SUPPLEMENTARY DOCUMENT

INTERVIEW TOPIC GUIDE

All interviews explored the topics listed in bold below. Given the semi-structured nature of the interviews, the ways that specific questions were phrased varied across interviews but always elicited comparable information. In accordance with the tenets of Grounded Theory research, as new topics emerged during interviews, participants were asked additional, follow-up questions to allow us to explore these topics in greater depth.

Listed below each topic are representative questions. Follow-up questions and prompts were added as needed.

- **Professional background and experience**
  - Tell me about yourself.
  - How long have you been working in Emergency Medicine and in what capacities?
  - Could you tell me a bit about your current role?
- **Diagnostic and broader challenges in the Emergency Department (ED)**
  - What are some of the challenges that you experience when diagnosing or treating patients in the ED?
  - Reflecting on your own experiences and what you've observed in the ED, what do you see as some of the biggest challenges?
  - Could you help me understand how the challenges you described might be unique to Emergency Medicine?
- **Emotions experienced by providers in the Emergency Department (ED) and the causes of emotions**
  - What emotions have you typically experienced when you're working in the ED?
  - What leads you to experience each of these emotions? [Please provide examples.]
  - How often do you experience [emotions mentioned]?
- **Perceptions of emotional influences on patient care and clinical decision-making**
  - Do you think your emotions affect the way you interact with patients? How?
  - What role [if any] do you feel emotions play in your diagnostic process?
  - More broadly, how do you think providers' emotions influence healthcare delivery and decision-making in Emergency Medicine?
- **Strategies to manage emotions**
  - In emotional situations, how do you manage your emotions?
  - When you're shifting from one patient to the next, how do you make that transition? Do you think your emotions from a previous case can carry over into the next?

  - Do you use any strategies to decrease the likelihood that emotions will influence your clinical reasoning and decision-making? [Please tell me about these strategies.]

- **Challenges in caring for vulnerable populations [transition to their effects (if any) on provider emotions]**

  - What is your experience like when treating patients with [mental health issues, substance use, opioid addictions]? What emotions do you experience when treating these patients? Is this challenging for you? [If so, in what ways?]
  - Do you think providers approach behavioral health patients differently than other patients? [How? Why?]
  - Do you think there are any kind of preconceived notions about this population? [What are they? How do you think this might affect patient care and diagnosis?]

- **Hospital and system level issues [transition to their effects (if any) on provider emotions]**

  - Do you encounter any system-level, legal, or societal challenges to diagnosis, treatment, or providing care in the ED? [If so, what are they?]
  - Do these barriers influence your emotions? [If so, in what ways?]

- **Invitation to discuss anything else**

ADDITIONAL METHODOLOGICAL DETAILS

Constant comparative analysis [CCA] seeks to identify ideas, relationships, or processes central to the phenomenon being studied through rigorous analysis (Strauss & Corbin, 1998). Following standard CCA convention, we began analyzing data concurrently with its collection. We first sorted our data into broad categories using an open coding process that assigns labels to data using terms that make sense in the study context. Examples of open codes from our study included: unrealistic patient expectations, patient entitlement, and specific patient populations that providers often identified as particularly challenging (e.g., patients with mental health or substance use issues). Open codes were then utilized to support the construction of axial codes, which combine open codes to create larger groupings of similar data. An example of an axial code from our study was patient-level factors, which combined the open codes noted above as well as several other patient behaviors that Emergency Department (ED) providers perceived as emotionally triggering. We continued to refine open and axial codes as we collected more data and compared our analysis across transcripts—allowing us to continuously test the accuracy of coding with new data. This repetitive analysis of data has the effect of constantly comparing each piece of study data to every other piece and improves analytic rigor. As this process continued, we began to develop selective codes where we saw linkages among open and axial codes that could be explained via a theoretical proposition consistent with our data. For example, a selective code from our analysis linked patient-, hospital-, and systems-level factors with patterns of emotional response among ED providers. We then converted these selective codes into themes, which appear in our findings as the three statements that serve to organize that section. The example developed throughout this section eventually became our first theme: Providers' Emotions Are Triggered by Patient, Hospital, and System Factors.

Table S1. Patient, Hospital, and System-Level Triggers of Emotion for Providers (Representative Quotes)

A. PATIENT FACTORS
Patient Expectations / Lack of Public Understanding of ED [Emergency Department] Purpose
There's a convenience thing about the emergency room...You can walk in, you're going to be seen…there are a large minority of patients, (who) want answers and actions done here and now, and it's not always something that we can do or accommodate. (physician 2) I want to write a handbook and kind of just educate the public cause the mis-utilization of an emergency room is very frustrating to me. It's frustrating to all my co-workers and it leads to frustration to patients. And the patients are frustrated. I'm like "well you're the one mis-utilizing us." (nurse 85) In the ER [emergency room], we truly... not to sound callous, we don't care about that stuff, you know? And I think, it's kind of hard for the public to understand that too. When they come in for chest pain and I figure out it's not a heart attack, they wanna know what is it. And it's really not my gig to know what it is, it's to tell you what's not going on. … I think there's not enough public education, too, that's of what our real function is. You know, they think they're- I think a lot of people see the ER as immediate care and not emergent care, when all we're truly are looking for is an emergency and not here to immediately care for your hang nail or whatever. So I think, because of that disconnect, there is a lot of discontent sometimes from the public with what we do … (physician 57) I said so what was going on tonight? He said "well I just, you know, I just- it's been going on. I just, I just wanted it evaluated. I said "well did you, did you contact your PCP [primary care physician]? Your primary physician?" He said, he said "No, why would I do that? I mean it's not like it's an emergency or anything. He's really busy. I mean he really, honest to god, he said, he's really busy! It's not like this is an emergency" and I just kind of, shrugged my shoulders… So, so people honestly do, of course they think, they think of it as a, as a 24-hour convenience drop-in center… (physician 78) [Patient said] "There's nothing wrong, I just need a second opinion or a third opinion. And here's my stack of records, and here's my MRIs. And I just want you to call a nurse or to come and look at my neck and tell me-- and maybe get me in the operating room and fix it." And I'm like, listen, like-- I think maybe you have a total misperception of like, you know, of what the expectation is of what we can and can't do here. But, like there's no way. And it's like, and clearly I'm busy. So then my emotion is like, really annoyed and irritated. And almost angry. Like how could you not like see that there's this other woman who's, like, almost dying…. (physician 23)
Patient Entitlement and Demanding / Challenging Behaviors
They, you know, almost treat you like a servant. And if they don't get things right away, then, then they're almost like, "What are you doing?" Like, "Why is it taking you so long?" Even though they can see you running around and dealing with like fifteen other people... (nurse 25)

I think patients who are trying to get a secondary gain from their visit, whether its pain medication, work notes, disability, trying to use you to get something that is not truly an emergency while you're actually trying to help people can be quite frustrating. (physician 58) You wanna just be like, “Can't you see this person is dying and we're trying to save her life?” Like, and can't you see that there's nothing wrong with you other than this chronic problem? That's what you wanna say. And that you shouldn't even be here in the ER [emergency room]. But you can't. So you sit down, and internalize everything, and you just take a deep breath, and you smile, and you sit there and you say, "Please tell me what's going on. What's different today? I'm so glad you came in, thank you." (physician 23) A lot of people are selfish…. And they see that their emergency is the biggest emergency. (nurse 25) … when people are clearly just being mean, just being nasty and spit and hit and kick and swear and demand things, it- it's frustrating and it's frustrating that, you know, we go through years and years of training and spend hundreds of thousands of dollars on education and are trying to do the best we can to take care of people and they're calling you really nasty names and demanding that you give them narcotics and throwing things at you ... Because we're all human and that just at some point, you know, at some point you're like I don't want to take care of you anymore. (physician 64)
Specific Patient Populations
Our frequent fliers that either they just like the attention of being in the ED [Emergency Department] or they need to come here for some sort of a fix. That population is definitely a challenge and easily irritating (nurse 46) … [patients] most likely to engender frustration, I think you know I've mentioned patients with substance abuse not necessarily because they're substance abuse, but because it alters their system and how they interact with people (physician 10) And it's a taxing job, you have people- you are running around crazy which is fine which is the part of the job that we like, but psychologically it takes a toll on you because you have the psych patient who’s on a Section 12 swearing at you, and calling you names. Which no matter how much you brush it off, beats you down. (nurse 37)
Positive Patient Interactions
When there's a sick patient that comes in and you're able to help them and-- or even if they're not sick, but they're appreciative, and they need-- they look at you for guidance and you're there to help them. And you, like, you know, they're anxious. You hold their hand, and they trust you. Cause there's-- it happens a lot with the nurses, I think, you know, the doctors come in the room and the nurse is standing there and they look to you and they want to hold your hand and they're comforted by you and that makes me feel like, this is why I do what I do (nurse 80)

Patient Outcomes
And of course we all make errors as you know and the, you're always balancing the fear of missing something and you know, we've all made mistakes and had devastating outcomes from it. You know people died because I didn't see, I didn't make a right diagnosis. And so that weighs heavily (physician 12)
B. HOSPITAL FACTORS
Staff (Consultants, Communication, Teamwork)
…consultants being a jerk. When you call the neurosurgeon at 2 in the morning and then he asks you to apologize to his wife for waking him up for the patient that clearly has an emergency-- That's the kind of stuff that most of us have not gotten past that I think still get pretty mad about … (physician 52) … dealing with frustrations of getting a patient admitted, it's because a consultant could take so much energy from you that you're not taking care of other people who are more sick and that in itself affects your decision making and your ability to take care of people and you're just like so exhausted from it and there's- it's like- I don't know what the solution is to that but I would definitely say that patients or interactions of their callings can be like, so draining and it happens often and like you often do the path of least resistance which is not the right path, just to not go through the emotional ringer for two hours with somebody else. (physician 66) The physicians - and I'm not - you know, I love a lot of them, I love most of them, but like the physician to nurse communication is not the greatest… (nurse 20) As far as nurses for anger wise, the things that get me going are like the people that don't pull their own weight. You're just like, "Really? I'm struggling over here. I'm doing this, and you're like not helping at all, or you're not seeing that I'm struggling, and you're giving me my sixth patient or whatever. (nurse 35) [Positive Emotion]. So in the ER [emergency room] I would actually say communication is one of strengths...we are close-working with our physicians and our respiratory therapists and our PCT's [patient care technician] like all the time. We are just, we're always like around each other and able to communicate. So I think that communication with our team is pretty strong. (nurse 44)
Hospital Resources
… we're understaffed a lot at night. Which makes it hard because we, you know, we're less busy, but we are still busy. So that becomes a struggle too because we are all kind of taking too many patients and then that turns into an unsafe situation for everybody. (nurse 36) I think one of the main challenges, particularly from the community would be sort of even, sort of having the resources to make the diagnosis. So for example, an MRI [magnetic resonance imaging] availability, or an ultrasound availability, having even the lab tests. So at our site, a lot of labs we have to actually send (out to) actually get run in which case they aren't going to be back in relevant amount of time. (physician 53)

I've had patients for like, you know, after they've been waiting for a bed for nine hours. And this is just from when the bed request was put in, not from when they came in the door. So the patient could have been here for ten hours and then, when they put the bed request in, they could be waiting another ten hours. So they're down here for twenty hours. So, you come into the ED [emergency department] where our resources are limited, like we have minimal amounts of food and snacks and- just because people aren't meant to camp out here. (nurse 25)

Example would be in the winter when there's a huge you know, viral season. Flu, cold, uhm that, you, if you were ever, anyone who's ever worked in the emergency department in the winter will notice that that has a significant amount of increase population. And the resources that we have, they don't go up! because of the winter. But we might have increasing you know, swabs for flu but that's about it. We don't have increase in nurses, there's not increase in lab techs to run all the flu swabs, there's not increasing x-ray techs for all the x-rays we order for chest x-rays. So that comes in the kind of surge, the problem is, is not that we can't handle it but it takes away from the resources from other people who are actually truly sick, I believe. (physician 38)

C. SYSTEM-LEVEL FACTORS

Overcrowding and Boarding (i.e., when patients who are admitted or awaiting transfer to another hospital or care facility remain in the Emergency Department [ED] until inpatient beds become available)

…things are increasingly busy, the number of patients that you're expected to see in a given shift and the acuity of those patients is exponentially higher than it was when I even started. (physician 16)

… And I will tell you (high patient volume is) dangerous. I've worked dangerously in another institution where I was seeing 64 patients in an 8 hour shift with residents, okay? I-- that gave me maybe 3 minutes to talk to a patient, make sure the resident wasn't about to kill them, and then working from there. That is not realistic. That's not good medicine. (physician 61)

The boarded patients are internal medicine patients, or on other services. They're not emergency department patients anymore, but we are responsible for them, and that just increases our census. And it increases our task shifting, and it changes our cognitive burden, and the nurses aren't trained to do necessarily like all of the inpatient things, and they're not staffed to do all of the inpatient things, and the ED [emergency department] physicians aren't staffed to do all of the inpatient things, and so that's very difficult. So it's, you know, time, resources, other staff, and that, that just kind of depletes your time and depletes your expertise and there's not enough cognitive offloading that can happen because you don't have the inpatient teams or all those other sorts of things that are supposed to be backing you up. (physician 29)

And it can be really frustrating because then when people are waiting in the waiting room and you see them hours later and you realize how sick they've been. Those beds just aren't available, it can be really frustrating and make me feel like I'm not quite doing what I would

want to have done for my family members which is the way I like to practice medicine. It's... having been at multiple institutions now over the course of residency and fellowship, it seems to be the same problem everywhere. (physician 18)
Lack of Community Resources
…a couple that came in who basically got gas lighted six different times by outside resources being like "Go to this person, go to this person" and then they're like you know what, go to the emergency room. And it was for housing, truly. It was for housing. They were homeless and they wanted to not be homeless anymore. (nurse 85) …then there are always the people who are kind of neglected by society. I don't get angry, it's just more kind of emotional. You're getting neglected by society and it's, you know it's hard, there nothing you can do, help, it's just a band aid in the emergency department (physician 38) … it's not their fault in many cases, they don't get the- they shouldn't be in the emergency department to begin with. They should, this should be, you know, followed in the community. But there are just no resources for them so as a result they end up in the emergency department but I feel like it sometimes, sometimes, it sometime takes away from the patients who truly need the care, the most, the medical care the most. (nurse 42) Like there's patients who use the ER [emergency room] for their primary care doctor and so therefore they come for like, sore throat and ear pain and like simple things and then there's people who use it for- because they have nowhere else to go and so they're the marginalized people at the fringes of healthcare (physician 66) … all these societal issues, you know the demented patient who's a long term resident of a nursing home who becomes more agitated and the nursing home says "Well we can no longer manage Miss Jones, send her to the emergency department. We're not taking her back, so you need to find a better place for her." (physician 78) … a lot of patients not having, which is a national problem, patients not having insurance and we're their safety net. We're their PCP [primary care physician], we're their surgeons, we're their counselors. You know there's a lot of counseling that happens in the ED [emergency department] as well with patients coming in with, "Hey, I'm an alcoholic, I just drank a lot. Now I wish to have detox, help, I'm here,". And you know that is something I feel like should not be bogging me down as an ER [emergency room] physician when I'm taking care of a heart attack patient down the hallway. But, I still have to see them, and, you know, just kind of delegate and use our resources and really kind of, you know, make something happen out of nothing... (physician 71)
Federal Requirements / Regulations
… that's absolutely a frustration. When you think about, you have a federal mandate that's unfunded who anybody can walk in to, for any sort of help, literally, any sort of help "My fingernail is broken; could you help me?" I've seen that before to where people in cardiac arrest and people coming in, I'm sure if you had, I'm sure there's going to be the extreme

secondary gainers but I think if you say, set up a, enough beds for people to sleep in the winter? People won't have to come into the ER [emergency room] in some sort of way. Maybe set up in the soup kitchens for people, food stamps to help these people, you're not gonna take up the ER [emergency room] beds, for the most part. … But, if you have the resources provided by whoever, the state, local government, or the government itself. I am confident to say that that would not, that would help you know, some of the crowding in the ED [emergency department] for sure. Am I expected that's going to happen? No. Looking at the current situation or even the past decades right? People were cutting services, social services… (physician 38)

… so a lot of these bad outcomes are absolutely predictable. Could have been put into models and predicted that this is what's gonna happen. You're gonna have people die in waiting rooms. Because there's just not enough. What are some of the solutions? Preventative care. No, that costs money. We don't want to spend time on that. It's easier to just throw it and blame it on the ED [emergency department] and make it an unfunded mandate. EMTALA [The Emergency Medicine Treatment and Labor Act], unfunded mandate… (physician 61)

Table S2. Direct and Indirect Effects of Emotions on Patient Care (Representative Quotes)

A. DIRECT EFFECTS (on clinical exam, testing, time with patient)
The more you go through those emotions, you're going to just kinda get fried and then put up that wall and then, like I said, towards the end of that shift...you're not thinking or listening...you know, the accumulation of emotional ups and downs and then the burnout level definitely contributes to diagnostic error. (physician 59)
If you are irritated with somebody I think on a human nature level you're less apt to, to do that one extra step and if you're busy. As nurses you, you really - it's important to sit back and do the critical thinking and think "Okay, so the labs are showing me this, the patient vital signs are this, his physical assessment is this." Trying to figure out, taking some time to try to critically think and figure out what's going on. Whether we want to admit it or not, I think that doesn't happen to the strongest degree, if the emotions associated with that patient are negative. (nurse 46)
I mean, if a patient's frustrating or annoying, you don't want to- you won't go in the room as often, you know? Which could obviously be a detriment to them, you know. You're just less connected to them. You're less, I don't know, I don't know that you listen to them less… you listen to them in a different way. You know, when they say things or complain or something, it's like well they're just complaining versus, I mean it's an inherent bias that I think everybody has. (nurse 15)
I think that the people that are belligerent and not the kindest definitely kind of get more, um, I would say like selective negligence. And, um, you know, obviously the nicer patients, people want to be in their room. (nurse 3)
[Positive Effect]. The honest and embarrassing response to that is that I'm much more likely to go back and check on (the patient being kind) because I had a positive interaction and I want to make sure they're doing okay. So, I check back on them at least a couple of times, you know "how are you feeling after the pain medicine?" If somebody is a jerk to me, I'm probably going to stay away from their room. (physician 52)
B. INDIRECT EFFECTS (carryover of emotions across patients / situations, provider well-being)
I think there's a little bit of- there's only so much one person can take … can you actually leave your stuff at the door? Like leave your personal life, and I tell this to the fellows; I give them a work life balance lecture. And I tell them, I'm like check your personal issues at the door when you come into a shift. Don't bring them to work and don't bring your work issues home. So you can decompress your day, 'cause you have to decompress your day. But you don't want to necessarily sit and dwell and you don't want to take out your work frustrations on the people at home. I think when that all leads, that that leads to burnout; if you're bringing all the frustration here home and letting it out on a whole other group of people that had nothing to do with it, or you've got frustrating stuff going on at home and you're letting it out here. Then I think you start to get into issues of, you don't have good boundaries, you don't have a good place to be and then you're in a situation of there's nowhere to go. (physician 60)

It's almost impossible to see something horrible and go... be affected by it and go right back to work. You know, it's almost impossible. And we had an event like that here recently, where it was a traumatic event and we had to send the primary nurse home. And I totally understand because I wish somebody had sent me home that day. You know, like, so I totally understand because she was not in a place to work after what was witnessed. (nurse 83)