >94%)?
- Does the patient have a prior psychiatric history or age <30?
- Is the patient oriented × 4 (person, place, time, and situation) or with a Folstein Mini Mental State Exam score >23?
- Is there no evidence of an acute medical problem?
- Are there no visual hallucinations?

If the answer to all five questions is "yes," the patient does not require further medical workup. In a subsequent chart review of 485 patients, Shah et al. (46) found that the screening tool was inappropriately used in three patients and that an additional 12 required further medical workup after ED disposition. Ten of these patients had "no significant findings"; however, this means that approximately 3.1% of patients required further medical workup after application of the tool. This study is notable for a description of the 12 missed cases, but it is unfortunately limited by poor description of the methods, including an unclear description of how the charts for the ED and psychiatric receiving service were searched.

In a third screening protocol, Miller et al. (47) created a triage algorithm for psychiatric screening (TAPS). This protocol was designed to be used at ED triage and asks six questions:

- Age >65?
- Abnormal vital signs (temperature >100.4F, HR >100 or <60, systolic BP >180 or <100, diastolic BP >100 or <60, RR <10 or >24)?
- Patient has a medical problem as a chief complaint?
- Hallucinations or delusions with no prior history of the same?
- · Schizophrenia or intellectual disability history?
- Visibly intoxicated or admits to drug or alcohol use within the past 8 hours?

If the answer to all questions is "no," the patient may be sent directly to the emergency behavioral health unit (the institution's version of a psychiatric ED). The study was methodologically limited, because investigators were able to review only 100 charts from 825 TAPS-negative patients (12%), and seven of these charts were subsequently lost from this cohort (four were incorrectly filled out, two had data extraction errors, and one patient left the waiting room before further assessment). Finally, returns to the medical ED were not measured, and it is unknown how the tool would perform in a facility without immediately available resources for providing medical care. Finally, in a fourth medical protocol (48), Thomas and colleagues created the SMART Medical Clearance Form. SMART is as an acronym for the steps required in medical screening:

- Suspect new-onset psychiatric condition?
- Medical conditions that require screening (diabetes, possibility of pregnancy, other complaints that require screening)?
- Abnormal vital signs (temperature >100.4F, HR <50 or >100, BP <100 systolic or >180/110 on two consecutive readings 15 minutes apart, RR <8 or >22, oxygen saturation <95% on room air)?
- **R**isky presentation (age <12 or >55, possibility of ingestion, eating disorders, potential for alcohol withdrawal [daily use >2 weeks], ill appearing/significant injury/prolonged struggle)?
- Therapeutic levels needed (phenytoin, valproic acid, lithium, digoxin, warfarin)?

If all five questions are marked "no," the patient does not require any further medical testing. Unfortunately, this medical screening protocol has not yet been tested or published in a peer-reviewed journal, but it may be viewed on its website (http://smartmedicalclearance.org).

Novel Strategies for Medical Screening

Traditionally, medical screening has been thought of as being conducted by ED physicians in general hospital EDs. Although such screening may be conducted by other personnel in other settings, results from outside the ED have thus far been mixed. In one study, six paramedics in Stanislaus, California, underwent 180 hours of specialized training in order to become Mobile Integrated Healthcare Paramedics (49). These paramedics were also trained in the use of two algorithms that were adapted from county policies and that have not been yet validated in peer-reviewed literature. Of 1,006 patients, 326 (32.4%) passed screening procedures and thus were eligible for transport to an outpatient psychiatric facility. However, these patients had to be transported to the ED instead because of a lack of available psychiatric beds. Ten of 276 patients (3.6%) who were transported to a psychiatry receiving facility, however, were later returned to the ED for further treatment.

In another study, 41% of nearly 54,000 psychiatric patients placed on an involuntary hold were successfully transported to an outpatient psychiatric receiving facility with use of a separate (but also nonvalidated) medical screening algorithm (50). In this study, only 0.3% subsequently required transport to a medical ED. Although the authors described this psychiatric receiving facility as having "limited capacity to treat" psychiatric patients, this facility also had a psychiatrist, physician in triage, and registered nurse staff available 24 hours per day to assess patients. Thus, the receiving facility in this study may not be representative of outpatient psychiatric receiving facilities in less well-resourced areas. Given existing data, it may be difficult at this point to generalize results of studies of medical screening by nonphysician providers to other regions or hospital systems. However, this topic is important, and further research may be useful. Further studies should concentrate on utilization of medical screening protocols with empiric support, as well as inclusion of psychiatric receiving facilities that do not have instant availability of trained medical personnel.

CONTEMPORARY PRINCIPLES OF MEDICAL SCREENING

Based on both the expert consensus work of the AAEP and further work since the original publication by Williams and Shepherd (41), we recommend the following contemporary management principles for psychiatric patients presenting for medical evaluation in U.S. EDs. Although not studied formally, the prevalence of medical mimics may vary in international settings (51). Thus, the recommendations below are intended to apply to U.S. EDs only and may need to be adapted for use in international settings.

Recommendation 1

The term "medically clear" should not be used in communications. This term should be replaced with a transfer note explaining what testing has been performed.

Recommendation 2

The goal of medical assessment is to ensure medical stability, i.e., to identify both potential causative factors and ongoing medical problems that will require care beyond ED discharge. Even though the ED will not oversee the patient's care after discharge, the ED is nonetheless responsible for dispositioning the patient to a location that can manage any of the patient's chronic illnesses.

Recommendation 3

Further medical evaluation should be considered for patients who have:

- new-onset psychiatric symptoms after age 45, even if there is a clear history of prodromal psychiatric illness
- all patients of advanced age (>65 years), regardless of psychiatric history
- · patients with cognitive deficits or delirium
- a positive review of symptoms that may indicate likely medical illness
- · focal neurologic findings or evidence of head injury
- concomitant substance use or intoxication
- a decreased level of awareness or abnormal assessment of mentation
- immunosuppressed status or other concomitant severe medical disease
- other physical findings, such as abnormal vital signs, that direct further assessment.

Recommendation 4

Evaluation of the psychiatric patient should include vital signs, history, physical examination, and assessment of mentation. This history should include an assessment of illicit substance use and, if the patient is on medication, should also include an assessment of adherence to this medication. Patients with abnormal vital signs, particularly blood pressure or temperature, should be considered at higher risk of medical disease.

Historically, the documentation of physical exams in the ED has been poor. In one chart review, Szpakowicz and Herd (52) reported that a complete set of vital signs were documented only for 51.9% of 202 patients with schizo-phrenia at the studied institution. At the higher end, 68% of these patients had some comment on general appearance recorded, but at the lower end, any measurement of blood glucose was recorded for only 5.4% of patients. In another chart review study, Tintinalli et al. (6) noted that 56% of 298 ED patients who were later admitted to their voluntary psychiatric inpatient unit had no assessment of mental status and that chart notes stated that the patient was "medically clear" for 80% of patients in whom medical disease should have been suspected.

Recommendation 5

Because many psychiatric settings have limited capacity for further testing or evaluation, EDs should perform—when possible—additional testing that ensures medical stability after ED discharge.

Recommendation 6

EDs should work cooperatively with psychiatric receiving facilities to develop protocols that maximize detection of medical disease without the use of routine laboratory testing or neuroimaging. Although any of the medical screening protocols (see above) may be a useful starting point, providers should be aware that all published protocols have scant empiric support. Caution should be used in the development of protocols that do not involve ED physicians, such as prehospital providers.

Because boarding in the ED is likely harmful to patients, protocols developed with psychiatric receiving facilities should emphasize quick transfer from the ED. Although boarding in the ED is likely harmful both for psychiatric patients (53) and nonpsychiatric patients (54), boarding disproportionately affects psychiatric patients. Psychiatric patients are more likely to be boarded than nonpsychiatric patients, and when boarded, have longer stays in the ED (54, 55). Many psychiatric patients do not receive care in the ED, and even worse, the setting itself may provoke more severe symptoms (53).

Recommendation 7

If a dispute arises between the ED and the psychiatric receiving facility, the psychiatric facility should contact ED clinicians directly to review the vital signs, history, and physical examination.

Ensuring medical stability does not always mean the use of routine laboratory testing (see previous "Assessment of Delirium and Medical Mimics" section) or neuroimaging. The use of routine laboratory tests to detect medical disease is not cost-effective (20), has little or no evidence to support its use (9), and may cause harm if patients associate seeking care with painful procedures. Although typically not painful, urine drug screens have also not been found to influence disposition in multiple studies (20, 56, 57) and may be stigmatizing (58) if results are delivered in a nonempathetic manner. The yield of neuroimaging in patients without other neurological symptoms is either zero (59) or close to zero (60), but it may increase the length of stay in the ED by several hours. Routine computerized tomography imaging should not be used in this population, absent other accepted indications for its use.

Recommendation 8

Despite the importance to the field of the medical evaluation of psychiatric patients, there is a surprising lack of research on this topic. In a comprehensive systematic review, Chennapan et al. (9) noted that "most studies" in the literature are nonrandomized and at high risk of bias. The 2017 AAEP expert task force thus recommended the following areas for research (8):

- What are the essential elements of a history that most efficiently form the basis for universal screening of psychiatric patients? What are the vital elements of the physical exam?
- What are the criteria that define groups at high risk of medical disease? Are there criteria that should be considered absolute indications for more extensive evaluation in an ED? Are there critical values in vital signs or laboratory examinations that predict difficulty in managing the patient after leaving the ED?
- What is the role of urine toxicology, and would point-ofcare testing significantly alter the time required and the related cost-benefit analysis?
- Does the regionalization or specialization of emergency psychiatric receiving facilities, similar to regional trauma centers, provide better care for psychiatric patients?
- What is the most effective system for medical screening?

A 2019 Coalition on Psychiatric Emergencies research conference that included patients as well as clinicians identified the following additional questions (61–63):

- What are the barriers to screening for alcohol or substance use in older adults?
- Using age as a stratification method, what are the medical and radiographic components of an appropriate medical screen for patients with psychiatric symptoms with an

emphasis on sensitivity, specificity, and accuracy; do routine screening labs, including urine, affect management and disposition in older adults with psychiatric symptoms?

- How often does noncompliance with prescribed medications contribute to ED presentations with agitation or behavioral changes?
- What are the most effective, efficient, and appropriate ways to screen for substance use disorders in the ED?

Clearly, further research is needed.

CONCLUSIONS

Despite the frequency of presentation of psychiatric patients to EDs, appropriate medical evaluation of these patients is both underresearched and poorly defined. Nonetheless, some overarching principles can be recommended. This article has updated the 2017 AAEP task force on medical evaluation of psychiatric patients in U.S. EDs (see recommendations above). The most important recommendation is for psychiatric receiving facilities to work cooperatively with EDs in their area in an effort to utilize testing only for appropriate patients and to speed dispositions from the ED to the community. Further research is needed.

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