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Jacob B. Klaus April 9, 2021

Beyond the Lights and Sirens:
The Challenges Reported by Paramedics about Responding to 911 Behavioral Health Emergencies

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Abstract

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By Jacob Klaus

Background: Behavioral health (BH) emergencies are one of the most common 911 complaints addressed by EMTs and paramedics in the United States. The structure of the mental healthcare system and socioeconomic barriers often result in underlying psychiatric needs going unmet. With limited access to formal healthcare, many in this patient population rely on 911 and Emergency Medical Services (EMS) as their entry point into the healthcare system. Yet, this trend has garnered minimal attention in the academic literature.

Objective: This exploratory study investigates the perspectives of EMTs and paramedics about their experiences responding to 911 BH emergencies.

Methods: A total of twelve (N=12) semi-structured interviews were conducted with Atlanta-area EMTs and paramedics between October 2020 and January 2021. Responses were analyzed using Grounded Theory and these data were examined for emerging themes.

Results: Participant interviews revealed that (1) BH emergencies are routinely encountered in EMS, (2) EMTs and paramedics view BH emergencies as often challenging and frustrating, (3) the EMS industry provides inadequate mental health training despite the high frequency of BH calls, (3) BH emergencies are challenging for EMS providers, (4) participants do not view the frequent use of ambulances as necessary or efficient for the majority of BH emergencies, (5) medically unwarranted use of chemical sedations for BH patients appears to be pervasive in EMS, and (6) EMS providers overwhelmingly support the presence of law enforcement on BH calls.

Discussion and Conclusion: EMTs and paramedics viewed the high reliance on EMS to manage BH emergencies as an inefficient use of pre-hospital resources and not in patients' best medical interests. Additional findings including the perceived over-use of chemical sedation for BH patients and inadequate mental health training suggests the need for additional attention to the aspect of the public health sector. The perspectives of EMS providers who have first-hand experience with these situations should be considered as the public and various legislative bodies favor reimagining public safety's approach to responding to BH emergencies.

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Introduction

Emergency Medical Services (EMS) in the United States

In the United States, members of the public can request an ambulance by dialing 911. Emergency Medical Technicians (EMTs) and paramedics often work together on ambulances and treat a wide range of critical and time-sensitive medical emergencies. Although operations and the scope of practice of Emergency Medical Services (EMS) vary state-by-state, most ambulance services in the United States follow similar guidelines.

Basic Life Support (BLS) ambulances are staffed by EMTs and are often the 911 resource-of-choice to send to medical calls where it is not anticipated that the patient will require the attention of a more advanced provider. In 2013, the National Registry of Emergency Medical Technicians established an *Advanced EMT* (or "AEMT") certification level which expands on the Scope of Practice of the EMT with the addition of more invasive procedures such as intravenous (IV) access, advanced airway management, and an increased medications scope (National Association of State EMS Officials, 2019). Although BLS units are often selectively assigned to non-critical 911 calls, limited ambulance availability and inaccurate 911-caller information often results in BLS crews being assigned to critical medical emergencies.

In most parts of the United States, Advanced Life Support (ALS) ambulances must be staffed by at least one *paramedic*–the most advanced level of EMS provider in the majority of agencies. Paramedics specialize in more invasive patient assessments and treatment options such as electrocardiogram (ECG) interpretation, intubation, and pharmaceutical interventions such as chemical sedation. Paramedic training is much more extensive than that for EMTs, averaging 24 months versus 6-8 months, respectively (Bureau of Labor Statistics, 2020).

Although EMTs and Paramedics train heavily to manage time sensitive medical emergencies, these "critical calls" make up a minority of the total 911 EMS call volume. Although data of United States EMS call severity is not readily aggregated, analyses of European ambulance services report that only approximately 10% of EMS calls are for severely sick or injured people (Brady, 2012; Duncan et al., 2019). One possible reason for the absence of this statistic is that "non-critical call" is not an agreed upon term within the United States EMS industry.

A behavioral health (BH) emergency was the fifth-most common EMS provider impression in 2019. Although 8% (n=1,758,563) of provider field impressions included in this dataset were behavioral or psychiatric in nature, only 4% (n=925,779) of these dispatches were categorized as BH-related. This finding suggests that EMTs and paramedics were more likely to interpret a call as being BH-related after encountering a patient. The difference between original dispatcher designation and on-scene provider finding suggests that EMTs and paramedics encounter BH emergencies more frequently than other aspects of the 911 system would suggest. To gain a more accurate perspective about trends in 911 resource utilization for BH emergencies, the perspectives of EMTs and paramedics must be accounted for (NEMSIS, 2020).

In San Diego County, California, psychiatric complaints were the most common chief complaint encountered by EMS personnel each year between 1999 and 2004 (Pasic et al., 2005). Further, mental health patients are more than twice as likely to arrive at the hospital by ambulance than other patients, suggesting that this patient population has an increased reliance on EMS as an entryway into the healthcare system (Larkin et al., 2005; Larkin et al., 2006). Despite the magnitude of BH-related EMS calls, the perspectives of EMTs and paramedics about this trend are vastly unaccounted for with a particular underrepresentation of academic attention emerging from the United States (Keefe et al., 2020; Shaban, 2005, 2015). The lack of existing literature on

this subject may be due to an assumption that BH patients are not real patients requiring medical attention, exemplified by how popular media often presents the reliance on EMS by this population as "abuse" of the 911 system (Ford-Jones & Chaufan, 2017). Trends in 911 utilization for BH emergencies must be viewed as a matter of public health and should be investigated more closely within the context of EMS. The experiences of EMTs and paramedics extend beyond the walls of the hospital which may illuminate inefficiencies in an increasingly complex healthcare system to find ways to better deliver mental healthcare to at-need patient populations.

Deinstitutionalization of U.S. Mental Healthcare

The structure of present-day mental healthcare in the United States was largely shaped by legislation during the Kennedy administration. For decades leading up to John F. Kennedy's presidency, mental health institutions and asylums were increasingly criticized for their non-therapeutic management of patients with psychiatric, intellectual, and developmental disabilities. The institutions that housed this community were often overcrowded, resulting in inhumane living conditions (Carpenter & Davis, 2012). The actions of the Kennedy administration set in motion new legislation that sought to reduce the number of people in the custody of state-run asylums and mental health institutions with the intention of introducing a new model of community-based mental healthcare in the United States in the years that followed (Harcourt, 2011). Signed into law in 1963, the *Community Mental Health Centers Act* sought to replace asylums with a model that would have psychiatric patients receive mental healthcare and social support through a network of outpatient resources embedded within the community. Between 1955 and 2000, the state-run mental health hospital population decreased by over 90% (from 558,000 to 55,000) (Harcourt, 2011) (Harcourt, 2011). The programs set into motion during the Kennedy presidency were ultimately repealed by the Nixon and the Reagan administrations (Humphreys & Rappaport,

1993). As a result, social programs that were meant to capture those previously residing in state-run psychiatric institutions never materialized, leaving hundreds of thousands of people with mental illnesses, intellectual, and developmental disabilities without accessible healthcare, housing, employment, and other forms of social support.

This drastic decline in mental health institution occupancy was aided by the development and distribution of psychiatric medications such as chlorpromazine (commonly branded as Thorazine and Largactil). This new antipsychotic was valued for its ability to mask the symptoms of psychiatric patients previously viewed as incurable. Although chlorpromazine had early indications for its use to manage the symptoms of schizophrenia, it gained popularity for its tranquilization effect of many chronically agitated and manic patients (Carpenter & Davis, 2012).

The introduction of this new class of medication had broader social consequences. One, the formulation of new drugs reframed the issue of psychiatric symptoms as a problem that was medicalized for which a pill was the answer. Two, the popularization of chlorpromazine allowed for a wave of people previously housed in state-run mental hospitals and asylums to be moved into communities that did not have the resources needed to adequately provide for their clinical, social, psychological needs (Carpenter & Davis, 2012).

The policies of deinstitutionalization that reduced the number of state-run mental health facilities are often cited as a major contributing factor for the high rates of utilization by mental health patients of hospital emergency departments (EDs) and other emergency resources (Pasic et al., 2005). Multiple studies have reported that a mental health diagnosis was one of the strongest predictors of repeat ED visits (Niedzwiecki et al., 2018). Mental health problems are observed more frequently when someone is experiencing homelessness, living in poverty, or is currently unemployed and lacking reliable health insurance (Ford-Jones & Chaufan, 2017; Gruebner et al.,

2017). A lack of economic resources may exacerbate underlying mental health conditions due to an inability to afford and properly coordinate routine psychiatric care. As symptoms of mental illness go untreated, one's ability to coordinate care for themselves may be significantly impeded. With unmet medical and social needs, EMS and hospital EDs may be the only remaining accessible community resource for these individuals.

Trends in Emergency Department Usage by Behavioral Health Patients

Hospital EDs are increasingly being utilized to treat BH and substance abuse patients (Kalb et al., 2019; Larkin et al., 2005; Nicks & Manthey, 2012; Nordstrom et al., 2019). ED usage is higher among populations that historically have had difficulties accessing other forms of medical care such as the poor, underinsured, and uninsured (Meisel et al., 2011). Patients with psychiatric and substance abuse complaints are resorting to EDs for medical care at increasing rates. Nationally, between 1992 and 2000, there was a 15% increase in the number psychiatric visits at pediatric EDs (Pasic et al., 2005); between 2011 and 2015, the total increase was 28% (Kalb et al., 2019). Meanwhile, in the U.S. state of Georgia, the rate of ED visits for "Mental and Behavioral Disorders" per 100,000 population in DeKalb and Fulton counties increased from 1,035 to 2,691 between 2002 and 2019 (Figure 1) (Georgia Department of Public Health, 2020).

The increasing utilization of EDs for BH-related care has garnered increased attention from academics, healthcare providers, and hospital administrators. Despite this increasing utilization, most EDs are designed to treat acute medical or traumatic complications, and so are not structured to provide long-term or acute psychiatric care (Kalb et al., 2019). Since the care delivered in the ED often is not designed to promote long-term psychiatric recovery, many of the BH patients that arrive at EDs have their underlying mental health needs go unmet, leading to a continued cycle of discharge and re-admission. Many psychiatric medications require an extended period of time–

often weeks–to begin to work and those with limited economic resources may be unable to remain compliant with these medications. With psychiatric needs unmet, BH patients may repeatedly arrive at EDs for similar issues.

An American College of Emergency Physicians (ACEP) survey noted that 79% of ED directors report having to "board" psychiatric patients–the practice of continuing to keep a patient in the ED well after the course of their medical treatment is complete. When ED physicians are confronted with patients whose psychiatric symptoms make it unsafe for them to be traditionally discharged, a lack of available beds at local psychiatric facilities often requires EDs to continue to house BH for extended periods of time. Despite this prolonged delay, 62% of those boarded received no mental healthcare during their time in the ED (Nordstrom et al., 2019).

The care received by BH patients in EDs is often minimally effective and strains the larger hospital system. On average, BH ED visits take 42% longer than those for non-psychiatric patients (Nordstrom et al., 2019). This trend contributes to ED overcrowding, increased hospital wait times, delays experienced by ambulance crews that must remain out-of-service until a new room becomes available, and increased frustration for both ED and pre-hospital providers (Larkin et al., 2005; Nordstrom et al., 2019). Despite its limited ability to address the BH needs of patients, people continue to gravitate towards hospital EDs for medical care in the absence of more appropriate mental health resources such as easily accessible outpatient psychiatric facilities and other support systems embedded within the community.

Hospital Emergency Department Over-usage

EMS and hospital EDs alike are seen as a social safety net that provide non-urgent medical care for underserved populations– particularly those with unmet BH needs. Inappropriate ED visits are of growing concern among both academia and hospital administrations. Multiple studies have

suggested that frequent ED users (i.e., patients who refer themselves to EDs multiple times within a narrow time period) use a disproportionate amount of ED resources (Niedzwiecki et al., 2018; Pasic et al., 2005). One study found that 4%-8% of ED patients account for 18%-30% of total ED visits. Of these users, approximately 50% had an underlying mental health condition (Niedzwiecki et al., 2018).

Frequent ED users account for a disproportionate amount of total ED expenditure. It is estimated that unnecessary ED usage accrues an estimated cost of $4.4 billion annually (Weinick et al., 2010). It is generally thought that non-urgent medical complaints, such as minor illnesses and injuries, are better managed by physician's offices and urgent care clinics since diverting these medical complaints towards other resources would (1) allow patients with non-urgent medical needs to receive care faster, (2) free-up ED hospital beds leading to reduced ED wait times, and (3) allow non-urgent medical complaints to be addressed in a clinical setting that may be able to charge less than EDs for comparable medical treatment (Weinick et al., 2010). A 2013 metanalysis of ED usage in the United States reported that 37% of visits to hospital emergency rooms were deemed "non-urgent." Variations in this statistic exist, such as the findings of the National Hospital Ambulatory Medical Survey's report (<10%), however, discrepancies like these are likely due to variations in a "non-urgent medical complaint" definition (Uscher-Pines et al., 2013).

Ambulance Utilization Among Behavioral Health Patients

Rates of ambulance utilization are often highest among individuals with the lowest likelihood to be able to pay for care (Meisel et al., 2011). This trend is likely fueled by the Emergency Medical Treatment and Active Labor Act (EMTALA), a federal law which requires most hospital EDs to evaluate every patient that presents to their facility regardless of health insurance status or ability to pay medical bills (Hermer, 2006). Although not required by

EMTALA, ambulances generally do not factor in ability to pay for treatment and transport to the hospital, thus making EMS an easily accessible social safety net for those who cannot afford to secure healthcare by other means (Meisel et al., 2011) Additionally, ambulance rides are covered by Medicare and Medicaid and in many urban areas, these copays are often absent or near-zero, further elevating the desirability of ambulances use for those with limited financial resources (Kitch, 2020; Meisel et al., 2011).

As a specialty within the field in of emergency medicine, EMS is underrepresented in the academic literature. Between 1997 and 2003, 31% of BH patients arrived at EDs by ambulance– more than double the rate for all patients (31% vs. 14%) (Larkin et al., 2005). This data suggests that this patient population displays an increased reliance on EMS. The majority of studies that have investigated the paramedics' involvement on behavioral health calls have emerged from a limited body of literature from Australia. Findings from these studies include that Australian paramedics report (1) a lack of behavioral health training, (2), a high mental health call volume within EMS, and (3) a need for a restructuring of EMS's response to mental health patients (Keefe et al., 2020; McCann et al., 2018; Roberts, 2009; Shaban, 2015). One study reported that EMS providers view behavioral health calls as lower priority than calls of a non-psychogenic origin (Roberts, 2009). Another study emphasized that paramedics often report that behavioral health patients who call ambulances divert resources away from "real" medical emergencies that should be the primary focus of EMS (McCann et al., 2018).

Australia's similar EMS system and mental health call volume allows for inferences about similar trends that may exists in the United States (Roggenkamp et al., 2018), however, differences in legislation, societal viewpoints, and history surrounding mental healthcare limit the generalizability of these Australian findings.

Methods

This study was completed in conjunction with the Emory College of Arts and Sciences honors program and was authorized for exempt review by the Emory Institutional Review Board (IRB). This study received supplemental funding through an Emory University Program to Enhance Research and Scholarship (PERS) grant received by Dr. Jennifer Sarrett for a comparable study.

Eligibility requirements included that participants were (1) currently working in Atlanta-area with a 911-based EMS service, (2) had more than one year of EMS experience in the area, and (3) were 18-years of age or older. Study participants were recruited through a snowballing approach where initial participants were identified based on their involvement with Atlanta-area EMS agencies. These participants then referred colleagues who they believed would agree to participate in this study.

A total of twelve (N=12) semi-structured interviews were conducted (Appendix A). Interviews were conducted both over-the-phone and through an internet-based video conferencing service. Oral consent was obtained on each participant prior to each interview. Interview were audio recorded to aid with data analysis.

Verbatim interview transcripts were generated by a professional transcription service, and all transcripts and interview recordings were reviewed by the study coordinator, making corrections as needed. Data analysis was conducted using Grounded Theory in which the research team determined which themes and subthemes were of interest and developed a corresponding codebook (Appendix B) (Chun Tie et al., 2019). Reliability was obtained through two rounds of consensus coding. An outside reliability partners was chosen and trained on the codebook. Then, that person and a research team member coded the same 7% of the transcripts

(by page count), after which codes were compared. This round resulted in 82% of the codes being the same. The coders came to a consensus for the remaining codes, coming to 100% consensus. A second round following this process was done with a different 7% of the transcripts, which resulted in 84% similarity and, again, 100% consensus reliability.

The remaining interview transcripts were then coded, and participant responses were divided into distinct themes and sub-themes.

Results

Participant characteristics are displayed in Table 1. In this study, a total of twelve (N=12) EMS providers participated. Ten participants (n=10) were paramedics and two (n=2) were Advanced EMTs. Two (n=2) of the ten paramedics interviewed were paramedics for one year or less, both previously Advanced EMTs. Participants were current employees of three prominent Atlanta-area EMS services, with many participants acknowledging current or previously employment at other EMS/Fire agencies. Nearly three-fifths of participants identified as male with a similar proportion identifying as white/Caucasian.

A total of six interrelated themes and accompanying sub-themes were observed following the completion of interviews. Quotes that were representative of the overall theme were identified and excerpts were organized into the categories outlined below.

Theme I: BH Calls Frequently Encountered by EMTs and Paramedics

Responses reveal that BH emergencies are one of the most common types of calls encountered by the EMTs and Paramedics. It was evident that EMS providers are responsible for interacting with a large variety of BH complaints including those with schizophrenia (n=12), suicidal ideations (SI) (n=12), anxiety/depression (n=12), alcohol/substance abuse (n=12), bipolar disorder (n=9), and acute emotional distress stemming from disputes between family members (n=8). Participants noted that the BH call volume was higher than they expected going into this career.

> *"Last weekend, I ran fifty-two calls from Saturday to Monday, and twenty of them were behavioral." (Paramedic, 18 years in EMS)*

> *"I would say when you go to school, you don't realize the role that behavioral health will play in your career in EMS. You don't realize it in school. You think, 'That's not an emergency,' but*

then, once you actually work in the field, you realize that a huge percentage of calls involve behavioral health." (Paramedic, 26 years in EMS)

Theme II: Frustrations Accompany BH Emergencies

Most EMS providers dislike responding to BH emergencies.

Attitudes about the favorability of BH calls varied, with most participants (n=10) stating that they did not enjoy responding to these types of calls.

"I hate [BH calls]. My partner right now, she runs most of them…The only time I [am in the back of the ambulance] with them is if I have to sedate them, because other than that, it's just, 'Oh okay, they're talking crazy...I don't want to be with it." (Paramedic, 7 years in EMS)

"On-scene time is a lot longer on behavioral [calls]…most people I know in the field is their least-favorite call as well…We might get a little frustrated with how long it's taking to speak with the individual on the ambulance." (Paramedic, 5 years in EMS)

"Most EMS crews don't want to run behavioral health...so they kind of bring that attitude along with them, and it gets conveyed to the patient...they don't want to be here, they don't want to do this, this not a call that they would like to run, and they don't necessarily put their best foot forward when communicating with the patient." (Paramedic, 15 years in EMS)

The lack of favorability appears to stem from the idea that BH emergencies are not intended to be managed EMS providers since many BH complaints cannot be addressed with the skills included in standard EMS training. As a result, many of these providers described a negative perception that appears to be connected with the idea that they do not view BH patients as something they should be responsible for managing.

Safety concerns were common surrounding BH calls.

All respondents (n=12) described safety concerns in some capacity, with most discussions revolving around concerns for EMS provider safety as well as the safety of the patient.

> *"When you get notes before getting to a [BH emergency] that a patient is being violent, or they may have a weapon, that is high stress. No one wants to be hurt. I don't want the patient to be hurt, I don't want to be hurt, I don't want my partner to be hurt." (Paramedic, 5 years in EMS)*

> *"I had [a BH patient] become very upset en route to the hospital and attempt to harm me…when I am physically assaulted, it is on behavioral [calls]." (Paramedic, 7 years in EMS)*

These responses capture that EMS providers view BH emergencies as having a high potential for violence. Fears of this violence and previous experiences such as the assault described by the paramedic quoted above may contribute to negative perceptions among EMS providers about responding to BH emergencies.

A common challenge on BH emergencies is determining a patient's capacity to refuse care.

The ability to deliver medical treatment to a BH patient is often further complicated by determining the patient's decision-making capacity. Someone in behavioral crisis may or may not possess the capacity to make informed decisions regarding their health, and fears of violating someone's autonomy by taking them to the hospital against their will can come with fears of accusations of malpractice and the potential for the loss of licensure. The decision of what to do on scene is often complicated by disagreements from bystanders and other first responders on scene.

> *"Basically [a BH patient] was in a verbal altercation with his parents…when we got there, he wouldn't say a word to us…We had to call the doctor…and be like, 'We don't really feel the need to sedate, but we also want to make sure. We want to take the liability off of us.' We ended up not sedating, although the parents were there, pressuring us the whole time to take him by any means necessary. They just wanted him to go. So, the problem was we were trying to make sure that he is not having a crisis at this time, however with the pressure of his parents, but making sure that he's safe, but also, we didn't want to violate his rights. And I feel like that gray area comes up on a lot of these calls." (Advanced EMT, 4 years in EMS)*

> *"I had a patient who had some old scarring on her wrist from cutting, and the police department and [fire department] on the scene determined that she was trying to kill herself because she had several small cuts on her wrist, and she didn't have capacity to refuse. In speaking to her, she was coherent, you know, and oriented just to what was happening, and expressed that she did not want to kill herself. So [the cutting] was something that she's been doing over years as a relief to feel better…To me, that's a patient that doesn't lack capacity to refuse and when I talked to [the ED physician], they agreed with that. But every other provider on that scene — whether it be police, fire, or EMS—was confused by that…They see cuts on wrist; therefore, they need to take her against her will. So, they wanted me to sedate this woman because she does not want to go to the hospital." (Paramedic, 5 years in EMS)*

Responses of paramedics and EMTs suggest that they often prioritize respecting a BH's medical autonomy whenever possible, and the decision to override someone's requests is avoided whenever possible.

Homelessness viewed as a common aspect of BH emergencies.

Despite the interview outline not originally including discussions around homelessness, all participants (n=12) discussed the dynamic between patients' mental health and homelessness

status. A common reproach was that BH calls frequently involve individuals experiencing homelessness "abusing" the 911 system as a means of securing shelter.

> "*A lot of times, our mental health patients, they abuse the 911 system. A lot of times. For example, we respond to so many calls at [public transit stations] and usually, they're mental health patients. And they're homeless. Obviously, it's really cold outside so, you can't fault them for calling because they need to get out of the elements. A lot of them just want to get off the street, so they'll use an excuse of, 'Oh, I'm hurt, so, I just need to be in the hospital to sleep.'…the stigma that's been placed on it is that they don't really need EMS; they just want to be off the street." (Paramedic, 11 years in EMS)*

> "*A lot of times our homeless population have found out that if you say, 'I want to kill myself and I have a plan,' they secure a 48-hour to a 72-hour hold. So, a lot of your homeless people in the wintertime are using that as an excuse..." (Paramedic, 18 years in EMS)*

Many of those who expressed frustration about perceived BH 911 abuse contextualized their feelings with an acknowledgement of the socioeconomic barriers contributing to increased reliance on emergency resources. Although none of the interview questions asked participants to explain the dynamic between homelessness and BH calls, participants' unprompted discussions suggest that EMTs and paramedics view homelessness as a fundamental aspect of the trends of EMS utilization for BH emergencies.

Theme III: EMTs and Paramedics are Undertrained for BH Emergencies

Participants uniformly mentioned received minimal education about mental health during their EMS education. Many participants reported that, although psychiatric complaints were included in their initial EMS education, these lessons were limited.

> *"[Mental health training] was a section of a chapter…and it's not even a full chapter…like everything that didn't get covered in all previous chapters kind of gets dumped into that…" (Paramedic, 18 years in EMS)*

> *"[Mental health training] is nowhere near the amount that I thought we should have received after I completed the training…[it] was more or less recognizing psych patients or behavior health emergencies, and not necessarily how to deal with them..."* (Advanced EMT, 3 years in EMS)

> *"They kind of just skimmed the surface of explaining how to deal with mental health patients. All they wanted you to make sure was that you were safe…" (Paramedic, 11 years in EMS)*

Despite BH emergencies being one of the most common types of calls encountered on the job, participants reported that their EMS training only equipped them with a limited skillset to address BH patient needs.

> *"I don't think we're trained – I think we're trained to just sedate them. I don't think we're properly trained to how – really to truly talk to them, figure out how to really deal with them. We're trained to, 'Okay, they're combative? Let's put them on a cot.'" (Paramedic, 18 years in EMS)*

> *"We aren't trained…our two options are basically: take you to the hospital voluntarily or sedate you and take you against your will. I don't think that [the public] recognizes or realizes that we don't have this huge understanding, this in-depth understanding, of what's going on inside the person's brain, or what might be best for them." (Advanced EMT, 4 years in EMS)*

These responses suggest that EMS training frames BH emergencies through a medical–not behavioral–lens. The common refrain of "to sedate" or "not to sedate" suggests that EMS providers' view the assistance they can offer on BH emergencies is limited to the narrow set of BH interventions included in their EMS training. EMS education prioritizes discussions about

distinct pre-hospital interventions that directly impact patients' physical health in lieu of more abstract discussions about psychopathology and mental health.

Despite no formal training, some participants view their role to include BH patient engagement. Participants that described favorable views of BH calls were limited, but those that did displayed a sense of responsibility to communicate and engage with BH patients who call 911.

> "*When I'm in the [back of the ambulance]…I'll offer them additional resources. I tell them how important it is to talk to someone, to talk to a counselor, and make sure they're taking their medicine…when I get to the hospital, I'll be like, 'Okay. We're going to get you connected with a case worker. They'll be able to help you out more.*" *(Paramedic, 11 years in EMS)*

> "*When I do encounter a psych patient, the first thing I do is listen to them and find something or some kind of way to connect with them…So, there was one particular instance…when I showed up, [other EMS providers] weren't getting any good result from that patient…this patient was licking broken glass, trying to eat thumb tacks, and telling everyone, including the police officer, that she was going to kill them…I walked up and the first thing I said was, 'Hey, beautiful, how you doing?' And she sat there and said, 'I don't want to talk to you.' I'm like, 'Well, why not? I want to talk to you.' So then, I just sat with her and talked with her about five minutes…And people kept asking me, 'Why are you doing that? Why are you being so patient?' It's because that's what I would want for someone to do for me.*" *(Advanced EMT, 3 years in EMS)*

Given the lack of reliable BH training in EMS education, participants describe needing to independently develop the skills to effectively manage BH emergencies in the field.

> *"I feel like all of my experience with [BH emergencies] I got on-the-job training with. I don't feel like I had any of the baseline knowledge prior to starting EMS." (Advanced EMT, 4 years in EMS).*

> *"You'll kind of learn the rest on the job, which I honestly don't feel like is good, especially in today's society, where it feels like behavior health emergencies are majority of the complaints that we tend to have." (Advanced EMT, 3 years in EMS).*

Responses suggest that on-the-job training was viewed as the primary method for learning to manage BH emergencies despite the call volume that is related to mental health. Unlike the standardization and supervision that often accompanies formal EMS education, informal experiences risk exposing new EMS providers to unapproved strategies such as inappropriate communication strategies.

Theme IV: The Current Reliance on EMS to Manage BH Emergencies is Inefficient

Despite variation in the perceived favorability of BH calls, all participants stated that they do not think ambulances are appropriate resources to send on BH emergencies. There was a consensus among participants that most BH patients are often "low priority" and are not in immediate danger of injury or death. EMS providers perform assessments and obtain vital signs on BH patients, however, these findings are often unremarkable.

> *"Out of the behavioral calls that I receive, the number of calls that don't require anything other than just a basic assessment and conversation, I would say is 80 percent of the calls, maybe 85 percent of the calls." (Advanced EMT, 3 years in EMS)*

> *"And honestly, there're so many behavioral health patients that we encounter that just really don't benefit from being in an ambulance. It's a waste of resources." (Paramedic, 18 years in EMS)*

> *"[Sending ambulances to BH calls] takes an actual ambulance away from someone who may need medical assistance." (Advanced EMT, 3 years in EMS)*

The above interview excerpt highlights a common sentiment among participants, with respondents stating that the medical care rendered to 70%-90% of their BH calls is limited to

obtaining vital signs, assessment followed by transportation to the hospital ED (Table 2). In this sense, EMTs and Paramedics view their responsibility on scene of BH calls as primarily to address the patient's *physical* health and viewed the patient's *mental* health as secondary.

Given that participants report that the majority of BH patients do not require medical intervention, EMTs' and paramedics' views of their role appear to be shaped heavily by their remaining responsibility to transport BH patients to the hospital ED. A common refrain from participants was to themselves as glorified taxi drivers on BH calls.

> "*For a mental health call, in most cases, I'm just giving somebody a ride to the hospital…I'm not using anything other than a vehicle to take them somewhere. We are literally just a taxi ride at that point." (Paramedic, 18 years in EMS)*

> *"A lot of times, it's just like, 'Okay, you need to go to the hospital? Come on, let's get in the [ambulance] and let's just take some vitals and let's just go'…You get kind of burned out with it. Just like, 'Ah, you need your meds refilled?' Oh this." (Paramedic, 7 years in EMS)*

> *"[BH patients] use 911 as transportation to the hospital…that's a $1,800 ride versus you get in a Lyft…there's a lack of education…you can sit there and talk to a patient and say, 'Hey, when was the last time you spoke with your [primary care provider]?', and they will sit there and say, 'What is a [primary care provider]?'" (Advanced EMT, 3 years in EMS)*

It is possible that the stigma and negative perceptions about responding to BH emergencies may be rooted in EMTs and paramedics feeling that BH calls undermine their role as fully licensed medical providers.

In busy metropolitan areas, EMS crews are often encouraged to minimize on-scene time so their ambulance can be available for more calls as soon as possible. Although not all participants described efforts to engage with BH patients, limited on-scene times can hinder productive conversations with individuals experiencing a BH crisis.

> *"And I've been in that situation plenty where I was at one scene talking to someone for thirty to forty minutes just because they need someone to talk to, not necessarily because they want to go to the ER, but I was pressed off scene [by supervisors]." (Paramedic, 5 years in EMS) (Paramedic, 5 years in EMS)*

> *"I do tend to spend more time with the patient on scene because that's what they require, you know, and that's actually frowned upon, you know, in the EMS setting. We're so quick to hurry up, let's get another call, let's get another call, let's get another call. Whether that's the dispatcher is rushing you or whether it's your supervisors, and I think that's the bad part about EMS." (Advanced EMT, 3 years in EMS)*

Responses reveal that EMTs and paramedics see an endless cycle of calling 911 for mental healthcare with little evidence of long-term recovery. Additional frustrations appeared to emerge around beliefs that the current healthcare system does not address many of the underlying needs of the BH patients who frequently are attended to by EMS.

> *"We tell them that they're going to get help, but we know that they won't…there's always a vicious cycle of go to the hospital, they get meds, they get a little bit of help, then they go back out on the streets–especially if they're homeless. There's always a vicious cycle of mental health where they don't actually get better. We just get the same people calling 911." (Paramedic, 7 years in EMS)*

> *"We take them to the hospital, they get admitted to a psychiatric facility, they get put on medication, they get stabilized, they get discharged. Somewhere down the road they stop taking their medication, for whatever reason, and that process starts all over again. And so, we're just doing the same thing over and over and over again." (Paramedic, 18 years in EMS)*

A patient population with unaddressed BH needs who already rely heavily on 911 to access healthcare will likely continue to occupy the time and attention of limited EMS resources.

The EMS providers report often facing the consequences of a lack of inter-operational cooperation between EMS agencies and hospital EDs. Participant responses suggested that hospital wait times are felt especially hard when waiting at the hospital for a bed with a BH patient. Since the majority of BH patients are triaged as not in need of immediate medical attention, they are often held at the back of the treatment que until a hospital bed becomes available. This requires EMS crews to remain at the hospital for extended periods of times since any patient is their responsibility until an ED provider formally accepts the patient and signs off on the EMS crew's report. Despite the account that the majority of BH patients do not receive medical interventions while in the ambulance, these calls have the tendency to consume a disproportionate amount of EMS resources due to hospital delays.

> *"The patients who are having hallucinations or suicidal tendencies…I usually have to wait with them a lot longer than other patients…so this initial call is stretched out a lot longer than most medical calls we would have to deal with." (Paramedic, 7 years in EMS)*

> *"Every hospital follows the same thing: triage. Higher acuity goes first. It doesn't matter how long you're really waiting there for. Like chest pains: chest pain is a priority. Respiratory distress: priority. STEMIs [heart attacks], strokes, septic shock, any type of shock, traumas– all of those get priority. They get put at the top of the list. Psychiatric gets mid- to low tier…and they have to wait." (Paramedic, 7 years in EMS)*

> *"These psych patients may stay in the emergency room for days, tying up that same bed. Now we're spending an awful lot of time waiting for beds, and again, it's not necessarily a priority for the emergency room, nor should it be. There are people there that are in legitimate need of emergency medical services, and a behavioral health patient is not necessarily in that criteria." (Paramedic, 18 years in EMS)*

The consequence of this is that the ED system is increasingly saturated with patients with behavioral complaints that are seeking assistance from services that are not equipped to address those needs. This leads to a backlog of hospital inefficiency that negatively impacts EMS. EMS and EDs are not designed for long term mental healthcare which can contribute to a cycle of dependence and growing dissatisfaction from BH patients on a system that is not effectively addressing their needs.

Many participants (n=11) reported encountering hospital ED staff that attempted to keep BH patients out of their facility. Many participants described that they are frequently told to "divert" (the process of rerouting ambulances to another hospital) when they called in their pre-arrival report and specified that their patient has a BH complaint.

> *"Sometimes the first thing to come out of [the nurse's] mouth is 'Okay, why don't you take them [to another hospital]?' 'Well, they're full.' 'Okay, well, why did you come here?' It's like, what do you mean why did I come here? This is a hospital…Why does it seem like you're upset or irritated that I brought you a patient...'" (Advanced EMT, 3 years in EMS)*

> *"You give them the issue of a low acuity psychiatric issue, and they just don't even really take it that seriously. They're just like…'Okay, you're coming in with a psych issue? Just go somewhere else. Don't bring them here. We're already busy.'" (Paramedic, 7 years in EMS)*

> *"I called [the hospital]…as soon as I said, 'He used meth. He just wants to get checked out,' they were like, 'Well, we're on substance abuse diversion.'…I was like, 'That's not such a thing.' And she was like, 'Well, we're on behavioral health and substance abuse diversion'…I literally get yelled at by the charge nurse…She was like, 'We don't have any psych rooms.' She was like, 'I can't believe you would bring this patient up here.' (Paramedic, 7 years in EMS)*

> *"[Diversion] keeps us out of service a long time because we're having to hospital hop to find the right hospital for the patient. So, it keeps us out of service. It keeps us from running other calls in the county." (Paramedic, 18 years in EMS)*

Numerous participants stated that they feel the recent implementation of an Atlanta-area the Regional Communications Coordinator–an independent official that manages ambulance transports between different services and hospitals–has increased hospital accountability and helps mitigate unwarranted EMS unit diversions.

Theme V: Misuse of Chemical Sedation

Views of the role of chemical sedation practices were nuanced, with many participants describing that they feel that paramedics chemically sedate more BH patients than is medically warranted.

> *"There was a specific medic that would actually try to incite a patient to violence to try to cause them to give them reason to sedate them. I've seen it more than once, and it's not best practice." (Paramedic, 7 years in EMS)*

> *"I know for a fact that there are providers that have sedated somebody simply because they're verbally aggressive…I've heard of a provider that had, I think the "two fuck rule" basically is what she called it. And if the patient basically said some form of "fuck" twice, in reference to her or her partner, [the patient] was getting sedated." (Paramedic, 18 years in EMS)*

> *"I've seen [paramedics] do stupid things and then sedate a patient because it causes them to forget." (Paramedic, 18 years in EMS)*

> *"I have heard of some only verbally aggressive patients being sedated, and while that is a very big indicator that they could become physically aggressive it doesn't always necessarily mean that they need to be sedated with drugs." (Advanced EMT, 4 years in EMS)*

> *"You see it nowadays where a lot of [paramedics]…instead of working on their technique of, you know, trying to calm down a patient and trying to talk a patient down, they just get annoyed and they're like, 'You know what? Screw it. We're just going to sedate you because I can.'... I even did that [as a new paramedic], and I was like, 'Look, I now have this tool I can [sedate] with.'" (Paramedic, 5 years in EMS)*

> *"I think some providers, for some reason, get a joy out of – I guess having the power to be able to chemically sedate people. I've seen it to where I've had people tell me that behavioral [calls] are their favorite call to run and they like restraining and sedating and fighting patients." (Paramedic, 7 years in EMS)*

> *"I've seen medics that look for fights...There are just some that don't know how to talk to patients and just egg them on...They just – they will egg it on until they get a patient so upset that they will fight." (Paramedic, 18 years in EMS)*

Responses did not suggest that participants disagreed with the inclusion of pharmacological restraints in the paramedic scope of practice, rather, their concerns centered around what they perceive as a trend in medically unwarranted sedation of BH patients.

Knowledge gaps regarding chemical sedation exist among paramedics.

Despite the use of chemical sedation being included in the paramedic scope of practice, several participants discussed that they do not feel that their colleagues are as educated about these medication as they should be.

> *"I think some of our providers aren't aware of what the drug does and what the effects are...I've seen a lot of people overuse it, over-sedate it, not understanding what the true effects of ketamine is for." (Paramedic, 18 years in EMS)*

> *"We just got [ketamine] in our operation…I've had this conversation with our clinical education coordinators before, and I told them several times that, we need to have more education on ketamine or otherwise you're going to continue to have people who either use it prematurely or don't use it correctly... I think there's a large majority [of paramedics] that have the drug and they don't know anything about it until it's time for them to use it…I always double-check before I give the meds what my proper dose is based off their weight. I don't think everybody's doing that. I think people are kind of, you know, trusting their mind." (Paramedic, 7 years in EMS)*

Theme VI: Law Enforcement Integral to EMS Encounters with BH Patients

Law enforcement officers encounter social dilemmas and see EMS as a solution.

Participants frequently described instances law enforcement requests EMS to their location as a way of "pawning off" a subject with a BH history on EMS. Although some participants stated this may be an attempt by law enforcement to mitigate BH-related incarceration, the majority of responses highlight that EMTs and paramedics see EMS being as a crutch to take an "undesirable" subject off police's hands.

> *"When [law enforcement] doesn't know what else to do, they find a way to dump a patient on us, and it's like they don't necessarily require the services of an ambulance if we're just giving them a ride to the hospital...[law enforcement officers] don't want to deal with it, basically." (Paramedic, 18 years in EMS)*

> *"...the patient with a psych history gets into a disagreement, either physical or verbal with their family members, and then [law enforcement's] solution to the problem is for them to go to the hospital. And they literally are committing crimes...And so rather than say, 'We're going to cite you and release you for this assault charge', we're just going to toss it under the rug as a mental health issue and take you to the hospital." (Paramedic, 18 years in EMS)*

Views of law enforcement involvement on BH calls were generally favorable.

Participants acknowledged that law enforcement officers often enter a potentially dangerous scene prior to EMS arrival and continually ensure on-scene safety of EMS personnel during BH emergencies. Many participants were critical of suggestions from members of the public to limit law enforcement involvement on BH calls, many citing that they believe law enforcement presences on BH calls often makes them feel safer.

> *Interviewer: "Is law enforcement overutilized on behavioral health emergencies?"*

Participant: "Absolutely not. No, no. Not in the least. I think they're adequately used. Some of these psychiatric patients are extremely unpredictable, and the scenes can be unpredictable and inherently dangerous. [Police officers] on psych calls are very much valued." (Paramedic, 15 years in EMS)

"We do have police officers to help us, to have our backs when we need them. To take an officer off a mental health call, I think, is dicey. I think it's very dicey. (Paramedic, 11 years in EMS)

Responses often described law enforcement involvement on BH calls being primarily to ensure the safety of other first responders on scene. Other respondents suggest that they have witnessed officers engaging with and de-escalating individuals with a BH complaint.

Figures and Tables

Figure 1: Rate of emergency department (ER) visits for behavioral health reported by the Georgia Department of Public Health.

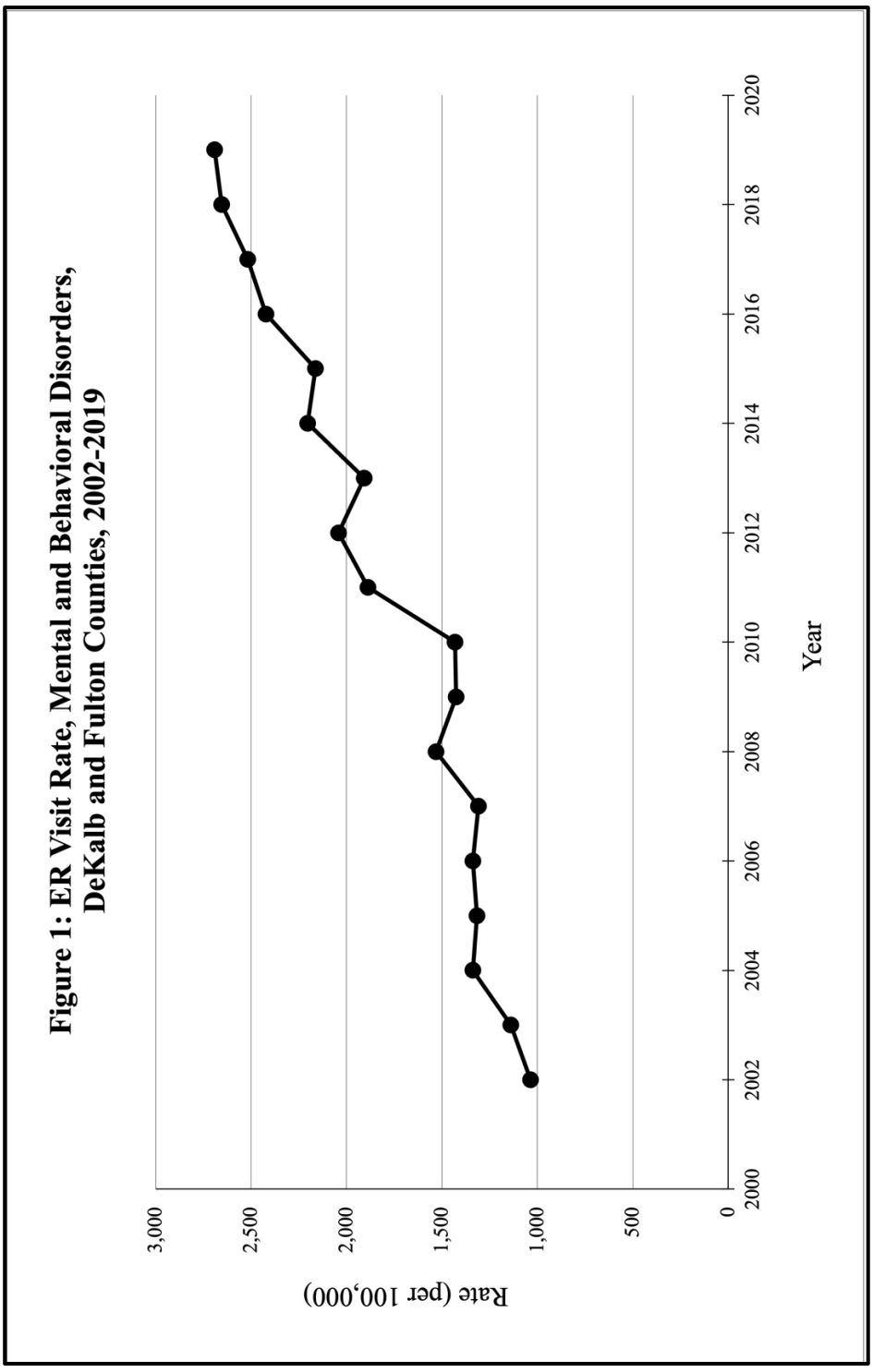

Table 1: Participants' demographic and professional details (N=12).

	n	**%**
Current EMS Licensure Level		
Advanced EMT (AEMT)	2	16.7
Paramedic	10	83.3
Gender Identity		
Female	5	41.7
Male	7	58.3
Racial Identity		
Black/African American	3	25.0
White/Caucasian	7	58.3
Asian/Pacific Islander	1	8.3
Did not report	1	8.3
	Mean	**Range**
Reported Age (years)	32.8	22-49
Reported Total EMS Experience (years)	10.5	3-26

Table 2: Participants' perceived frequencies of BH emergencies (N=12).

	Mean	**Range**
Participant's calls that are BH (%)	43%	15%-75%
BH emergencies that do not require medical intervention (%)	84%	70%-90%

Limitations

This study was limited primarily by its sample and size geographic location. All findings produced from this study must be contextualized by the small sample size (N=12). Although this may limit the immediate generalizability of the findings, the responses provided by participants showcase the views held by industry EMTs and paramedics. Additionally, the consistency of the themes that emerged from interviews suggests that these views are likely held by other EMS providers.

Interviews were conducted with current EMS providers in the Atlanta-area. While this geographic area is characterized by both urban and suburban communities, the study population did not include EMS providers currently serving rural communities. Although Atlanta and the immediate outlying suburbs are consistent with many urban and suburban EMS systems throughout the United States, community-level characteristics distinct to the Atlanta-area such as culture, demographics, and community-health structure must be factored in when inferencing these study findings against other EMS systems.

More paramedics were interviewed than EMTs. Of the EMTs that were interviewed (n=2), both were advanced EMTs. This study did not interview basic EMTs, but the responses gathered from this study suggest that the differences in the scope of practice between basic EMTs, advanced EMTs, and paramedics were inconsequential as EMTs and paramedics often work alongside one another on the same ambulance and share similar experiences. One notable exception, however, being paramedics' experiences around administering chemical sedation.

Discussion

This study reveals that caring for individuals experiencing a BH emergency is a routine part of the EMT and paramedic profession. This is largely consistent with previous findings (Keefe et al., 2020; McCann et al., 2018; Roberts, 2009; Shaban, 2005, 2015). This finding illustrates that despite Atlanta being a major city in a developed nation, responses illuminated that many BH patients are either economically disadvantaged, suggesting that emergency resources are being utilized as a means of securing basic traditional and mental healthcare. This has implications for overall emergency system efficiency. The responses highlighting the interconnectedness of BH emergencies and low socioeconomic standing are consistent with previous research (Keefe et al., 2020; McCann et al., 2018). Furthermore, additional reports have suggested that those with limited economic resources are less likely to pay for ambulance services they receive (Meisel et al., 2011). The current structure of the healthcare system in the United States promotes this type of inefficiency where underlying mental health needs are unmet which leads to a cycle of dependence on emergency medical resources that are not designed or equipped to fully address the underlying issues affecting patients. The attitudinal implications of this are two-fold, with patients growing increasingly dissatisfied with a healthcare system that they view as not addressing their needs and healthcare providers harboring increasingly negative views towards patients they see as "abusing" emergency resources that were not designed for addressing BH complaints.

The inadequacy of BH training within EMS was another notable finding. It is evident that EMS education prioritizes lessons pertaining to immediate life-saving care and medical assessments, not skills such as verbal de-escalation and community BH resource familiarization. Offering increasing BH training as an optional supplement to standard initial

EMS education–such as through workshops or online modules–will likely have minimal benefits, as responses from this study highlighted that most people do not enter into the EMS career to interact with the BH population. Those who seek out these optional continuing education opportunities would likely not be the target audience for EMS providers who would benefit the most from increased exposure to BH-related education. The need to address gaps in BH training would be best addressed by improving the volume of BH education in initial education. Responses that highlighted the hyper-variability of EMS patient encounters and existing knowledge that points to the importance of experiential learning within the pre-hospital setting suggests that mandating that students complete in-person clinical rotation though different psychiatric clinics would likely give students the most valuable experience that both increases their BH knowledge and engages them in a way that most readily translates to the clinical dynamics within EMS.

To our knowledge, this is the first study to report the intentional instigation of BH patients to justify medically unwarranted chemical sedation. Discussions around the use of pharmacological agents such as ketamine, Haldol (haloperidol), and Versed (midazolam) suggest that some participants that participated in this study think patients with BH complaints are being sedated too frequently. The breadth of these discissions among participants suggests that this issue may be widespread. Chemical sedatives are gaining popularity in the pre-hospital setting given their ability to limit the potentially harmful actions of someone experiencing acute psychosis and accompanying agitation and violence. More EMS agencies are transitioning to the use of ketamine for the management of acutely agitated patients. Unlike sedatives such as haloperidol which take much longer to elicit their effects (15-30 minutes), the effects of ketamine can be observed in as little as 30 seconds (Kitch, 2020).

Its rapid onset of dissociative effects makes it both a valuable and powerful medication within the paramedic scope of practice. The proper administration of ketamine for an acutely agitated patient involves correctly titrating the dose to a patient body mass, an important variable that can be miscalculated given the combative nature of many the BH emergencies requiring sedation.

Several participants voiced concerns over what they feel was inadequate clinical knowledge of chemical sedatives among their colleagues. These responses suggest that incomplete clinical knowledge–including indications and dosing–may be an independent factor contributing to the perceived over-use of chemical sedatives. One participant stated that when she underwent initial paramedic education approximately four years prior, ketamine's use within EMS was limited and that she could not remember if the curriculum provided training about the use of ketamine for the management of BH patients. This participant stated that when her EMS agency implemented ketamine in 2020, she felt the need to educate herself about the new medication because she viewed her agency's pre-implementation training for ketamine as inadequate.

This participant's experience is consistent with the findings of other studies which have found only 53% of paramedics recall having learned about ketamine during their initial paramedic education. This same study reported that, despite nearly half of all participants not recalling training on ketamine, 94% stated that they were "confident" of their ketamine administration abilities, suggesting that providers' self-assessment abilities about training they did not receive may be prone to biased views of their own abilities (Buckland et al., 2018). Although some paramedics may have found it helpful to independently assess knowledge gaps and seek out information, relying on this as a primary strategy to ensure a trained paramedic workforce requires providers to both objectively assess their own knowledge gaps despite

tendencies to overestimate their abilities and to have the initiative to seek out new knowledge. Subsequent studies would be needed to investigate the relationship between this trend in training and poor clinical outcomes as well as the extent to which this trend extends to other sedatives within the paramedic scope-of-practice. Given the powerful nature of ketamine and the high potential for serious complications if administered improperly, both initial education and department training for paramedics would be beneficial in ensuring that paramedics are equipped with the knowledge of how to properly administer this medication in the field.

Growing calls from the public have called for a restructuring of policing procedures, notably for this study the calls to limit law enforcement response to individuals experiencing a BH crisis. Many major cities are following suit, such as a pilot program launched in 2021 in New York City that no longer sends police officers to mental health calls and instead sends teams of "health professionals and crisis workers" as the default response (*New York City Announces New Mental Health Teams to Respond to Mental Health Crises*, 2020). The responses of this current study highlighted that EMTs and paramedics seek great value from having law enforcement present on BH emergencies. Legislation that limits law enforcement presence on BH calls will likely have the unintended consequence of EMS providers questioning the safety of dynamic BH emergencies and may force EMS providers to carry out law enforcement actions while tending to patients.

Responses varied surrounding discussions of the role in EMS in BH crisis response. Some participants stated that, since the majority of BH calls do not require medical intervention, BH emergencies are well-within the abilities of a standard ambulance unit. Others pointed out that the lack of BH-related training extant within EMS education highlights that the current ambulance-centered mode of BH response should not

continue to be utilized in this manner. There was a consensus among participants that that current trends in EMS BH response are inefficient and a modified BH response system would lead to both improved patient outcomes and operational efficiency within EMS.

Mental health response units are beginning to emerge around the United States. Established in Eugene, Oregon in 1989, CAHOOTS is a program that has gained visibility for its alternate approach. A two-person civilian team consisting of a healthcare provider (EMT, paramedic, or nurse) and a crisis-worker respond in vans to select, low risk incidents involving mental health, addition, and homelessness. In 2017, CAHOOTS units responded to 17% of the calls originally received by the local 911-center. It is estimated that CAHOOTS saved the Eugene Police Department $8.5 million annually between 2014-2017 (Skiles, 2020). In the summer of 2020, the Denver Police Department launched the STAR program which had similar goals as CAHOOTS. Unlike CAHOOTs, STAR remains a specialized unit within the police department whereas the CAHOOTS program is independent. Both programs display promising results, however, both are often framed in the context of law enforcement criminal justice diversion, rather than an issue of public health.

The Grady Health System in Atlanta, Georgia attempted to address ED overutilization by implementing its own mobile crisis unit within Grady EMS. This unit was staffed by one paramedic who would assess each patient's medical status and a mental health specialist–such as a licensed counselor, clinical social worker, or resident psychiatrist–would address the patient's mental health needs. This team would respond in an SUV to select BH calls triaged by dispatchers as well as responding to other ambulances already on-scene who requested the mobile crisis unit. Between January and October of 2013, the crisis unit responded to 836 calls. Of these, 26% (n=221) of the total calls were resolved with non-transport

refusals, 37% (n=307) were transported to the ED in the crisis unit, and 4% (n=37) were transported to inpatient or substance abuse facilities (Skiles, 2020). In the years following this report, Grady EMS's mobile crisis unit has broadened its focus, no longer maintaining the exclusive focusing on BH-related complaints. Despite this program's promising initial outcomes, this expansion has left the area without the same level of specialized BH emergency response from an EMS-based mobile crisis unit.

The initial success of Grady EMS's mobile crisis unit improved EMS operation efficiency and better addressed patients' health needs. Having a mental health provider on-scene may be able to more effectively engage with a BH patient and refer them to appropriate community-based resources. The mobile crisis unit paramedics would be able to focus on performing a medical assessment and would have the capability to address medical complications that are discovered. Programs that have allowed traditional ambulances to transport eligible patients directly to inpatient psychiatric centers has proven effective, with physicians overwhelmingly agreeing with paramedic medical clearance (Cheney et al., 2008). A qualitative study of a psychiatric emergency response team staffed by nurses and EMTs in Stockholm, Sweden found that patients who previously benefited from this team reported more positive experiences than previous encounters with police and traditional ambulance crews (Lindström et al., 2020). Given the high BH call volume discussed by this current study, a 911-centered unit that can respond to BH-emergencies in lieu of an ambulance will likely lead to more effective patient interactions, improved health outcomes, and liberation of ambulances to respond to other emergencies.

Conclusion

The findings of this study reveal that EMTs and paramedics view responding to BH emergencies as a significant challenge of their job. Although this study was limited by its sample size and geographic location, the consistency of the themes that emerged from discussions with participants suggests that these views are likely held by other EMS providers. Analysis of the attitudes of frontline EMS providers allows for a better understanding of this public health issue, suggesting that the EMS industry would benefit from enhanced BH training to better meet the demands of the EMS BH call-volume. Discussions around law enforcement involvement, homelessness, and attitudes of ED providers displays the interconnectedness of this issues that cannot be fully addressed by EMS reform alone. Given the biomedical and ethical implications of misuse of chemical sedation as described in this study, future projects should investigate the extent of this trend as well as possible contributing factors. As BH emergencies are increasingly contextualized around a public safety response, new initiatives that aim to reimagine public safety's involvement in responding to BH emergencies would benefit from the increased knowledge around the use of chemical sedation of BH patients, the value that EMS providers perceive from law enforcement incorporation, and the support of specialized units to respond to BH crises to improve EMS operational efficiency and connect patients with more appropriate resources.

Appendices

Appendix A

Semi-structured interview outline

1. Demographics and Background
    - Age
    - Gender Identity
    - EMS Credentialing Level (EMT, Paramedic). For how long?
    - What time of day do you work?
    - How long have you worked in the Atlanta-area?
2. Initial Education
    - When did you first undergo initial EMS education?
    - What was the emphasis on behavioral health training?
    - Did you ever have a mental health professional speak to you in your initial EMS education?
    - Before you started working in EMS, how much of your job as an EMS provider did you think would be behavioral/mental health related?
    - How did people treat the concept of behavioral training in initial education? Did they take it seriously?
    - Generally speaking, do you feel EMS providers are well equipped to provide care for behavioral health complaints?
3. Basics of Defining Behavioral Health Emergencies
    - Do you like responding to behavioral health emergencies?
    - What do you consider a “behavioral health emergency”?
    - Do you consider substance abuse complaints a behavioral health problem?

- Behavioral Health Calls and EMS System Efficiency
- What approximate percent of your EMS call volume is behavioral health related?
- How time-consuming are behavioral health calls?
  - Time on scene
  - Transport to the hospital
  - Waiting at the hospital
- What types of facilities are common destinations for these types of patients?
- What are your thoughts about transporting behavioral health patients to standard emergency departments?
- Do you think receiving facilities disproportionally attempt to divert incoming EMS units with behavioral health patients despite having adequate resources?
- Do you feel that the standard EMS unit (an ambulance with 2 EMS providers with standard training) is the best resource for 911 behavioral health complaints?
- Do you feel the current model of 911 EMS mental health response promotes long term recovery?
- Out of all of the behavioral health calls that you respond to, what approximate percent of these calls require nothing more than a basic assessment with no remarkable findings and a transport to the hospital?
- Do you feel 911 dispatchers adequately screen calls for behavioral health complaints and provide EMS crews with proper information?

4. Quality of Care and Personal Attitudes
   - What is your comfort level talking to, interacting with, and treating behavioral health problems?

- Do you ever try to refer patients to other resources that can help them with this?
- How often would you say a patient's Behavioral Health Complaint is being caused or driven by some larger socio-economic dilemma?

5. Law Enforcement and the "Defund the Police" Movement
    - Following the death of George Floyd, the "defund the police" movement had garnered a lot of attention. Many people have criticized the degree that law enforcement is involved with responding to behavioral health compliments. Given your experience as an EMS provider, do you feel law enforcement is over-utilized as a resource to manage behavioral health emergencies?
    - There have been calls for legislative changes that would divert responsibilities away from law enforcement agencies and instead send EMS providers and social workers to behavioral health and other complaints. What do you think the impact of this would be if a procedure like these were to be adopted at your EMS agency?
        - Do you ever feel that police's presence on calls with mental illness escalates the patient?
        - What does the public not understand about EMS and their role in behavioral health emergencies?
6. Chemical Sedation of Behavioral Health Patients
    - Another high profile is the case of the death of Elijah McClain, a 23-year-old black man who died after a police encounter where he was forcibly held to the ground by law enforcement while paramedics administered a dose of ketamine appropriate for someone with a body mass of 220 pound, despite McClain

weighing only 140 pounds. As a result, many in the public have begun to criticize EMS' use of chemical sedation for behavioral health patients.

- Do you feel paramedics over-sedate behavioral health patients?
- Does law enforcement involvement impact the decision of whether or not to sedate?
- What else have you noticed about chemical sedation of behavioral health patients?

Appendix B

Codebook

Abbreviations

- Pt = Patient
- BH = Behavioral Health
- PD = Police
- ED = Emergency Department
- EMS = Emergency Medical Services
- CE = Continuing Education
- IE = Initial Education
- 10-13 = Medical Legal Hold (in Georgia)

Code Name	Code Description
Theme: Attitudes	
Attitudes - EMS for BH is Inappropriate	Participant described that they do not believe that ambulances are an appropriate resource for behavioral health response
Attitudes - EMS for BH is Appropriate	Participant states that they believe that EMS should be responsible for continuing to respond to behavioral health complaints
Attitudes - Dislikes BH Calls	Participant states (directly or indirectly) they do not enjoy responding to behavioral health calls (excludes discussions on fear/worry)
Attitudes - Moderately Prepared	Participant reports that they feel that their initial education only moderately prepared them to respond to behavioral health calls
Attitudes - Unprepared	Participant reports that they feel that their initial education did not prepared them to respond to behavioral health calls
Attitudes - Well-Prepared	Participant reports that they feel that their initial education prepared them well to respond to behavioral health calls
Attitudes - Fears BH Calls	Participant's response suggests that they fear/worry responding to BH calls
Attitudes - Enjoys BH Calls	Participant discusses attributes of responding to BH calls that they find rewarding/they enjoy.
Attitudes - Avoids Conversations	Participant reports that they try to avoid engaging behavioral health patients in conversation

Code Name	Code Description
Attitudes - Engages Conversations	Participant reports that they try to engage behavioral health patients in conversation
Attitudes - Other	
Theme: Call Volume	
Call Volume - Accurate Estimate	The participant reports that their perception of mental health call volume before they entered the EMS industry is consistent with the actual call volume.
Call Volume - Overestimated	Participant reports that the current behavioral health call volume is less than what they anticipated it would be before they started working in EMS
Call Volume - Underestimated	Participant reports that they underestimated the behavioral health call volume before they started working in EMS
Call Volume - Time of Day	Participant discusses a connection (or lack thereof) between behavioral health call frequency & time of day.
Call Volume - Percentage	Participant reports that they estimate that ___% of their calls are behavioral health related
Call Volume - Other	
Theme: Conduct	
EMS Conduct - Belligerent	Participant provides an example of an EMS crew being verbally hostile and/or condescending towards BH patients.
EMS Conduct - Compassion	Participant provides an example of an EMS crew being compassionate towards BH patients.
EMS Conduct - Neutral	Participant provides an example of an EMS approach BH calls with no specific sense of excitement or aversion.
EMS Conduct - Concealed Weapons	Participant states that they believe EMS providers either currently or would conceal a weapon on their person as a means of defending themselves against a BH patient
EMS Conduct - Personalities	Participant expresses views that it requires a “special type of person” to work with BH patients. Suggests that it is a skill that “you either have or you don’t”.
EMS Conduct - Other	
Theme: Restraining	
Restraining - Unwarranted Sedation	Participant provides example of inappropriate or medically unwarranted incidents of a BH pt being chemically sedated.
Restraining - Sedation Valuable	Participant’s response suggests that sedation is effective
Restraining - More Sedation	Participant’s response suggests that EMS needs to utilize chemical sedation more.

Code Name	Code Description
Restraining - Sedation Documentation	Participant discusses the practice of documenting incidences of chemical sedation.
Restraining - Sedation Knowledge	Participant discusses providers' knowledge-level/education about different sedatives
Restraining - Physical Restraints	Participant discusses the use of physical restraints
Restraining - Other	
Theme: Continuing Education	
CE - Minimal	Participant reports no/little mental health continuing education
CE - Moderate	Participant reports moderate mental health continuing education
CE - Significant	Participant reports significant mental health continuing education
Theme: Informal Training	
Informal Training - Influential	Participant reports that most of their knowledge about responding to behavioral health patients primarily comes from informal "on the job" training
Informal Training - Little Benefit	Participant reports that they learned very little about responding to behavioral health patients from informal "on the job" training
Informal Training - Supplemental	Participant reports that informal "on the job" training supplemented an already firm foundation of BH patients, but they still credit informal training as being useful to improving their knowledge
Theme: Initial Education (IE) Amount	
IE Amount - Minimal	Participant reports receiving minimal BH training in initial EMS education.
IE Amount - Moderate	Participant reports moderate attention to BH training in initial EMS education
IE Amount - Extensive	Participant reports extensive attention to BH training during initial EMS education
Theme: Initial Education (IE) Emphasis	
IE Emphasis - Communication	Participant reports initial EMS education BH training emphasized on communication skills.
IE Emphasis - Avoidance Strategies	Participant reports initial EMS education BH training emphasized listing things "you should not do" to BH patients.
IE Emphasis - Identification	Participant reports initial EMS education BH training emphasized the clinical presentations (signs and

Code Name	Code Description
	symptoms) of various psychiatric conditions
IE Emphasis - Restraining	Participant reports initial EMS education BH training emphasized restraining-related tactics (physical or chemical)
IE Emphasis - Stereotypes	Participants discusses the use/perpetuation of BH stereotypes that were used in EMS IE
IE Emphasis - Safety	Participants discusses provider safety was emphasized in EMS IE
IE Emphasis - Other	
Theme: Law Enforcement (PD)	
PD - Respect	Participant's responses suggest that law enforcement respects EMS's authority on scene.
PD - Friction	Participant describes challenges of interagency collaboration and chain-of-command working between EMS and PD on BH calls
PD - Requests Specific Intervention	And provides an example one police requested a specific medical intervention from a EMS crew for a BH pt
PD - Scene Safety	Participant states that they like having law enforcement on scene to protect EMS and ensure scene safety
PD - Creating Patients	Participant believes law enforcement calls for EMS because they do not want to deal with a subject with a behavioral complaint.
PD - Escort	Participant describes PD transporting a BH subject in their vehicle instead of requesting EMS
PD - Jail Diversion	Participants discusses the use of EMS as a substitute for taking a PD subject to jail
PD - Escalations	Participant provides an example of police's presence on scene escalating a behavioral health patient.
PD - Other	
Theme: Logistics	
Logistics - Hospital Choice	Participant discusses the types of facilities that they can transport a patient to (i.e., ED, outpatient psych, Urgent Care, etc.)
Logistics - Hospital Diversions	Participant discusses the logistics of being diverted away from the hospital.
Logistics - Brief On-scene Time	Participant states that they spend less time than average on-scene the BH patient (compared to other calls).
Logistics - Delayed On-scene Time	Participant states that they spend more time than average on-scene the BH patient (compared to other calls).

Code Name	Code Description
Logistics - Average On-scene Time	Participant states that they notice no differences in on-scene time for BH patients vs. other call types
Logistics - Hospital Delay	Participant describes delays encountered at the hospital with a BH patients.
Logistics - Hospital Stigma	Participant states that they feel they were “called out” or “shamed” by hospital staff for bringing a BH pt.
Logistics - Hospital Acceptance	Participant provides example of a receiving hospital that welcomed the arrival of the BH pt
Logistics - Hospital Capabilities	Participant discusses the capabilities of emergency departments to manage behavior health patients
Logistics - Other	
Theme: EMS Function	
EMS Function - Avoids Conversations	Participant reports that they avoid engaging behavioral health patients in conversation
EMS Function - Engages Conversations	Participant reports that they engage behavioral health patients in conversation
EMS Function - Finds Medical Problem	Participant reports discovering/treating relevant medical complications in BH patients that require urgent medical attention
EMS Function - Resource Referrals	Participant describes that they provide resource referrals to behavioral patients. This may include referring the patient in crisis to another immediate resource instead of being transported to the hospital.
EMS Function - Someone to Talk To	Participant describes their role on behavioral health calls as being someone to talk to you in a time of crisis
EMS Function - Verbal De-escalation	Participant provides example(s) of when they (or other EMS providers) utilize verbal tactics to engage with a BH patient in an effort to de-escalate the pt in lieu of more aggressive interventions.
EMS Function - Transport Only	Participant describes that they do not provide medical care most behavioral health patients (excluding basic assessments/vital signs).
EMS Function - Other	
Theme: Miscellaneous	
Misc. - Autism	Participant provides an example about autism spectrum disorder in some capacity
Misc. - Domestic Dispute	Participant references domestic dispute
Misc. - Homelessness	Participant references homelessness
Misc. - Parent Triggering Child	Parent references an incident involving a parent instigating

Code Name	Code Description
	their child
Misc. - Substance Abuse	Participant references substance-abuse
Misc. - Depression	Participant references depression
Misc. - Bipolar	Participant references bipolar disorder
Misc. - Schizophrenia	Participant references schizophrenia/schizoaffective
Misc. - Suicide Attempt	Participant references suicide attempt
Misc. - Suicidal Thoughts	Participant references suicidal thoughts
Misc. - Clinic-originated Transports	Participant references responding to BH pts at a clinic/other healthcare facility
Misc. - Derogatory Term	Tracking participants use of derogatory terms to describe the behavior health patient (“crazy”, “retard”, “nuts”)
Misc. - Medication Non-compliance	Participant discusses medication noncompliance
Misc. - Other Conditions	Participant discusses a specific condition that is not listed in this codebook
Misc. - Structural Barriers	Participant discusses barriers that inhibit individuals from accessing more appropriate healthcare (i.e., no form of transportation to see GP)
Misc. - Socioeconomic Factors	Participant references some socioeconomic dilemma relating to a patient's behavioral health complaint or ability to access healthcare
Misc. - Special BH Response Model	Participant references that they support an alternate 911 model where instead of an ambulance, a paramedic and a mental health care worker respond
Misc. - Long Term Recovery	Discussions involving the participant’s belief if the current 911 EMS system promotes long-term recovery for behavioral health patients calling in a time of crisis.
Misc. - The Public's View	Participant discusses what they believe the general public does not understand about EMS and their role responding to behavior health calls
Misc. - Interesting Comment	Any comment that the reader finds interesting

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