

Stabilizing Intentional Overdoses in Freestanding Emergency Departments: A Good Idea?

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Abstract

With increasing workload on emergency departments (EDs) resulting in increased door-to-doctor time, emergency boarding and ultimately reduced patient satisfaction, society and patients are looking for more efficient healthcare alternatives. Free-standing emergency departments (FSEDs) are gaining much popularity in this respect as they promise a shorter throughput time and the ability to deal with most emergencies in a much calmer environment. Using a case to illustrate treatment capacities in a FSED, we share our experience as to how managing a toxicological emergency in a FSED is different than a hospital-based ED. As the case will show, depending on the type and severity of the overdose/poisoning, the FSED model may offer significant benefits to the more traditional based EDs. Providers must understand limitations of their FSED's antidote formulary in order to facilitate patient care.

Case Scenario

A 19-year old female with a past medical history of depression and anxiety presents to a FSED following an acetaminophen overdose. The patient is uncertain of how many pills she actually swallowed because she threw up immediately afterward. The patient is rushed back to the treatment area where she is seen and evaluated by the nurse and attending physician. The patient is placed in her own room and the radiology technician sits with her while the nurse and physician are running the necessary lab tests to facilitate the medical clearance of the patient. She is given her choice of beverage and light snack and the television is tuned to her preferred channel. The physician runs basic laboratory tests in the FSED but has to send out the 4-hour acetaminophen level, aspirin level and urine drug screen to a hospital-associated laboratory. The patient waits patiently while the emergency physician completes the medical clearance process and consults with the FSED's preferred psychiatrist, who has admitting privileges to two area inpatient units. The 4-hour acetaminophen level is within normal limits. The consultant psychiatrist fills out the exclusionary paperwork for the FSED, agrees to follow up on the urine drug screen that will likely result the next day, and the patient is transported via ground ambulance to the inpatient facility. She leaves four hours after arrival.

Introduction

Emergency departments (EDs) are seeing an influx of patients with psychiatric diagnoses. The marked rise has been attributed to a myriad of factors including lack of insurance, social support, limited access to primary care and the 24/7/365 nature of the ED [1,2]. According to the National Emergency Department Survey dataset, the number of emergency department visits (EDVs) involving a diagnosis of mental health disorder (MHD) or MHD comorbidities increased by 20.5% and 53.3% respectively, from 2006 to 2011 [3]. About 700,000 patients are transferred from the ED annually for mental health services [4]. Our children are also not immune from the ravages of mental illness. Simon and Schoendorf showed that in 2011 7.2% of all pediatric EDVs had a psychiatric symptom as their chief complaint [5]. Both children and adults frequently attempt suicide by intentional poisonings, ingestions and overdoses. Indeed, poisonings accounted for 6,808 suicides in 2011 [6].

From 2008-2011, the National Hospital Ambulatory Medical Care Survey reported

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an annual average of 1.1 million EDVs for drug poisonings, corresponding to an overall visit rate of 35.4 per 10,000 persons. 24% of these visits resulted in hospitalization [7]. One recent study by Alytar et al. found that of the 625.2 million EDVs from 2006 to 2010, 411,811 were toxic ingestions of acetaminophen. 45.5% resulted in inpatient admission, 4.7% required invasive mechanical ventilation and 0.6% involving death. Overall, the incidence proportion was 27.10 per 100,000 US population, exceeding 70 per 100,000 at age 2 years and ages 16–18 years [8].

With increased workload of psychiatric emergencies in the EDs, many debate whether any ED is equipped to deal with patients who self-poison. Factors like lack of round-the-clock access to an emergency psychiatrist, and the unfavorable environment of the EDs for management of psychiatric patients are among the major concerns. With the emergence of freestanding emergency departments (FSEDs), additional questions arise. Specifically, whether FSEDs are a better alternative for dealing with psychiatric and toxicological emergencies given their comparatively lower patient volumes, and the ability of staff to spend more time with each individual patient as compared to the traditional hospital-based EDs. Or are they a wolf in sheep's clothing with their more limited resources representing a different kind of threat and very real danger to the poisoned patient. This editorial will look at the opportunities and challenges presented by FSEDs in the stabilization and management of patients with toxicological emergencies.

An introduction to FSEDs

Since the implementation of the Emergency Medical Treatment and Active Labor Act (EMTALA) in 1986, there has been a spike in emergency department (ED) visits as the emergency departments have become “the safety net of the safety net”, so eloquently put in a report published by the Institute of Medicine in 2006 [9]. On the other hand, the total number of EDs has also decreased over the last several decades, further exacerbating the problem of crowding in the EDs [10]. The Centers for Disease Control and Prevention (CDC) reported that the number of ED visits has increased by 32% in the last decade, while the total number of EDs has fallen by 4.6% [11]. According to a survey of American Hospital Association in 2010, 38% of the hospitals were operating at or above their capacity [12]. Therefore, hospital systems are always looking for new and innovative ways to provide emergency care more efficiently and to a larger population [13-15]. Thus emerged the concept of freestanding emergency departments.

An FSED is defined as a facility that provides emergency medical care but is structurally separate from an acute care hospital.⁹ Originally seen in rural settings, the FSEDs have exploded over the past decade in suburban and rapidly growing affluent areas [16-19].

There are basically two types of FSEDs depending on their ownership and hospital affiliation; the hospital outpatient departments (HOPDs) and the independent freestanding emergency departments (IFSEDs) [10]. As the name suggests, HOPDs are owned and operated by hospital systems, and therefore if the hospital accepts Medicare payments, then the same rules and regulations would apply to the HOPD as well. On the other hand, IFSEDs are privately owned by investor groups,

not as a part of any hospital [10]. At the time of this writing, Medicare does not recognize IFSEDs as emergency departments and does not pay for any facility fees that may be charged by IFSEDs. Private insurance companies may only recognize IFSEDs if they are registered in that state, for example as in Texas [10].

Like traditional hospital-based EDs, most states in the US now require that FSEDs should provide emergency care 24 hours a day, 7 days a week [16,20]. They typically provide access to physicians and nurses as well as most basic laboratory tests and imaging studies including x-rays, ultrasounds and CT scans. However, most do not have access to MRI/MRA [16].

Facilities available at an FSED

FSEDs are equipped to handle most emergency conditions including myocardial infarctions, strokes and even minor trauma including fractures [16,21].

Unlike the traditional hospital-based EDs, which receive 10-40% of the patients by ambulance, over 95% of the patients arriving at FSEDs are walk-ins, with patients rarely requiring overnight observation or hospital admission (<5%, as compared to 15-35% admissions for hospital-based EDVs) [16,22]. However, if a patient requires inpatient services, they are transferred to a hospital, as most FSEDs are located within 15-20 miles of a hospital [23,24].

Apart from not having the capacity to retain patients for a long time, FSEDs also do not have on-call physician specialists (unlike hospital-based EDs), and so if a patient requires a specialist consult then the FSEDs must stabilize the patient and transport to a hospital or refer the patient for a specialist appointment [23].

Another point of concern is that FSEDs charge the patients the same fee as that of a hospital-based ED, with both a facility fee and a professional fee, despite the fact that they require only a fraction of the overhead costs needed to run a full-service hospital [16,25]. High fees in the presence of low overhead costs means a potentially robust margin for profits, and so many critics say that it is unfair to charge a hospital fee for a freestanding facility [16].

Nonetheless, what the FSEDs do pride themselves in is the short throughput time when compared to the traditional EDs. Some FSEDs report a door-to-doctor time of 30 min as compared to an average of 55.8 min for the hospital EDs. In addition, the throughput time has been reported 90 min for FSEDs as opposed to 180 min for hospital-based EDs [11,23,24].

Facilities for Psychiatric and intentionally poisoned patients at an FSED

Management of psychiatric patients including the acutely poisoned patient poses more hurdles than for those with an organic disease. Before psychiatric consultation and possible admission can be sought, the patient must be medically stabilized and cleared. Emergency physicians must rule out organic causes for the patient's symptoms before a psychiatric diagnosis can be confirmed. This not only requires multiple laboratory tests to be performed, [26,27] but also increases the throughput time [28] and the emergency boarding [29] which can further escalate the psychiatric symptoms [30].

FSEDs are attractive in the aspect that they advertise a short throughput time and no waiting lines, as seen in the

hospital-based EDs [31]. The physicians spend more time with each patient because of the lower average workload, ultimately resulting in increased patient satisfaction [31]. Finally, the traditional ED's hectic environment is not helpful in stabilizing psychiatric patients. FSEDs, in this regard, have a calm and peaceful environment, which is ideal for the management of patients with mental health disorder.

Critics, however, argue that FSEDs target affluent areas and have long drifted away from serving the rural populations that originally needed them so desperately. Indeed, due to current regulations, many FSEDs do not accept Medicare and Medicaid insurance and so only those patients who have private insurance can afford it [10]. In Houston, where the authors practice, 66% of the FSEDs are located in neighborhoods where the average income is more than \$53000 per year [10,16,17].

In addition to siphoning off higher-paying patients from traditional EDs, critics, including some of our authors, argue that FSEDs are not staffed adequately to deal with potentially delirious or violent patients. It is true that patients who have self-poisoned may become delirious and potentially combative with staff and unlike traditional EDs, most FSEDs have no security or police to assist with physical restraints if necessary. Furthermore, the staffing ratio may be problematic to monitor patients who are actively suicidal or homicidal or are hallucinating. If there are other patients in the FSED at the same time that a psychiatric patient is seeking treatment, there may be no one available to closely monitor the patient and ensure that he is not a threat to himself or others.

Moreover, some of these patients need a psychiatric consult before discharge from the ED or transfer to an inpatient facility. Traditional EDs may rely on in-house emergency psychiatrists if available or on-call psychiatrists if they are in the minority of hospitals that have either system. FSEDs, however, are like the vast majority of community EDs, and do not have arrangements with on-call psychiatrists. Emergency physicians can identify depression and refer for definitive care (as long as the patient is not suicidal) and can initiate antidepressant medications when appropriate [31]. However, not all physicians who staff FSED (or indeed, even traditional EDs) are board-certified or eligible EPs. Nor does every EP feel comfortable starting such medication with a limited exposure to the patient and understanding of their baseline. Psychotic or suicidal patients typically require admission, necessitating a phone psychiatric consult followed by transfer to a local hospital that has an inpatient psychiatric unit.

Another point to be noted here is the fact that before a patient could be transferred to an inpatient psychiatric facility, a number of laboratory tests need to be performed to ensure that the patient is medically stable and no underlying organic cause is the reason for the present psychiatric symptoms. Each psychiatric facility has its own list of exclusionary criteria which must be met before the patient can be transferred [32]. However, all of these tests might not be available at FSEDs, which might pose a hurdle as the patient has to get the remaining tests done from a private laboratory or a hospital before being eligible for admission into the psychiatric facility, even if the emergency physicians have medically cleared the patient in the FSED. However, in the authors' experience, although most FSEDs have the capability to send ingestion labs, many do not (indeed more than 50% in the

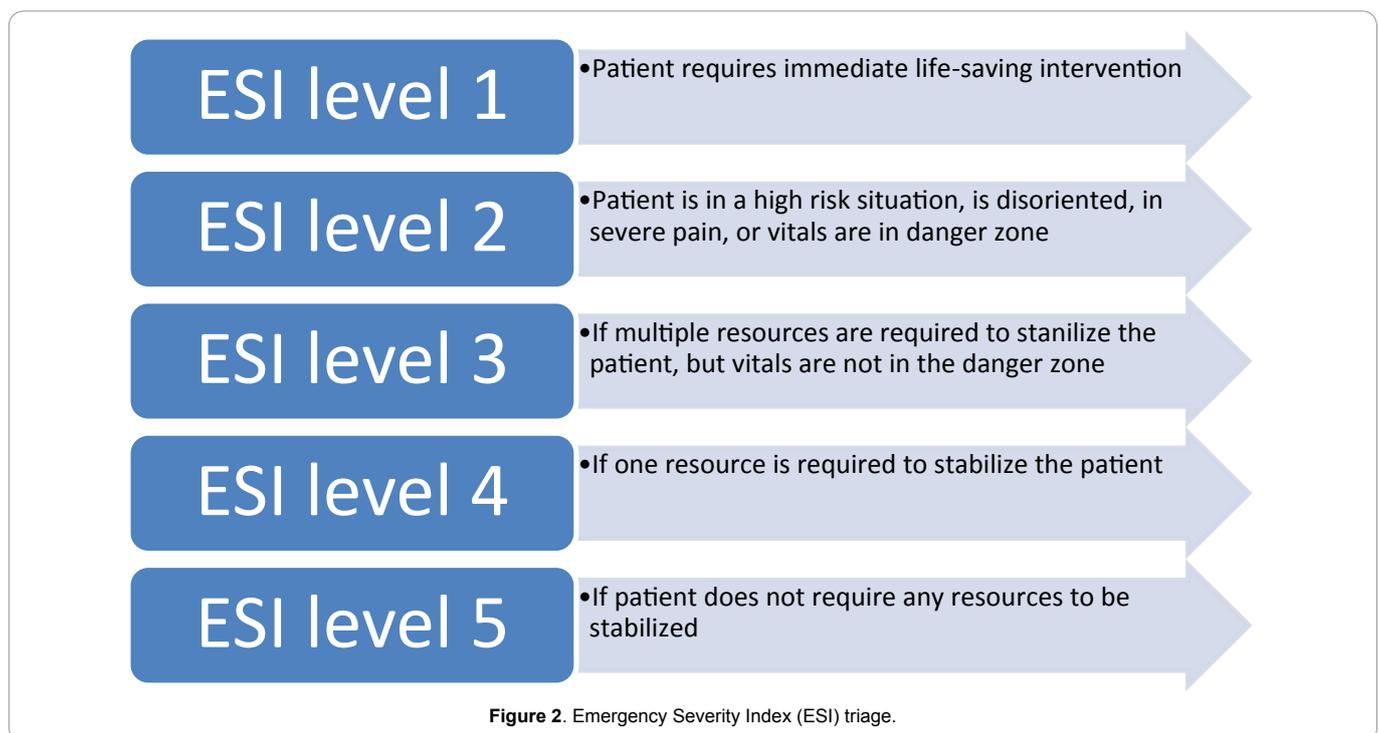
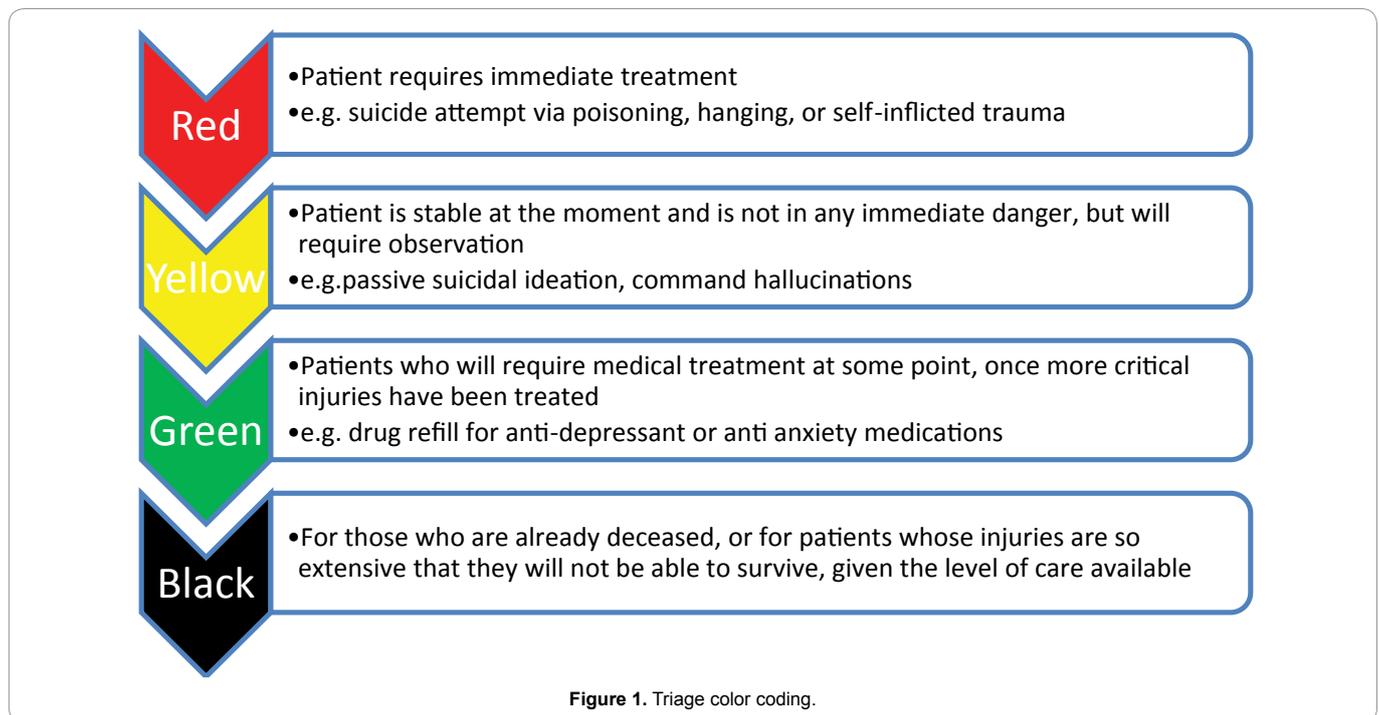
Houston market), and either keep the patient at the FSED for an extended period of time, delaying care, or immediately transfer them to a tertiary care center leaving the work up to the accepting facility. Perhaps it is because there is no requirement for FSEDs to be staffed with board certified EPs who have arguably more experience with toxicological emergencies than their family medicine and internal medicine counterparts, or because of other internal mandates and operational guidelines. Critics will also allege that because of the fees charged by the FSED who first saw the patient, the receiving facility which does the heavy lifting including the real stabilization and treatment of poisoned patients is not properly compensated for its role in the patient's care.

Case Conclusion

In the current example, the patient's liver enzymes, PT/INR and 4-hour acetaminophen level were within acceptable limits. If there had been any significant derangements, the patient would have required N-acetylcysteine (NAC) and be admitted to the medical floor. Many FSEDs do not carry NAC. Any delays in the administration of this medication might result in the destruction of liver and possibly cost the patient her liver if not her life. The formularies of most FSEDs are limited and designed based on cost and shelf-life amongst other considerations. NAC itself is cheap but the frequency with which FSEDs see acetaminophen poisonings may be so low that most FSEDs chose not to stock it. The same is true for other antidotes. Currently, there are no recommendations on which psychiatric medications and toxicological antidotes should be stocked. We call on ACEP's Freestanding Section to further research this issue and develop guidelines and a minimum standard for stocking psychiatric medications and antidotes.

Discussion

Despite the limitations highlighted in the previous literature, the case described here emphasizes a crucial point in the management of poisoned patients. Due to the massive overcrowding of the traditional emergency departments, the door-to-doctor time has increased to epic proportions. Even though most EDs will triage patients (Figures 1 and 2) with psychiatric or behavioral issues as an ESI level 2, a full ED means that they will need to wait alongside the ESI 3 abdominal pain patients in the waiting room until such time as there is an available bed in the treatment area. This results not only in patient dissatisfaction but also in many cases escalation of the psychiatric symptoms. Symptom escalation often results in the implementation of measures like physical restraints, chemical anxiolysis and involuntary detentions. FSEDs on the other hand not only ensure a short throughput time but also the environment is ideal to calm an already agitated psychiatric patient. So to decide whether treating psychiatric patients in the FSEDs is 'a good idea' is a bit premature. Freestanding emergency facilities are still in their embryonic phase of development and if they play their cards right, these facilities can serve as a valuable asset to the community's healthcare system by at least filtering out the yellow and green tagged psychiatric emergencies, thereby reducing the load on hospital-based EDs allowing them to function optimally as well. A larger question remains whether all poisoned patients or some sub-types should be tagged as red emergencies, necessitating automatic transfer.



Bottom Line

FSEDs may not be equipped to deal with all the emergencies, however they have the potential to lower the workload on hospital-based EDs, especially the psychiatric emergencies in which case the calm environment and the low throughput time is an added advantage.

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