eScholarship@UMassChan

A Qualitative Study of Emergency Physicians' and Nurses' Experiences Caring for Patients With Psychiatric Conditions and/or Substance Use Disorders

Item Type	Journal Article
Authors	Isbell, Linda M;Chimowitz, Hannah;Huff, Nathan R;Liu, Guanyu;Kimball, Ezekiel;Boudreaux, Edwin D
Citation	Isbell LM, Chimowitz H, Huff NR, Liu G, Kimball E, Boudreaux E. A Qualitative Study of Emergency Physicians' and Nurses' Experiences Caring for Patients With Psychiatric Conditions and/or Substance Use Disorders. Ann Emerg Med. 2023 Jun;81(6):715-727. doi: 10.1016/j.annemergmed.2022.10.014. Epub 2023 Jan 18. PMID: 36669922.
DOI	10.1016/j.annemergmed.2022.10.014
Journal	Annals of emergency medicine
Rights	Copyright © 2022 by the American College of Emergency Physicians. This is an open access article under the CC BY- NC-ND license (http://creativecommons.org/licenses/by- nc-nd/4.0/).;Attribution-NonCommercial-NoDerivatives 4.0 International
Download date	2024-12-26 01:40:47
Item License	http://creativecommons.org/licenses/by-nc-nd/4.0/
Link to Item	https://hdl.handle.net/20.500.14038/53403

A Qualitative Study of Emergency Physicians' and Nurses' Experiences Caring for Patients With Psychiatric Conditions and/or Substance Use Disorders



Linda M. Isbell, PhD*; Hannah Chimowitz, MS; Nathan R. Huff, MS; Guanyu Liu, PhD; Ezekiel Kimball, PhD; Edwin Boudreaux, PhD

*Corresponding Author. E-mail: lisbell@umass.edu.

Study objective: Patients with psychiatric conditions and/or substance use disorders (SUDs) frequently seek care in emergency departments (EDs), where providing care for these populations can involve considerable challenges. This study aimed to develop a comprehensive data-driven model of the complex challenges and unique dynamics associated with caring for these populations in the ED, as well as the effect on patient care quality.

Methods: We conducted a preplanned topical analysis of grounded theory data obtained from semistructured interviews with 86 ED physicians and nurses from 8 hospitals in the Northeastern USA. Participants provided detailed descriptions of their experiences and challenges in caring for patients with psychiatric conditions and/or SUDs. We identified themes inductively using constant comparative analysis and developed a grounded model of physicians' and nurses' perceptions of challenges, biases, and effects on patient care.

Results: Emergency physicians and nurses described emotional, diagnostic, and logistical challenges that patients with psychiatric conditions and/or SUDs present. These challenges are magnified by existing health care system issues and social structures, which fuel and reinforce negative attitudes, expectations, and biases. In combination, these processes create negative health care experiences for patients, physicians, and nurses and can adversely affect patient care quality and ED staff well-being.

Conclusion: Our findings uncover a cyclical process whereby challenges and biases associated with patients with psychiatric conditions and/or SUDs can reciprocally threaten patient care quality. Systemic changes and localized interventions are urgently needed to mitigate challenges, reduce bias, improve patient care, and improve physicians' and nurses' experiences in the ED. [Ann Emerg Med. 2023;81:715-727.]

Please see page 716 for the Editor's Capsule Summary of this article.

Readers: click on the link to go directly to a survey in which you can provide **feedback** to *Annals* on this particular article. A **podcast** for this article is available at www.annemergmed.com.

0196-0644/\$-see front matter

Copyright © 2022 by the American College of Emergency Physicians. This is an open access article under the CC BY-NC-ND license (http://creativecommons.org/licenses/by-nc-nd/4.0/). https://doi.org/10.1016/j.annemergmed.2022.10.014

INTRODUCTION

Background

One in 8 emergency department (ED) visits in the USA is related to psychiatric concerns and/or substance use disorders (SUDs), and the frequency of such visits continues to rise. Patients with psychiatric conditions and/or SUDs seek care for both emergency and nonemergency concerns and are often driven to the ED by widespread societal inequities and vulnerabilities, which affect access to care and critical social needs (eg, housing and food). Inadequate funding for community resources and social services results in the ED serving as a safety net for these vulnerable populations, who suffer from considerable health care disparities. Services

Caring for patients with psychiatric conditions and/or SUDs in the ED is challenging, ¹⁰ particularly amid the backdrop of the stressed US health care system. The needs of these patient populations are typically time- and energy-intensive and tend to be incompatible with the unpredictable conditions of the ED environment, frequent interruptions, noisy and fast-paced activity, and limited resources. ^{10,11} Health care workers can also hold negative attitudes toward these populations, ^{7,12-19} which can magnify challenges. Research suggests that providing care to patients with psychiatric conditions and/or SUDs in the ED can adversely influence care quality outcomes, ^{8,9,12,15} ^{20,21}

Editor's Capsule Summary

What is already known on this topic Emergency department (ED) visits for behavioral complaints are increasing.

What question this study addressed

What are the challenges experienced by emergency physicians and nurses caring for patients in behavioral crises?

What this study adds to our knowledge
In a qualitative design, 86 clinician participants described interpersonal, logistic, and systems barriers to properly diagnose and treat patients with psychiatric and substance use conditions. Social factors, some structural, increased perceptions of poor outcomes for patients and negative well-being for staff members caring for them.

How this is relevant to clinical practice Broad public and institutional changes are needed to deliver better emergency care for behavioral care in the ED.

contribute to physician and nurse burnout, ^{22,23} and affect workplace safety. ²⁴⁻²⁶

Importance

Despite the considerable challenges in caring for these vulnerable populations in the ED, surprisingly few studies have systematically investigated the experiences of physicians and nurses who provide this care. A recent review dentified only 7 applicable studies (conducted in North America), most of which included nurses and/or specialized staff. Pew included emergency physicians. Many of these and related studies focus on specific topics, such as attitudes and practices in assessing suicidal patients, such as attitudes and practices in assessing suicidal patients, and perceived patient safety risks. Thus, existing work is limited in scope and somewhat fragmented, revealing a paucity of research investigating emergency physicians and nurses experiences caring for patients with psychiatric conditions and/or SUDs.

Goals of this Investigation

In this preplanned topical analysis of qualitative data from a grounded theory study,³² we aimed to develop the first comprehensive, data-driven model of the unique challenges and care dynamics associated with caring for patients with psychiatric conditions and/or SUDs in the ED. We aimed to understand the range of challenges that

physicians and nurses experience, the effects of these challenges on patient care quality, and how negative attitudes and biases can be created and reinforced. We sought to identify barriers to quality care and highlight avenues for improvement.

The current analysis is based on data collected as part of a large-scale multi-center grounded theory study that explored ED physicians' and nurses' emotional experiences, triggers, regulation strategies, and effects on patient care. This work examined a broad range of ED experiences, contexts, and patient populations. The present analysis provides a deep, focused investigation of physicians' and nurses' experiences caring for patients who have psychiatric conditions and/or SUDs, which was not the focus of our earlier analysis.

METHODS

Study Design and Setting

This study reports results of a preplanned topical analysis of grounded theory data ^{33,34} drawn from a study involving semistructured interviews with 45 emergency physicians and 41 ED nurses recruited from the Northeastern USA between February and August 2018.³² Our prior model very briefly mentions physicians' and nurses' responses to patients with psychiatric conditions and/or SUDs in the context of our broader model of emotional experiences.³² The current work provides a detailed topical analysis and offers new insight into physicians' and nurses' experiences caring for these critical populations.

Questions were developed after a pilot interview study with a separate sample of 15 emergency physicians and 10 ED nurses. Appendix E1 (available at http://www. annemergmed.com) contains study questions, prompts, and guides used by the interviewer, which were asked verbally and not provided to participants in advance. Eighty-five interviews occurred face-to-face; one was conducted through telephone. Only the interviewer and participant were present, and no relationship was established prior to study commencement. Physician interviews occurred in private offices within or near hospitals. Nurse interviews occurred in private hospital "family rooms" or private offices. Interviews occurred between 6 AM and 11 PM to accommodate participants' schedules and averaged 65 minutes (range 45 to 90). LMI, an experienced senior psychology researcher with extensive qualitative training and experience, conducted all interviews. The research team included EK, an expert qualitative methodologist who provided consulting throughout the project. Study procedures were approved by our institutional review board (IRB#2016-3160). We used the Consolidated Criteria for Reporting Qualitative Research to guide the collection, analysis, and reporting of data. 35

Selection of Participants

Consistent with common practice in grounded theory, we used theoretical sampling ³³ (a type of purposive sampling that involves shifting the sample frame to respond to findings and explore possible variations across contexts) to recruit participants. Administrators at 4 academic medical centers emailed a study invitation to attending ED physicians and nurses at their institutions. We also emailed invitations directly to individuals in leadership roles at each hospital. After completion of data collection at academic hospitals, we employed the same invitations to recruit from 4 community hospitals to establish the transferability of findings. All invitations described this study as "a federally funded project designed to help us gain a better understanding of the factors that affect clinical reasoning and decisionmaking in emergency medicine" (Appendix E2, available at http:// www.annemergmed.com). To reduce self-selection bias based on interview content, invitations did not include information about our interest in patients with psychiatric conditions and/or SUDs. Our goal for recruitment was contingent on achieving theoretical saturation;³⁶ however, we oversampled to ensure we could compare across hospitals and professional roles. After achieving saturation at academic hospitals, we interviewed at community hospitals until we again achieved saturation. None of the physicians or nurses who responded to our invitation refused to participate, and no one dropped out of the study once enrolled. Consistent with national hourly rates, physicians received USD250 for their time;³⁷ nurses received USD100.

Data Processing and Analysis

Interviews were audio-recorded and transcribed by research assistants, then independently reviewed for accuracy by 2 additional assistants. Participants did not review transcripts. In a separate publication drawing on these data,³² we noted that many participants identified patients with psychiatric conditions and/or SUDs as challenging to care for in the ED. As such, using the constant comparative technique commonly employed in grounded theory, we conducted a preplanned topical analysis of data centered on participants' responses related to the care of these patient populations. We identified relevant data after a full grounded theory coding process and subjected data to an analytic process that included the development of open, axial, and selective codes (Appendix E3, available at http://www.annemergmed.com). Consistent with this process, our analysis focused on emergent themes and did not use a priori codes.

Data were coded using NVivo V.11 by HC, GL, and a third assistant under close supervision of LMI and EK. HC

and GL were both advanced psychology doctoral students with experience in qualitative coding. The third assistant was an undergraduate researcher who worked closely under LMI, HC, and GL. After the 3 coders independently coded 5 transcripts and met to resolve discrepancies, HC and GL used a shared codebook to code all remaining transcripts, with the additional assistant reviewing each transcript to ensure consistency. Coders met to resolve disagreements. Interview participants did not provide feedback on the findings.

RESULTS

Sample Characteristics

The majority of our 86 participants (45 physicians, 41 nurses) worked in one of 4 large academic medical centers (84.4% physicians [n=38], 70.7% nurses [n=29]), and the remainder worked in one of 4 community hospitals (15.6% [n=7] physicians; 29.3% [n=12] nurses). All academic centers are in large cities; 3 community hospitals are in suburban locations, and one is in a large city. Across the sites, the mean age was 40.0 (SD=8.0) for physicians and 39.1 (SD=11.1) for nurses. Among physicians, 73.3% (n=33) identified as men and 26.7% (n=12) as women. Among nurses, 82.2% (n=34) identified as women and 17.1% (n=7) as men. Most physicians (71.1%, n=32) and nurses (90.2%, n=37) identified as White. Physicians had an average of 8.6 (SD=7.4) years of experience; nurses had an average of 13.3 (SD=11.1) years. Half of the physicians (53.3%; n=24) and nearly a quarter of nurses (24.4%;n=10) held leadership positions in their institutions at the time of the study. Hospital and sample characteristics are further detailed in Tables 1 and 2.

Grounded Model of Cyclical Care Dynamics for Patients with Psychiatric Conditions and/or SUDs

Physicians and nurses readily identified unique challenges that patients with psychiatric conditions and/or SUDs present to the ED. Given high rates of comorbidity, 38-41 which many physicians and nurses acknowledged, participants often did not differentiate between patients with SUDs and other psychiatric conditions. For example, they noted: "... psych and substance abuse are so intertwined..." (physician 66); "I would say 90% of people with mental illness have some kind of substance abuse issues" (nurse 4). Participants also referred to patients presenting with psychiatric and/or SUD-related chief complaints, as well as patients presenting with a chief physical complaint and a psychiatric condition and/or SUD comorbidity. Because participants often did not reference specific patient populations, we structured our results around salient themes rather than patient types.

Table 1. Participant samples recruited from different hospitals.

	Sample Characteristics			Hospital Characteristics		
	Physicians	Nurses	Total	Approximate Bed Size	Setting	Psychiatric Unit?
Hospital A	13	7	20	500-1000	Large City	Yes
Hospital B	10	7	17	500-1000	Large City	No ¹
Hospital C	8	7	15	Over 1000	Large City	Yes
Hospital D	7	8	15	500-1000	Large City	Yes
Community Hospitals	7	12	19	0-499	3 Suburban 1 Large City	1 Yes; 3 No
Total	45	41	86	N/A	N/A	N/A

Note: All hospitals that participated are well-established institutions. Hospitals A to D are academic medical centers, have major trauma centers, and train medical students and residents. Some academic hospital physicians also worked at community hospitals in the same health care system. Community hospital physicians were recruited from all 4 community hospitals; community hospital nurses were recruited from 2 of these hospitals. Hospital B does not have a psychiatric unit but does have an affiliated hospital nearby with a psychiatric unit.

Figure 1 presents a grounded model of the cyclical care process derived from our data. This model demonstrates that challenges (emotional, diagnostic, logistical) associated with caring for patients with psychiatric conditions and/or SUDs interact with pre-existing attitudes and biases, which results in negative care experiences with these patients. These experiences, in turn, can create and reinforce negative attitudes, expectations, and biases toward these patient populations. As highlighted in our expanded model (Figure 2), this cycle can adversely affect patient care and ED staff (eg, contribute to burnout).

We present representative quotes exemplifying different parts of the model in the text, with additional quotes in Table 3 and Table 4. Because participants discussed how bias could manifest separately from the specific challenges identified, we first present findings related to negative attitudes and bias and then consider the 3 major types of challenges and their effects on patient care.

Negative Attitudes and Bias Toward Patients with Psychiatric Conditions and/or SUDs

Physicians and nurses acknowledged that patients with psychiatric conditions and/or SUDs often get treated differently, particularly if they have a history of frequent ED use. Individual and societal biases were considered major contributors to these treatment disparities. Below we describe negative attitudes and expectations toward these patients, followed by effects on patient care. Themes were similar across hospitals and professional roles, except where noted.

Negative attitudes and expectations. Participants described how a psychiatric diagnosis or history of substance use in someone's chart could activate negative expectations before meeting a patient. As one nurse (19)

described, "...you look at it, and you're like 'oh, they got a psych history, here we go'...you kind of walk over there with that in your head." In addition, participants detailed how psychiatric diagnoses are often emphasized during handoffs regardless of a patient's current health problem, setting the stage for negative expectations and bias.

In addition to describing personal biases, participants often mentioned witnessing biased treatment from their colleagues when caring for these patient populations. Many expressed concerns about overhearing stigmatizing language, such as "drunks" (physician 11) or "the crazy lady" (physician 18). Others observed colleagues shaming patients with SUDs. As one physician (53) commented, "there's almost a stereotype or a stigma of like 'Well, you did it to yourself.' So somehow that is less important." Another nurse (50) detailed how patients with SUDs are often perceived as responsible for their condition, although lifestyle choices can contribute to other conditions: "...there's no shaming involved in the patient with a heart attack, but there's very often shaming with patients that come in with addiction."

Multiple nurses expressed beliefs that nurses are particularly likely to have negative expectations and bias toward patients presenting with primary psychiatric- or SUD-related problems. Personal safety concerns were identified as a major contributor. Many nurses recalled personal experiences of verbal abuse and physical violence with patients coming in intoxicated or those with psychiatric conditions who get placed on involuntary holds. One female nurse (27) described, "it can be really scary ...most people I know have got hit, punched. Everyone's gotten verbally assaulted."

Although a handful of physicians described being "jaded" by their experiences with these patient populations,

Table 2. Participant characteristics³²

45 40 (8.0) 29-63 (37) 33 (73.3) 12 (26.7) 32 (71.1) 2 (4.4)	41 39.1 (11.1) 26-65 (36) 7 (17.1) 34 (82.9) 37 (90.2)
29-63 (37) 33 (73.3) 12 (26.7) 32 (71.1)	26-65 (36) 7 (17.1) 34 (82.9)
33 (73.3) 12 (26.7) 32 (71.1)	7 (17.1) 34 (82.9)
12 (26.7) 32 (71.1)	34 (82.9)
12 (26.7) 32 (71.1)	34 (82.9)
32 (71.1)	
	37 (90.2)
	37 (90.2)
2 (4.4)	
	2 (4.9)
8 (17.8)	_
_	1 (2.4%)
3 (6.7%)	_
_	1 (2.4%)
8.6 (7.4)	13.3 (11.1)
0.5-32 (6.0)	1-43 (8.0)
7.5 (5.7)	8.2 (9.1)
0.5-25 (6.0)	0.5-33 (3.5
24 (53.3)	10 (24.4)
4 (8.9)	_
2 (4.4)	_
4 (8.9)	_
1 (2.2)	_
3 (6.7)	_
1 (2.2)	_
2 (4.4)	_
3 (6.7)	_
3 (6.7)	_
1 (2.2)	_
_	4 (9.8)
_	2 (4.9)
-	1 (2.4)
_	1 (2.4)
-	2 (4.9)
	- 8.6 (7.4) 0.5-32 (6.0) 7.5 (5.7) 0.5-25 (6.0) 24 (53.3) 4 (8.9) 2 (4.4) 4 (8.9) 1 (2.2) 3 (6.7) 1 (2.2) 2 (4.4) 3 (6.7) 3 (6.7)

nurses and physicians alike recognized that nurses face a higher risk of abusive treatment because of greater face time with patients. Though these discussions mostly focused on professional differences, both female physicians and nurses described feeling fear for their safety while caring for patients with psychiatric conditions and/or SUDs, who

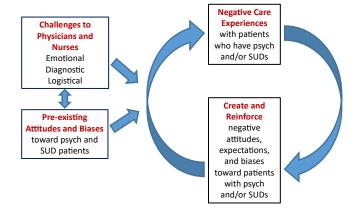


Figure 1. Grounded model of cyclical care dynamics for patients with psychiatric (psych) and/or SUDs in the emergency department.

were observed to be "more assaultive to females, with nurses and physicians" (nurse 37).

Effects on patient care. Negative attitudes and expectations can shape patient interactions and care, influencing the amount of time spent with patients, the extent of their workups, and approaches to pain management. Participants described how patients with SUDs, those labeled as medication-seeking, or those with specific diagnoses (eg, bipolar or borderline personality disorder) often become a low priority, particularly when they are behaviorally challenging. Both physicians and nurses expressed they might pay less attention to and limit their interactions with these patients, describing tendencies such as "we kind of write them off" (physician 53), "if I can avoid it, I will avoid it" (nurse 31), or doing "the minimal amount workup" (physician 57). Participants also noted that care could drastically change for patients who frequently use the ED, such that they "get minimized in their complaints" (physician 2).

Alternative perspective. Although many participants mentioned considerable bias (n=79; 91.9%), a few physicians and nurses from both academic and community hospitals reported little or no bias in caring for these patients (n=7; 8.1%). Most of these participants referenced patients presenting with a physical complaint and a comorbid psychiatric condition. Some noted the prevalence of psychiatric diagnoses, stating they are "like a dime a dozen these days" (physician 66). Participants also discussed the importance of a patient's presentation in determining whether they would be treated differently. Patients who are stable and compliant were thought to receive identical care for physical health concerns as someone without a psychiatric diagnosis.

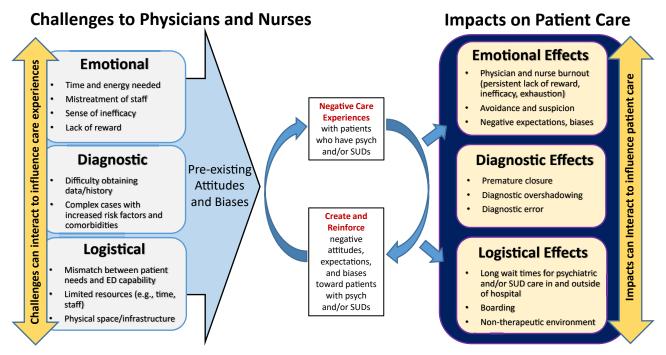


Figure 2. Expanded grounded model of cyclical dynamics of challenges and impacts on patient care for patients with psychiatric (psych) conditions and/or SUDs in the emergency department.

Challenges to Physicians and Nurses and Effects on Patient Care

Emotional challenges. Overall, participants felt that caring for patients with psychiatric conditions and/or SUDs required extensive time and energy. Physicians and nurses generally agreed that "psychiatric patients...obstruct their own care, and they can be very energy, emotion, and time-consuming" (physician 1). Participants often reported feeling mistreated and frustrated while caring for these patients. One nurse (nurse 37) described: "It's a taxing job...you have the psych patient who's...swearing at you and calling you

names...no matter how much you brush it off, it beats you down." As noted earlier, mistreatment by patients presents significant emotional challenges.

Physicians and nurses also described experiences with patients with psychiatric conditions and/or SUDs who were ungrateful or non-compliant. Patients treated for drug overdose were seen as particularly unappreciative. Participants discussed how recurring negative experiences and difficult interactions with certain types of patients, especially those treated for an overdose, can result in bias and set up negative expectations for future interactions. One physician (physician 64) noted:

Table 3. Representative quotes by theme and subject matter: negative attitudes and bias.

A. Negative Attitudes and Expectations

- "...your head nurse says, 'Oh, you're getting a patient with dizziness, history of bipolar.' So, I think hearing it...you already get an image in your head. Which is unfortunate...!'d rather meet every patient fresh, and I want you to tell me why you're here..."(physician 26)
- "Even if it's just the nurses giving pass off to the next nurse, and like the person came in for a UTI or something...unrelated to their bipolar disorder. You know, a big part of the report is...about their mental illness." (nurse 27)

B. Impacts on Patient Care

- "...somebody who comes and the chart's saying, oh he's on lithium...for say psychosis or bipolar or schizophrenia, and they come in also saying "Oh I'm having some abdominal pain, nausea, and vomiting," I think the people definitely, 100%...treat them differently." (physician 38)
- "I think especially with substance abuse issues that people...don't always treat them with the same kindness that they would like other people...it's more evident frustration and negative feelings toward them immediately, rather than building up...sort of just a quick judgment thing." (nurse 15)
- "...if you know a person is taking methadone, here is somebody who has some sort of a drug dependence, seeking help...on the straight path. I would hope that it wouldn't be the case, but if you're asking for my opinion, I definitely think that knowing bits and pieces of people's mental health and/or chemical dependence changes the way you go into things." (nurse 46)
- "When it's clearly a mental health problem...since I know that I don't have the time to do it, and it's gonna be sort of a project that the more I invest, the chances I'm gonna get something positive out of it is, is very small. So you end up...exhibiting avoidance behavior." (physician 28)

Table 4. Representative quotes by theme and subject matter: emotional, diagnostic, and logistical challenges and impacts on patient care

A. Emotional Challenges and Impacts

Time and Energy Needed, Mistreatment of Staff

- "I think at some point...I don't think that people stop caring, but people stop trying to help because it's a lot of emotional energy expended, and it's not gonna get you anywhere." (physician 64)
- "Sometimes you are spending more time with an intoxicated gentleman who probably is no big harm to himself minus falling out of the bed [which] will take your time versus someone with chest pain." (nurse 21)
- "It can be really frustrating on a shift though because sometimes patients with substance use disorders can take up an extensive amount of time...when you're trying to comfort a family of a patient who's dying or trying to help someone navigate a very difficult system or someone's bleeding out or something, and this person is yelling and being mean to staff and threatening nurses and splitting and refusing care and then refusing care." (physician 18)
- "If you have people come in who are intoxicated or agitated or need a lot of attention, it's a big drain on resources." (physician 72)

Lack of Reward, Inefficacy, and Emotional Exhaustion

- "We've put him on these meds, he was hospitalized for 2 weeks, he got regulated, he went back out, he went back to drinking, he's not taking his meds, he's not following through, and now here we are again. And it's a cyclical cycle, so it's some frustration with noncompliance...frustration with self-destructive behavior." (nurse 48)
- "Psych patients who...come to the ED repeatedly and nothing ever changes...that's a frustration of mine." (nurse 70)
- "I really feel like I am babysitting them...it's rare that I get any sense of satisfaction." (physician 28)

B. Diagnostic Challenges and Impacts

Difficulty Obtaining Data, Complex Cases

- "Quite honestly, it's just challenging to interact with patients with mental illness and get real reliable data from them." (physician 2)
- "If you don't get a good history, you're likely to mess things up. And that's where mental illness makes things really hard." (physician 16)
- "Psychiatric patients...may be profoundly ill, both from a psychiatric perspective and from a medical perspective." (physician 1)

Biased Diagnostic Reasoning (premature closure, diagnostic overshadowing, diagnostic error)

- "...instead of being like, 'Well, I have to think about that'...[I think] 'Well, they're bipolar, so, whatever they say may not be true, and they're on all these medications, and they probably want drugs.'" (physician 2)
- "...when someone has a chemical dependence or has a psychiatric issue that we've been treating them for...we forget that there might be something underlying." (nurse 46)
- "We miss stuff in these people for exactly this reason: they're here every day. Am I gonna do a full head-to-toe naked body examination on our drunk guy who's here every day, every day? No, I'm just not gonna do it." (physician 54)

C. Logistical Challenges and Impacts

Mismatch Between Patient Needs and ED Capability, Limited Resources

- "I would love to pull up a chair and sit and talk to patients and hear about everything, and it's just not possible...I don't really have anything to offer them, other than a psychiatrist." (physician 23)
- "We're not doing anything therapeutic for them, we're not really helping them. Our goal is to keep them healthy and safe until they go somewhere where they can be helped...there's really nothing we can do." (nurse 77)
- "...the core skillset of EM...you have to be able to juggle, basically. And the idea of...you've assessed this behavioral health patient, there's a plan in place, and now we're just waiting. That's a challenging patient to take care of in hour 12, hour 24, hour 36, for the emergency medicine skillset." (physician 14)

Lack of Available Care in Community

- "Frankly, there just aren't enough mental health and substance use resources, so a lot of times it's feeling like we can't necessarily offer patients the help they need, and that leads to kind of a revolving door effect." (physician 13)
- "Many patients would come in asking for detox, and in that moment, they were ready. And we didn't have a lot of supports to give them...it would just be really unsatisfying and really kind of upsetting for the staff who cared for them." (nurse 27)
- "It just seems like a lack of support...there's not enough inpatient placement, there's not enough probably outpatient programs, and a lot of times its more of like how quickly can we get these people out of our ED cause they're clogging up medical rooms." (nurse 45)
- "There's not enough facilities for placement, for rehab, or for cognitive behavioral therapy...and what happens is if people can pay for it, they get placed." (physician 23)

"I think after so many interactions like that, then every person who comes in after an opioid overdose is kind of automatically the enemy, so to speak, or the expectations are [they're] gonna be nasty to you, so maybe they don't get as much sympathy."

Others described a sense of hopelessness and frustration with noncompliance from patients with psychiatric

conditions and/or SUDs, which participants felt reduced future motivations to help. As one physician (16) remarked, "The likelihood that you're going to make a difference is so small that, you know, sometimes you feel like you just got to move on. And see the next person who you have a chance of helping. And that's a terrible way to feel."

In addition to describing emotional exhaustion and a reduced sense of accomplishment, key symptoms of burnout, ^{22,23,42} a few participants explicitly mentioned experiencing burnout. As one nurse (nurse 83) noted, the accumulation of exhausting and unsatisfying patient experiences is why "...you see some burnout in the emergency rooms ...those frequent flyer alcoholics that come in all the time, and no matter what you do, they're there, and they're gonna nag at you."

Diagnostic challenges. As part of the diagnostic team, ⁴³ physicians and nurses agreed that diagnostic errors are especially likely for patients with psychiatric conditions and/or SUDs. Many participants experienced difficulties in obtaining patient histories and reliable data. One nurse (nurse 77) noted: "Oftentimes they're resistant…it can be really hard for us to have them respond to our questions appropriately." Physicians and nurses also noted that these patients have a variety of risk factors for complex medical disease and a higher likelihood of comorbidities, complicating the diagnostic process.

Many participants shared experiences of premature closure or diagnostic overshadowing, in which physicians and nurses dismissed physical complaints and concluded patients were "just somaticizing their symptoms" (physician 64). Multiple physicians described how easily symptoms could be attributed to psychiatric causes. Others voiced concerns about frequent ED use among these patient populations contributing to diagnostic errors by creating challenges distinguishing false alarms from valid concerns. Though a few participants felt having more data and longer relationships could help, most felt that they may become more susceptible to premature closure with frequent ED utilizers.

Logistical challenges. Most of the discussion about patients with psychiatric conditions and/or SUDs centered on substantial logistical challenges rooted in the larger health care system and broader societal issues. These challenges were thought to magnify the emotional and diagnostic challenges that emerge when caring for these patients. In describing the limitations, and sometimes total inability, of EDs to properly care for these populations, participants largely focused on patients presenting with psychiatric conditions and/or SUDs as chief complaints.

Emergency physicians and nurses noted that their abilities to manage multiple time-sensitive medical

emergencies do not align with the needs of caring for chronic psychiatric conditions and/or SUDs, which require time-intensive treatment. As the physician (16) described, "the kind of effort that it would take is not the kind of effort that we have the resources to give."

Participants also voiced concerns about the effects of the ED environment on patients with psychiatric conditions, who often spend significant time waiting for care provided by a psychiatry team or external service. Some described the ED as a problematic setting for these patients, as it is often crowded, loud, confining, and stressful. Ideally, as one nurse (27) noted, "it would really be better for these patients to have a quiet, low stimulus environment. And we do not offer that...it can be really a recipe for disaster." Relatedly, participants identified boarding as a major stressor across both academic and community hospital settings. Issues with boarding, the process in which patients waiting for an inpatient bed or transfer to another facility are supervised in the ED, were seen as resulting from insufficient inhospital psychiatric beds, specialists, support staff, and community resources.

With high demand and an inadequate supply, a backlog of patients with psychiatric and/or SUD-related concerns can grow quickly. Some participants discussed the need for inhospital case managers and social workers that can better manage nonmedical needs. One physician (54) expressed:

"I just wish that the resources would be put more toward the people who actually make things happen...people can't get home, people can't get to their doctors, people don't have a home...those are all things that I can't do, and it's frustrating."

Physicians and nurses also recognized that a shortage of community resources contributes to the influx of patients with psychiatric conditions and/or SUDs. Participants identified societal stigma as a major contributor to the lack of funding for treatment centers. One physician (5) stated, "when our country decides to recognize that (mental health and substance use) is a problem, we'll do something about it." Many mentioned system-level forces that put the burden of care on EDs, including a shortage of psychiatrists, trends in insurance coverage, and the Emergency Medical Treatment and Labor Act. The Emergency Medical Treatment and Labor Act requires EDs in the USA to provide medical screening to anyone seeking treatment, and multiple participants recognized how this law, along with other broken health care systems, fuels challenges experienced in the ED. One nurse (85) described:

"A psychiatric facility does not have any pressure to take anyone, so it's those patients that

are...commercially insured, or better insured that we're able to send...a lot of the patients that we get stuck holding are patients that don't have any financial resources."

A few physicians and nurses felt the lack of treatment programs is particularly detrimental to patients with SUDs. Multiple participants noted a "revolving door," where these patients repeatedly cycle in and out of the ED. One nurse (15) explained that "even if they are agreeable to go (to a treatment program), half the time, we can't find them a bed." A handful of participants brought up potential system-level solutions to address these challenges, including implementing models with EDs specifically for patients with psychiatric conditions and/or SUDs (physician 28), additional homeless shelters with beds for those who use the ED as a place to stay in the winter (physician 3), and 24-hour urgent care centers focused on opioid-related needs and emergencies (physician 86).

LIMITATIONS

Our sample is large and experienced, spanning multiple hospitals and professional roles. However, it is predominantly White and includes an unequal sex distribution in the physician and nurse subsamples. Although some of these differences reflect those observed in these professions nationally, 44,45 they may limit the transferability of findings to physicians and nurses of color. Additionally, all our research sites are in New England, the USA, and our findings may not be transferable to other geopolitical contexts. Further research is needed to clarify whether these results emerge across samples including a broader range of individual racial and ethnic backgrounds, settings, geographical regions, professional roles (eg, advanced practice providers), trainees, and patients.

Another limitation is that interview-based studies rely on self-reported behaviors and attitudes, which are subject to recall and social desirability biases. To reduce social desirability bias, we reassured participants that their data would be confidential. Our lengthy interviews and use of an experienced interviewer helped to establish rapport with participants, which facilitated participants sharing information in a seemingly candid manner. However, the use of a single interviewer may have facilitated premature closure or introduced systematic biases held by that interviewer. Further, although our interview protocol was developed and refined in a pilot study, it tended to focus on care challenges. As such, our findings may not represent the broader range of experiences (including positive experiences) that health care workers may have.

Finally, despite our efforts to reduce self-selection bias by not providing detailed study information in our invitation, we are unable to assess whether those who responded to our invitation are systematically different from nonresponders.

Discussion

Our findings reveal a cyclical model of difficult care dynamics for emergency nurses and physicians caring for patients with psychiatric conditions and/or SUDs: often interconnected logistical, diagnostic, and emotional challenges in caring for these patients can create and reinforce negative attitudes and biases toward them, adversely influencing patient care. This model significantly extends our earlier work ³² examining the broad range of physicians' and nurses' emotional experiences in the ED by providing an in depth analysis of care challenges associated with patients with psychiatric conditions and/or SUDs. Moreover, although health care workers' negative attitudes and stigma toward these patient populations have been established in prior work, 7,10,12-19 the current findings provide insight into the unique factors that contribute to these attitudes and the processes whereby these attitudes can affect care quality in the ED.

Emergency nurses and physicians often discussed care challenges as being rooted in the larger health care system, as well as broader social structures and inequities. Widespread societal bias toward individuals with psychiatric conditions and/or SUDs, reflected in the lack of public support to adequately fund services for these individuals, results in limited access to medical care, housing, food, and other necessities. 5,6,46 Understanding the greater forces at play serves to caution against blaming individuals (patients, health care workers) for difficulties that emerge in the ED. These challenges should be approached at the system level rather than the individual level. 47,48 Furthermore, our finding of little to no variation in themes across hospitals highlights the severity of the problem; even better-resourced hospitals reported major challenges in caring for these populations, underscoring the significant influence of systemic factors.

System-related factors magnify existing challenges associated with diagnosing and caring for patients with psychiatric conditions and/or SUDs in the ED. ⁴⁹ Consistent with prior research, ^{12,21} our participants described diagnostic overshadowing (ie, incorrectly attributing a patient's physical symptoms to a mental disorder ¹³⁻¹⁵) and premature closure (ie, failing to consider other possibilities after an initial diagnosis is made). ⁵⁰ Negative attitudes toward these patient populations,

patient avoidance, communication challenges, challenging patient behaviors, and aspects of the ED environment that heighten cognitive demands (eg, crowding, time pressure, managing multiple time-sensitive emergencies simultaneously) can all increase the use of heuristics (ie, cognitive shortcuts) in clinical decisionmaking, ^{51,52} reduce patient care quality, and increase diagnostic errors. ^{12,15,21,49,53}

The negative effects of these encounters affect emergency staff and patients alike. Often unprompted, physicians and nurses reported fatigue, helplessness, frustration, and inefficacy when caring for these patients. Although few of our participants referenced burnout explicitly, many described symptoms related to burnout (eg, emotional exhaustion, sense of inefficacy). ^{22,23,42} Our findings are consistent with data demonstrating that emergency medicine has one of the highest levels of burnout relative to other specialties, largely because of systemic factors (eg, high workload, workflow interruptions, time pressure, moral distress). 23,54,55 Further, ED staff are exposed to repeated threats and workplace violence, which has cumulative negative effects on well-being 24,25,56-58 and increases nurses' intentions to leave their jobs.⁵⁹ Moreover, these experiences can adversely influence the quality of care provided to patients. 60,61

Taken together, our findings reveal interrelated, multilevel challenges associated with caring for patients with psychiatric conditions and/or SUDs in the ED, and their impacts on patient care quality. Significant efforts are needed to intervene and disrupt these cyclical care dynamics and the factors that contribute to them. Our model suggests that reductions in these challenges should correspond to physicians and nurses having fewer negative care experiences. Together, this will reduce factors that adversely affect patient care quality (ie, emotional factors [eg, burnout], diagnostic factors [eg, overshadowing], and logistical factors [eg, boarding]), and over time may reduce negative attitudes and biases toward these patient populations.

Critical changes at the system level will have the greatest effect on reducing the flow of patients with psychiatric conditions and/or SUDs into EDs. Large-scale changes in public policy, legislation, investments, and rigorous evaluations are essential to expand the mental health care system and provide alternative sources of care (eg, call centers, crisis care facilities), fund evidence-based services, increase community resources, and improve transitions of care from EDs to community services. Although there is growing progress toward these outcomes, ongoing fragmented and underfunded services remain insufficient to meet the needs of these populations. Interventions that reduce the flow of patients with psychiatric conditions and/

or SUDs into EDs will reduce the intensity and frequency of negative ED care experiences, decrease harmful boarding rates and lengths, ^{64,65} and improve patient care quality and emergency medicine staff well-being.

Although system-based changes are unlikely without broad health care and public policy reform, localized interventions are also likely to have positive effects. Utilizing effective team-based care approaches in the ED when responding to patients presenting with psychiatric conditions and/or SUDs can result in more patientcentered care, 26 reduced health care worker burnout, 66 and improved patient outcomes. 67,68 With training and supportive clinical work systems in place, interprofessional care teams, including social workers, mental health counselors, and others, can increase patient care quality and improve staff well-being. In addition, trauma-informed care approaches are effective in responding to mental health crises. 69,70 However, delivering this care requires additional training and is time-consuming, which may prove difficult to implement in already stressed EDs. 69 Efforts to increase staff-to-patient ratios are also needed to enable staff to care for time and resource-intensive patient populations more effectively.

Finally, to reduce diagnostic errors (eg, overshadowing) that can emerge when caring for patients with psychiatric conditions and/or SUDs, new tools and decision support systems may aid physicians and nurses in more accurately differentiating behavioral symptoms due to psychiatric conditions from those resulting from co-existing medical conditions.⁷¹ Research has already identified some key risk factors (abnormal heart rate, abnormal temperature, advanced age) that are associated with emergency medical events after admission to a psychiatric unit from the ED.⁷¹ Such risk factors can be incorporated into a warning system to alert staff when a more thorough patient assessment is needed. More generally, numerous cognitive interventions have been advanced to reduce diagnostic errors, including some that may reduce reliance on decision-making heuristics. 72,73 Many seem promising but await rigorous empirical assessment.

In summary, substantial challenges threaten the quality of care received by patients with psychiatric conditions and/ or SUDs in EDs, as well as staff well-being. The recurrent, interactive nature of these challenges results in compounding negative effects. However, the interdependent nature of these challenges suggests that just as they have outsized effects on patient care, so too could interventions and policy changes that disrupt these cyclical dynamics. As our physicians and nurses described, interventions and policy changes that address the unique challenges are urgently needed.

Supervising editor: Ambrose H. Wong, MD, MSEd. Specific detailed information about a possible conflict of interest for individual editors is available at https://www.annemergmed.com/editors.

Author affiliations: From the Department of Psychological and Brain Sciences (Isbell, Chimowitz, Huff, Liu), University of Massachusetts Amherst, Amherst, MA; College of Education (Kimball), University of Massachusetts Amherst, Amherst, MA; and the Department of Emergency Medicine, Psychiatry, and Population and Quantitative Health Sciences (Boudreaux), University of Massachusetts Medical School, Worcester, MA.

Author contributions: LMI and EB designed the project in close collaboration with qualitative research expert EK. LMI managed the project and conducted all interviews. LMI, HC, NRH, GL, and EK analyzed qualitative data; coding of qualitative data was supervised by LMI and EK and conducted by HC and GL. LMI, HC, NRH, GL, and EK drafted the manuscript, and all authors contributed to revising, editing, and finalizing the manuscript. All authors approved the final version of the manuscript. LMI takes responsibility for the paper as a whole.

All authors attest to meeting the four ICMJE.org authorship criteria: (1) Substantial contributions to the conception or design of the work; or the acquisition, analysis, or interpretation of data for the work; AND (2) Drafting the work or revising it critically for important intellectual content; AND (3) Final approval of the version to be published; AND (4) Agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

Funding and support: By Annals policy, all authors are required to disclose any and all commercial, financial, and other relationships in any way related to the subject of this article as per ICMJE conflict of interest guidelines (see www.icmje.org). This project was funded under grant number R01HS025752 from the Agency for Healthcare Research and Quality (AHRQ), U.S. Department of Health and Human Services (HHS), awarded to Linda M. Isbell. The authors are solely responsible for this document's contents, findings, and conclusions, which do not necessarily represent the views of AHRQ. Readers should not interpret any statement in this report as an official position of AHRQ or HHS. None of the authors has any affiliation or financial involvement that conflicts with the material presented in this report.

Publication dates: Received for publication December 27, 2021. Revisions received September 19, 2022; October 6, 2022. Accepted for publication October 11, 2022.

REFERENCES

- Moore BJ, Stocks C, Owens PL. Statistical brief #227: Trends in emergency department visits, 2006–2014. Healthc Cost Util Proj. 2017. Accessed November 19, 2021. https://www.hcup-us.ahrq.gov/reports/statbriefs/sb227-Emergency-Department-Visit-Trends.pdf
- Capp R, Hardy R, Lindrooth R, et al. National trends in emergency department visits by adults with mental health disorders. *J Emerg Med*. 2016;51:131-135.
- Holland KM, Jones C, Vivolo-Kantor AM, et al. Trends in US emergency department visits for mental health, overdose, and violence outcomes before and during the COVID-19 pandemic. *JAMA Psychiatry*. 2021;78:372.

- Weiss AJ, Barrett ML, Heslin KC, et al. Trends in emergency department visits involving mental and substance use disorders, 2006-2013. Rockville, MD: Agency for Healthcare Research and Quality: 2016.
- Doran KM, Vashi AA, Platis S, et al. Navigating the boundaries of emergency department care: addressing the medical and social needs of patients who are homeless. Am J Public Health. 2013;103;355-360.
- Doran KM, Rahai N, McCormack RP, et al. Substance use and homelessness among emergency department patients. *Drug Alcohol Depend*. 2018;188:328-333.
- Wainberg ML, Scorza P, Shultz JM, et al. Challenges and opportunities in global mental health: a research-to-practice perspective. Curr Psychiatry Rep. 2017;19:28.
- De Hert M, Correll CU, Bobes J, et al. Physical illness in patients with severe mental disorders. I. Prevalence, impact of medications and disparities in health care. World Psychiatry. 2011;10:52-77.
- Firth J, Siddiqi N, Koyanagi A, et al. The Lancet Psychiatry Commission: a blueprint for protecting physical health in people with mental illness. Lancet Psychiatry. 2019:6:675-712.
- Zun LS. Pitfalls in the care of the psychiatric patient in the emergency department. J Emerg Med. 2012;43:829-835.
- 11. Croskerry P. ED cognition: any decision by anyone at any time. *CJEM*. 2014;16:13-19.
- van Nieuwenhuizen A, Henderson C, Kassam A, et al. Emergency department staff views and experiences on diagnostic overshadowing related to people with mental illness. *Epidemiol Psychiatr Sci.* 2013;22:255-262.
- 13. Corrigan PW, Mittal D, Reaves CM, et al. Mental health stigma and primary health care decisions. *Psychiatry Res.* 2014;218:35-38.
- Navas C, Wells L, Bartels SA, et al. Patient and provider perspectives on emergency department care experiences among people with mental health concerns. *Healthcare (Basel)*. 2022;10:1297; *Published* 2022 Jul 13.
- Isbell LM, Tager J, Beals K, et al. Emotionally evocative patients in the emergency department: a mixed methods investigation of providers' reported emotions and implications for patient safety. BMJ Qual Saf. 2020;29:1-2.
- Clarke D, Usick R, Sanderson A, et al. Emergency department staff attitudes towards mental health consumers: a literature review and thematic content analysis. Int J Ment Health Nurs. 2014;23(3):273-284.
- 17. Clarke DE, Gonzalez M, Pereira A, et al. The impact of knowledge on attitudes of emergency department staff towards patients with substance related presentations: a quantitative systematic review protocol. *JBI Database System Rev Implement Rep.* 2015 Oct;13:133-145.
- Henderson S, Stacey CL, Dohan D. Social stigma and the dilemmas of providing care to substance users in a safety-net emergency department. J Health Care Poor Underserved. 2008;19:1336-1349.
- Mendiola CK, Galetto G, Fingerhood M. An exploration of emergency physicians' attitudes toward patients with substance use disorder. J Addict Med. 2018;12:132-135.
- Jones S, Howard L, Thornicroft G. 'Diagnostic overshadowing': worse physical health care for people with mental illness. Acta Psychiatr Scand. 2008;118:169-171.
- 21. Shefer G, Henderson C, Howard LM, et al. Diagnostic overshadowing and other challenges involved in the diagnostic process of patients with mental illness who present in emergency departments with physical symptoms – a qualitative study. In: Dekel S, ed. PLoS ONE. 2014;9:e111682.
- Schaufeli WB, Maslach C, Marek T, eds. Professional Burnout: Recent Developments in Theory and Research. New York, NY: Routledge; 2017
- National Academies of Sciences, Engineering, and Medicine;
 National Academy of Medicine; Committee on Systems Approaches

- to Improve Patient Care by Supporting Clinician Well-Being. *Taking action against clinician burnout: a systems approach to professional well-being.* Washington (DC): *National Academies Press (US)*; October 23, 2019.
- 24. Copeland D, Henry M. The relationship between workplace violence, perceptions of safety, and professional quality of life among emergency department staff members in a level 1 trauma centre. Int Emerg Nurs. 2018;39:26-32.
- Aljohani B, Burkholder J, Tran QK, et al. Workplace violence in the emergency department: a systematic review and meta-analysis. *Public Health*. 2021;196:186-197.
- Wong AH, Combellick J, Wispelwey BA, et al. The patient care paradox: an interprofessional qualitative study of agitated patient care in the emergency department. Acad Emerg Med. 2017;24:226-235.
- Plant LD, White JH. Emergency room psychiatric services: a qualitative study of nurses' experiences. Issues Ment Health Nurs. 2013;34:240-248.
- 28. Chang G, Weiss AP, Orav EJ, et al. Bottlenecks in the emergency department: the psychiatric clinicians' perspective. *Gen Hosp Psychiatry*. 2012;34:403-409.
- Fleury MJ, Grenier G, Farand L, et al. Use of emergency rooms for mental health reasons in Quebec: barriers and facilitators. Adm Policy Ment Health. 2019;46:18-33.
- Betz ME, Sullivan AF, Manton AP, et al. Knowledge, attitudes, and practices of emergency department providers in the care of suicidal patients. *Depress Anxiety*. 2013;30:1005-1012.
- De Benedictis L, Dumais A, Sieu N, et al. Staff perceptions and organizational factors as predictors of seclusion and restraint on psychiatric wards. *Psychiatr Serv.* 2011;62:484-491.
- Isbell LM, Boudreaux ED, Chimowitz H, et al. What do emergency department physicians and nurses feel? A qualitative study of emotions, triggers, regulation strategies, and effects on patient care. BMJ Qual Saf. 2020;29:1.5-2.
- Strauss AL, Corbin JM. Basics of Qualitative Research: Techniques and Procedures for Developing Grounded Theory. 2nd ed. Thousand Oaks, CA: Sage Publications; 1998.
- Birks M, Mills J. Grounded Theory: A Practical Guide. 2nd ed. Los Angeles, CA: SAGE Publications; 2015.
- Tong A, Sainsbury P, Craig J. Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups. Int J Qual Health Care. 2007;19:349-357.
- Creswell JW, Creswell JW. Qualitative Inquiry and Research Design: Choosing among Five Approaches. 3rd ed. Los Angeles, CA: SAGE Publications; 2013.
- Katz B. 2017–2018 Compensation report for emergency physicians shows steady salaries. ACEP Now. 2017. Accessed November 19, 2021. https://www.acepnow.com/article/2017-2018-compensationreport-emergency-physicians-shows-steady-salaries/
- **38.** Conway KP, Compton W, Stinson FS, et al. Lifetime comorbidity of DSM-IV mood and anxiety disorders and specific drug use disorders: results from the national epidemiologic survey on alcohol and related conditions. *J Clin Psychiatry*. 2006;67:247-258.
- Hunt GE, Malhi GS, Lai HMX, et al. Prevalence of comorbid substance use in major depressive disorder in community and clinical settings, 1990-2019: systematic review and meta-analysis. *J Affect Disord*. 2020;266:288-304.
- Hunt GE, Large MM, Cleary M, et al. Prevalence of comorbid substance use in schizophrenia spectrum disorders in community and clinical settings, 1990-2017: systematic review and meta-analysis. *Drug Alcohol Depend*. 2018;191:234-258.
- Hunt GE, Malhi GS, Cleary M, et al. Comorbidity of bipolar and substance use disorders in national surveys of general populations, 1990-2015: systematic review and meta-analysis. *J Affect Disord*. 2016;206:321-330.
- **42.** Maslach C, Jackson SE, Leiter MP. Maslach burnout inventory manual. 3rd Ed. Palo Alto, CA: Consulting Psychologists Press; 1996.

- 43. Manojlovich M, Krein SL, Kronick SL, et al. Distributed cognition and the role of nurses in diagnostic safety in the emergency department. Rockville, MD: Agency for Healthcare Research and Quality; August 2022; AHRQ Publication No. 22-0026-2-EF.
- Rayburn WF, Xierali IM, Castillo-Page L, et al. Racial and ethnic differences between obstetrician-gynecologists and other adult medical specialists. Obstet Gynecol. 2016;127:148-152.
- 45. U.S. Department of Health and Human Services, Health Resources and Services Administration, National Center for Health Workforce Analysis. 2017. Sex, race, and ethnic diversity of U.S, health occupations (2011-2015), Rockville, Maryland.
- **46.** Mezzina R, Gopikumar V, Jenkins J, et al. Social vulnerability and mental health inequalities in the "Syndemic": Call for action. *Front Psychiatry*. 2022;13:894370.
- Wong AH, Ray JM, Eixenberger C, et al. Qualitative study of patient experiences and care observations during agitation events in the emergency department: implications for systems-based practice. *BMJ Open.* 2022;12(5):e059876.
- 48. Nordstrom K, Berlin JS, Nash SS, et al. Boarding of mentally ill patients in emergency departments: American Psychiatric Association resource document. West J Emerg Med. 2019;20:690-695.
- 49. Molloy R, Brand G, Munro I, et al. Seeing the complete picture: a systematic review of mental health consumer and health professional experiences of diagnostic overshadowing. J Clin Nurs. 2021;10:1111.
- Croskerry P. The importance of cognitive errors in diagnosis and strategies to minimize them. Acad Med. 2003;78:775-780.
- Croskerry P. Clinical cognition and diagnostic error: applications of a dual process model of reasoning. Adv Health Sci Educ Theory Pract. 2009;14:27-35.
- Kovacs G, Croskerry P. Clinical decision making: an emergency medicine perspective. Acad Emerg Med. 1999;6:947-952.
- Croskerry P, Sinclair D. Emergency medicine: a practice prone to error?
 CJEM. 2001;3:271-276.
- Kane L. Medscape national physician burnout, depression & suicide report 2019. Medscape. 2019. www.medscape.com/slideshow/2019lifestyle-burnout-depression-6011056
- Shanafelt TD, Boone S, Tan L, et al. Burnout and satisfaction with work-life balance among US physicians relative to the general US population. Arch Intern Med. 2012;172:1377-1385.
- Speroni KG, Fitch T, Dawson E, et al. Incidence and cost of nurse workplace violence perpetrated by hospital patients or patient visitors. J Emerg Nurs. 2014;40:218-295.
- 57. Behnam M, Tillotson RD, Davis SM, et al. Violence in the emergency department: a national survey of emergency medicine residents and attending physicians. *J Emerg Med*. 2011;40:565-579.
- **58.** Gates DM, Ross CS, McQueen L. Violence against emergency department workers. *J Emerg Med.* 2006;31:331-337.
- 59. Stafford S, Avsar P, Nugent L, et al. What is the impact of patient violence in the emergency department on emergency nurses' intention to leave? J Nurs Manag. 2022;30:1852-1860.
- 60. Vrablik MC, Chipman AK, Rosenman ED, et al. Identification of processes that mediate the impact of workplace violence on emergency department healthcare workers in the USA: results from a qualitative study. BMJ Open. 2019;9:e031781.
- **61.** De Hert S. Burnout in healthcare workers: prevalence, impact and preventative strategies. *Local Reg Anesth.* 2020;13:171-183.
- 62. Moskop JC, Sklar DP, Geiderman JM, et al. Emergency department crowding, part 1—concept, causes, and moral consequences. *Ann Emerg Med.* 2009;53:605-611.
- 63. Hogan MF, Goldman ML. New opportunities to improve mental health crisis systems. *Psychiatr Serv.* 2021;72:169-173.
- 64. Kraft CM, Morea P, Teresi B, et al. Characteristics, clinical care, and disposition barriers for mental health patients boarding in the emergency department. *Am J Emerg Med.* 2021;46: 550-555.

- Pearlmutter MD, Dwyer KH, Burke LG, et al. Analysis of emergency department length of stay for mental health patients at ten Massachusetts emergency departments. Ann Emerg Med. 2017;70:193-202.
- Smith CD, Balatbat C, Corbridge S, et al. Implementing optimal team-based care to reduce clinician burnout. Washington, DC: NAM Perspectives. Discussion Paper, National Academy of Medicine; 2018.
- Manser T. Teamwork and patient safety in dynamic domains of healthcare: a review of the literature. Acta Anaesthesiol Scand. 2009;53:143-151.
- 68. Morey JC, Simon R, Jay GD, et al. Error reduction and performance improvement in the emergency department through formal teamwork training: evaluation results of the MedTeams project. *Health Serv Res.* 2002;37:1553-1581.

- 69. Hall A, McKenna B, Dearie V, et al. Educating emergency department nurses about trauma informed care for people presenting with mental health crisis: a pilot study. BMC Nurs. 2016;15:21.
- Molloy L, Fields L, Trostian B, et al. Trauma-informed care for people presenting to the emergency department with mental health issues. *Emerg Nurse*. 2020;28:30-35.
- Geiss M, Chamberlain J, Weaver T, et al. Diagnostic overshadowing of the psychiatric population in the emergency department: physiological factors identified for an early warning system. J Am Psychiatr Nurses Assoc. 2018;24:327-331.
- Graber ML, Kissam S, Payne VL, et al. Cognitive interventions to reduce diagnostic error: a narrative review. BMJ Qual Saf. 2012;21:535-557.
- Liu G, Chimowitz H, Isbell LM. Affective influences on clinical reasoning and diagnosis: insights from social psychology and new research opportunities. *Diagnosis (Berl)*. 2022;9:295-305.

IMAGES IN EMERGENCY MEDICINE

(continued from p. 678)

DIAGNOSIS:

Sternum fracture. Plain radiography revealed a suspicious mild depression fracture of the sternum. Point-of-care ultrasound imaging, using a high-frequency linear transducer at the site of pain, showed a discontinuous outline of the sternum. A chest computed tomography (Figure 3) image was obtained for confirmation of the diagnosis and to detect possible concomitant associate injuries, such as great vessel disruption, cardiac contusion, and pulmonary contusion.

Sternum fracture is characterized by chest pain, which worsens with deep inspiration and shortness of breath. Motor vehicle crashes are the leading cause of sternum fracture, typically due to hitting the steering wheel without an airbag. ^{1,2} Conventional chest radiography has variable diagnosis accuracy, and most sternal fractures may be missed by chest radiography alone. ³ The point-of-care ultrasound can be considered a useful technique in identifying sternum fractures. ⁴

Author affiliations: From the Department of Emergency Medicine (Chiu, Lee, and Liu), Chi Mei Medical Center, Tainan, Taiwan; the Department of Environmental and Occupational Health (Liu), College of Medicine, National Cheng Kung University, Tainan, Taiwan.

REFERENCES

- 1. Oyetunji TA, Jackson HT, Obirieze AC, et al. Associated injuries in traumatic sternal fractures: a review of the National Trauma Data Bank. *Am Surg.* 2013;79:702-705.
- 2. Knobloch K, Wagner S, Haasper C, et al. Sternal fractures occur most often in old cars to seat-belted drivers without any airbag often with concomitant spinal injuries: clinical findings and technical collision variables among 42,055 crash victims. *Ann Thorac Surg.* 2006;82:444-450.
- 3. Perez MR, Rodriguez RM, Baumann BM, et al. Sternal fracture in the age of pan-scan. Injury. 2015;46:1324-1327.
- 4. You JS, Chung YE, Kim D, et al. Role of sonography in the emergency room to diagnose sternal fractures. J Clin Ultrasound. 2010;38:135-137.