

RESEARCH REPORTS

A SURVEY REVIEW OF MENTAL HEALTH TRAINING IN PARAMEDIC PREPARATION EDUCATION PROGRAMS

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Recommended Citation: Winkelman, L., Short, M., Cohen, D., Noble, N., Spears, E., Robinson, S., & Awal, A. (2025). A survey review of mental health training in paramedic preparation education programs. *International Journal of Paramedicine*. (12). 14-30.

<https://doi.org/10.56068/PSIQ5259>. Retrieved from <https://internationaljournalofparamedicine.com/index.php/ijop/article/view/3171>

Keywords: CoAEMSP, mental health crisis, training, emergency medical services, EMS, paramedicine

Disclosures: None

Funding: No funding sources to disclose.

Presentations: This research was presented at The West Texas Regional Mental Health Conference on May 31, 2023 and The Texas Society for Advancement of Health Professions Conference on September 21, 2023 in Wichita Falls, TX.

Received: July 15, 2024

Revised: July 11, 2025

Accepted: July 12, 2025

Published: October 8, 2025

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ABSTRACT

Background: Due to increased behavioral health emergency calls, paramedic training must be enhanced to effectively meet the increasing demand for skilled behavioral health crisis response. This investigation aimed to identify current training among paramedic education programs for responding to behavioral health crisis calls. This study is the first known to document gaps in paramedic education regarding patients experiencing behavioral health crises.

Methods: This study utilized a descriptive cross-sectional mixed methods survey distributed to directors of Committee on Accreditation for the Emergency Medical Services Professions (CoAEMSP)-accredited programs. Data were collected on current training methods among paramedic education programs. Bivariate analyses with Chi-square or Fisher's exact test examined variations in perceived training effectiveness and demographic traits. We performed thematic analyses to examine the open-ended question responses and hypothesized the participants would rate their mental health training as insufficient for their needs.

Results: Of the 140 respondents (out of 628 solicited programs), program directors considered behavioral health the least useful training areas, with a 3.38 mean score (out of 5). Notably, 83 participants (59.3%) reported that behavioral health and psychiatric disorders had increased. Further, of the 140 respondents, 64 participants (45.7%) said mental health training hours should increase. Participants emphasized the need for awareness of behavioral health crisis calls for safety, stating that de-escalation training might improve paramedic safety. The participants perceived the most effective strategies for training in behavioral health crisis to include fostering an expectation of compassion, being empathetic, advocating for patients, developing a style for working with patients, recognizing collaboration, using training that involve educating, applying, and evaluating, and intentionally engaging in thoughtful debriefing following real patients.

Conclusions: The findings from this study underscore the urgency for initial paramedic education programs to bolster behavioral health crisis-related training. Participants reported awareness of mental health crises and de-escalation training is crucial in ensuring paramedic safety.

INTRODUCTION

Mental, psychiatric, and behavioral health emergencies are common calls that medical first responders encounter during their careers (Panchal et al., 2021). Mental health emergencies involve

an individual experiencing an acute situation related to mental health issues (National Alliance of Mental Illness, 2024). Whereas “psychiatric emergencies are acute disturbances in thought, behavior, mood, or social relationship that require immediate intervention as defined by the patient, family, or social unit to save the patient and/or others from imminent danger” (Wheat et al., 2016, p, 341). Behavioral health can be defined as a state of mental, emotional, and social well-being or behaviors and actions that affect wellness” (U.S. Centers for Disease Control and Prevention, 2024, para. 2), and behavioral health emergencies serves as an umbrella term for mental health conditions, suicidal ideation and attempts, and substance use concerns. Additionally, some make a distinction between a crisis which may not be an immediately life-threatening situation but involves severe distress, while emergencies are classified as life threatening situations where the individual is a danger to themselves or others (PsychCentral, 2022). An analysis using the National Emergency Medical Services Information System (NEMSIS) data helps highlight trends in psychiatric and mental health-related emergency calls. In 2016, psychiatric problems were the fourth most prevalent documented impression among adult patients, accounting for slightly more than 10.5% of calls (Panchal et al., 2021). By 2022, this figure had decreased to 3.8%, indicating a notable decline in the proportion of calls attributed to psychiatric issues (NEMSIS, 2023).

Data from 2024 further supports this trend, with only 3.09% of all emergency calls being related to psychiatric problems, abnormal behavior, or suicide attempts (NEMSIS, 2025). This suggests a continuing decrease in the percentage of such calls over the years. However, pediatric data tells a different story. Over 15% of emergency calls for pediatric patients involved psychiatric issues, making it the second most common clinical presenting issue in this age group (Panchal et al., 2021).

These findings indicate that while the overall proportion of psychiatric-related calls has decreased for adults, pediatric cases remain significantly high, illustrating the importance of specialized response strategies for different age groups. First responders continue to devote significant resources to addressing mental, psychiatric, and behavioral health emergencies, underscoring the need for targeted interventions and support (Langton et al., 2021). It is worth noting that many prehospital care charting systems restrict providers by offering a narrow and overly generalized array of Primary Impression options, which can inadvertently narrow the scope of their assessments. While first responder encounters with patients experiencing a mental health crisis can end in very tragic ways (Chung, 2023; Schmelzer, 2021); thankfully, these tragic outcomes are an extremely small percentage of behavioral health emergency calls as evidenced by only 1.5% or less of all 9-1-1 encounters ending with an on-scene patient death, which includes calls for medical reasons such as cardiovascular disease (Breyre et al., 2023). Yet, when reviewing the current textbooks commonly used in initial paramedic training, little content is found to equip paramedics for encounters with patients experiencing a mental health crisis (Pollak, 2018; Bledsoe et al., 2023). A recent qualitative analysis of EMS education surveyed subject matter experts about the gaps, opportunities, and challenges in EMS education (Lancaster et al., 2023). Behavioral health concerns ranked number 7 in the top 10 list of areas needing improvement.

Standardization of the initial education of paramedics is an amalgam of guidelines from the Commission on Accreditation of Allied Health Education Programs (CAAHEP), the Committee on Accreditation of Educational Programs for the Emergency Medical Ser-

vices Professions (CoAEMSP), and the National Highway Traffic and Safety Administration (NHTSA). Although the NHTSA (2021) standards were “revised to include more information regarding acute behavioral crisis and mental health disorders” (p. 23) as well as placed a greater emphasis on mental health, (CAAHEP, 2024; CoAEMSP, 2020; National Highway Traffic Safety Administration, 2021), the hours spent on these topics in practice paramedics education programs is unknown. While the educational standards are designed to be a minimum, the NHTSA guidelines focus on general study areas listing if paramedics should know these areas on a simple, foundational, or complex level without dictating the learning structure. CAAHEP and CoAEMSP require reporting of methods and hours spent on didactics, simulation-based training, and clinical rotations. Time allotments are at the discretion of each EMS educational program. The amount of time allotted behavioral health emergencies taught in paramedic initial education classrooms is unknown. This study is the first known to document gaps in paramedic education regarding patients experiencing a behavioral health crisis and emergencies.

This mixed methods study identified the current training that paramedic preparation education programs employ to prepare their students to respond to behavioral health emergency calls. By reviewing the training paramedics receive regarding effectively diagnosing, treating, and interacting with persons experiencing behavioral health crisis and emergency calls, we can identify reported training strengths and deficiencies. Specifically, this study aims to identify the existing training provided in paramedic education programs to equip paramedics for responding to calls related to behavioral health crises and emergencies. The authors hypothesized that the paramedic education program participants would perceive their mental health training as needing additional time in the area of behavioral health disorders.

METHODS

STUDY DESIGN AND POPULATION

This study utilized a cross-sectional mixed methods survey of program directors of CoAEMSP paramedic education programs across the country. The research team developed the self-designed 30-item survey to examine the following areas: participant demographics, program demographics, program training, program attributes, and trainee qualities. Regarding the specific type of questions, the questions varied from checkboxes to fill-in short or long text boxes, as well as included numerical values of the total number of hours spent in various training areas, and a Likert-type scale reviewing attitudes and beliefs of various training modalities. The survey questions regarding specific paramedic training topics consisted of the following sections: the number of training hours, didactic versus experiential training, scenario-based training, usefulness of training topics, and evolution of training. The survey also included questions regarding specific mental health-related subjects based on the Diagnostic and Statistical Manual of Mental Health Disorders (American Psychiatric Association, 2022), broad disorder criteria (Figure 1), professional disposition evaluation of students, which can be defined as a formal assessment process to evaluate students’ inherent qualities and personality fit to determine their suitability to become a paramedic, and the importance of paramedic qualities.

The survey concluded with open-ended questions about the perceptions of paramedic preparation in responding to emergency mental health crisis-related calls. Participants

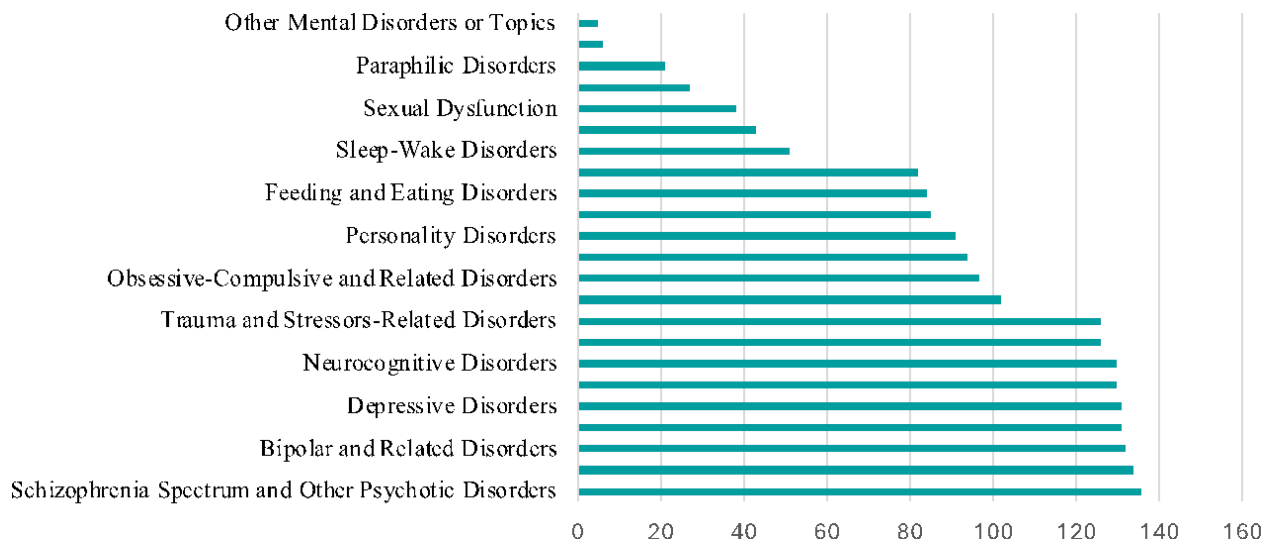


Figure 1. Mental health disorders and topics covered within current training.

were able to provide qualitative responses regarding the training their programs offered in behavioral health emergency calls through open-ended questions such as “What do you believe are the most effective strategies and/or teaching materials, methods, and content for paramedics to better identify and respond to emergency psychiatric/mental health crisis-related calls?” The study was approved by the Institutional Review Board at the researcher’s university.

SURVEY CONTENT AND ADMINISTRATION

In Spring 2023, data collection occurred through distributing the online survey developed using the Qualtrics system to all known CoAEMSP accredited programs across the country, which was 628 programs at the time of the study. The recruitment email was distributed three times two weeks apart, from April 10, 2023, to May 8, 2023. As many paramedic programs test their students in May through knowledge-based assessments, the timing of the survey administration may have influenced response rates, which may have caused program faculty to be less available to participate in the study. The solicitation cycle allowed participants to voluntarily opt-in and checked a box indicating they consented to participate using an anonymous data collection method. This resulted in 140 participants from CoAEMSP-accredited programs completing the study (a 22.3% participation rate). Survey utilization data indicated that 140 prospective participants clicked on the link to the survey, and the participants took an average of 41 minutes to complete the surveys. So, we considered 140 participants as our final sample size.

DATA ANALYSIS

We utilized STATA statistical software, version 17.0 (StataCorp LLC, College Station, TX), for all quantitative data management and statistical analyses. Missing data were handled through applied listwise deletion. For individual characteristics and descriptive statistics, we computed frequencies and percentages. We conducted bivariate analyses using Chi-square or Fisher’s exact test to explore differences in perceived training usefulness and demographic characteristics. The Bonferroni adjustment was employed in this study to control the Type I error rate during multiple comparisons. When conducting numerous statistical tests on a dataset, the probability of obtaining at least one significant result

due to chance alone increases, inflating the Type I error rate (false positives). We applied the Bonferroni adjustment by revising each test's significance level (alpha) to mitigate potential false positives. Instead of using the conventional alpha value (e.g., 0.05) for each test, the adjusted alpha was determined by dividing the desired overall alpha level by the total number of tests conducted. This adjustment rendered each test more conservative, thus diminishing the likelihood of a Type I error.

Qualitative data were analyzed using Thematic Analysis (TA, Braun & Clarke, 2006). The TA process followed included 1) becoming familiar with the quantitative and qualitative data, 2) generating initial codes, 3) searching for themes, 4) reviewing themes, 5) labeling and defining themes, and 6) writing the report of the themes. An author (4th), who is familiar with the data analysis approach, conducted TA with additional confirmations from other authors (1st and 6th) by comparing the raw data against the themes generated until unanimous agreement occurred and through member checking of the data and themes potential bias was addressed and mitigated.

RESULTS

The results are based on a total of 140 directors or faculty members of paramedic education programs accredited by CoAEMSP or CAAHEP who agreed to participate in the study and complete the survey. Table 1 reports the study population characteristics. Notably, the majority of respondents were male (59.3%) and identified their ethnicity as White/Caucasian (88.9%). Further, as paramedics, 75% have more than 16 years of field experience.

Figure 2 presents the average number of reported hours spent providing training, indicating the subjects with the least training hours by area with 7.16 average hours for seizure, 7.55 average hours for abdominal pain, and 8.02 hours for behavioral health and psychiatric disorders.

Table 2 depicts the comparison of the perceived usefulness of training on a 4-point Likert scale of not useful, somewhat useful, useful, and very useful indicates that behavioral health and psychiatric disorders were among the least perceived useful training areas with a 3.38 mean score, which while not significantly lower than the other training areas, indicates a small difference in perceived usefulness.

Further, regarding the perceived usefulness of behavioral health and psychiatric disorders, Table 3 presents the bivariate analyses comparing the perceived usefulness of training in behavioral health and psychiatric disorders to demographic variables of gender and age.

While the sample was not large enough to achieve statistical significance, Table 3 highlights an important trend: 80% of the 15 respondents who reported that behavioral health and psychiatric training was not useful or only somewhat useful were over the age of 50 years old. This trend suggests a potential generational or experiential difference in perceptions of training benefits which warrant further exploration. Regarding recent changes in the number of training area hours, Figure 3 compares the changes in subject area hours and the perceived subject areas that should be adjusted. Notably, 83 participants (59.3%) reported that behavioral health and psychiatric disorders had increased, and 64 participants (45.7%) said the hours should increase.

	Frequency (n)	Percentages (%)
Paramedic education program accredited by CoAEMSP or CAAHEP		
Yes	140	100.0
Gender		
Male	83	59.3
Female	54	38.6
Prefer not to say	3	2.1
Ethnicity		
White/Caucasian	128	88.9
Asian-Eastern	1	0.7
Hispanic	4	2.7
Native-American	3	2.1
Mixed race	2	1.4
Prefer not to say	6	4.2
States represented by NASEMSO regions		
East	22	15.7
Great Lakes	34	24.3
South	51	36.4
Western Plains	15	10.7
West	18	12.9
Highest education level		
Doctoral degree	11	7.9
Master's degree	68	48.6
4-year degree	59	42.1
2-year degree	1	0.7
Prefer not to say	1	0.7
Field experience as a paramedic		
3-4 years	1	0.7
5-6 years	4	2.9
7-8 years	2	1.4
9-10 years	5	3.6
10-15 years	23	16.4
16+ years	105	75.0
Educators practicing paramedics active with patient care outside of an educator's role		
None	5	3.6
Some	66	47.1
All	60	42.9
Other	9	6.4
Affiliation with paramedic training program		
Consortium	13	9.3
2-year college or technical school	106	75.7
4-year university	7	5.0
Other	14	10.0
Graduates serve in community sizes		
Rural (< 50k)	52	29.6
Urban (50k-100k)	77	43.8
Metro (> 100k)	45	25.6
Other	2	1.1

Table 1. Characteristics of participants.

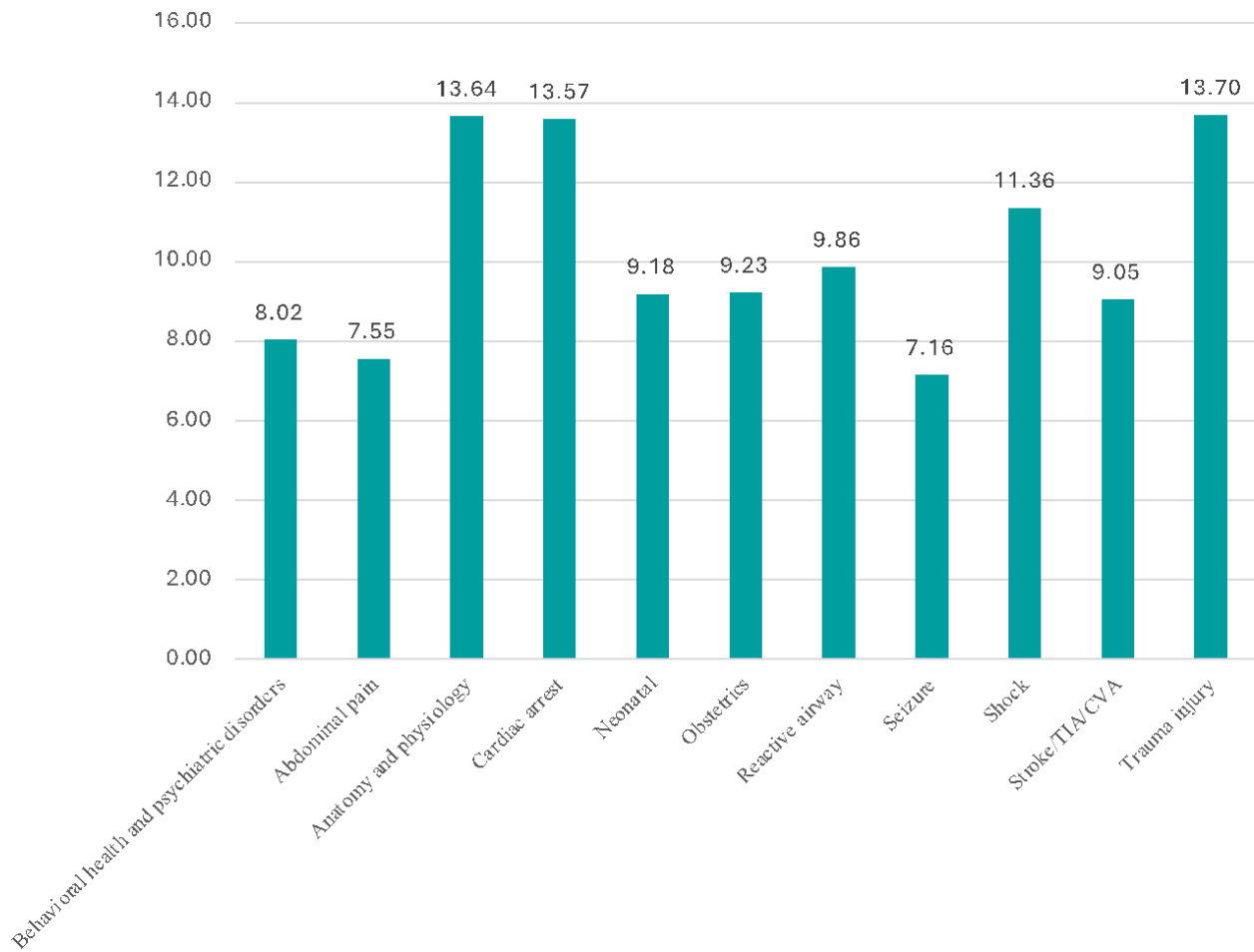


Figure 2. Participants' average number of reported hours spent providing training (N=140).
 *Averaged survey responses calculated based on the following recategorizations: No hours spent=0, Less than 1 hour=.5, 1 to 4 hours=2.5, 5 to 9 hours= 7.5, 10 to 14 hours= 12.5, 15 or more hours=15

PROGRAM TRAINING ON MENTAL HEALTH CRISIS

The Thematic Analysis (TA) yielded results that indicate a recognition of the need to expand the training on mental health crises and add mental health crisis topics to the curriculum. The subtheme of the high volume of mental health crisis calls emphasizes the

Type of Training	N=140		
	Mean	Std Deviation	Variance
Behavioral health and psychiatric	3.38	0.69	0.48
Abdominal pain	3.41	0.57	0.33
Anatomy and physiology	3.56	0.56	0.32
Cardiac arrest	3.79	0.41	0.17
Neonatal	3.46	0.6	0.36
Obstetrics	3.5	0.57	0.32
Reactive airway	3.66	0.52	0.27
Seizure	3.57	0.52	0.27
Shock	3.71	0.47	0.22
Stroke/TIA/CVA	3.68	0.5	0.25
Trauma injury	3.71	0.46	0.21

Table 2. Sample means and standard deviations for all usefulness scores by training area.

Demographic	Frequency (Percentage)			p-value
	Full sample (N = 140)	Not useful - Somewhat useful (N = 15)	Useful - Very useful (N = 125)	
Gender				
Male	83 (59.3)	9 (60.0)	74 (59.2)	1.000
Female	54 (38.6)	6 (40.0)	48 (38.4)	
Prefer not to say	3 (2.1)	0 (0.0)	3 (2.4)	
Age				
20-29	2 (1.4)	0 (0.0)	2 (1.6)	0.308
30-39	15 (10.8)	2 (13.3)	13 (10.4)	
40-49	30 (21.4)	1 (6.7)	29 (23.2)	
50-59	56 (40.0)	5 (33.3)	51 (40.8)	
60-69	31 (22.1)	7 (46.7)	24 (19.2)	
70+	2 (1.4)	0 (0.0)	2 (1.6)	
Prefer not to say	4 (2.9)	0 (0.0)	4 (3.2)	

Table 3. Association between the perceived usefulness of training in behavioral health and psychiatric disorders to demographic variables.

need for additional training. Participants described creating special programs to address mental health crisis calls and incorporating specific topics into the curriculum, including psychopharmacology and medical emergencies. The special programs included a course on conflict resolution and crisis management. Another reason noted for additional training during mental health crises was safety considerations. Specifically, participants reported a need for awareness of mental health crisis calls for their own safety and stat-

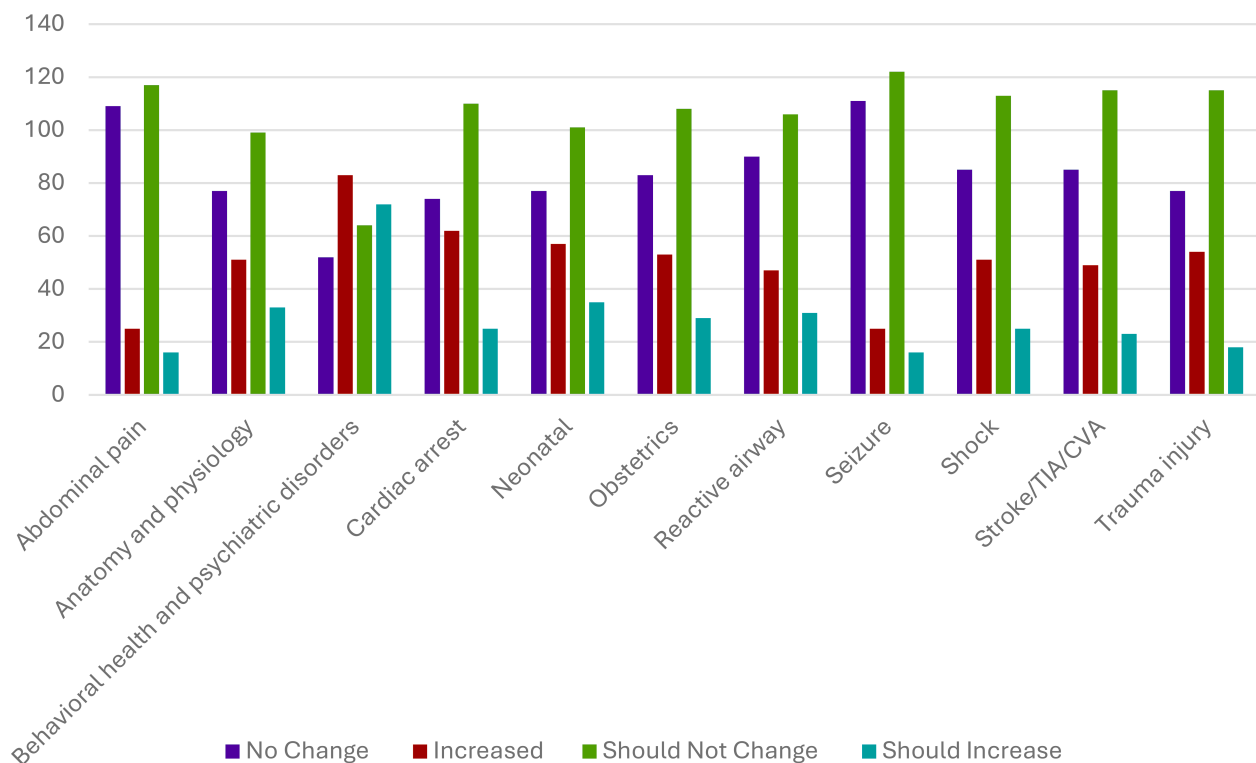


Figure 3. Association between the training hours adjusted and the perceived training hours that should be adjusted in all training areas (N = 140).

ed that de-escalation training might improve paramedic safety. However, participants conveyed that it may be difficult to prepare enough for dangerous situations.

The participants perceived scenario-based learning as the best method to teach topics and, more importantly, real-life experiences with actual patients as the most beneficial activity to increase readiness to address mental health crisis calls; therefore, some programs required students to complete clinical hours observing patients experiencing psychological or behavioral disorders. Additionally, participants elaborated on the training types by enlisting student assignments and presentations on mental health topics to enhance student learning on the subject.

While participants reported a need for additional training on mental health concerns, they also indicated several challenges associated with addressing these concerns, including difficulty getting buy-in regarding the importance of the topic, questions regarding if mental health crisis work should be a duty of paramedics' jobs, and numerous curriculum related concerns. Table 4 shows the complete list of curriculum-related challenges identified in our study. Participants described the need for collaboration across fields to mitigate these challenges and best address mental health crisis calls.

These collaborative efforts included the program faculty receiving training on the topic, soliciting experts to serve as guest lecturers in their courses, and collaborating with others on mental health crisis calls. However, a challenge with collaboration is that subject matter experts well-versed in acute mental health emergency crisis calls may be difficult for each program to identify and consult. Finally, some participants described additional mental health emergency training resources utilized by their programs. Table 5 provides the complete list of mental health crisis training resources obtained in the survey.

PREPARATION OF GRADUATES FOR MENTAL HEALTH RELATED CALLS

Participants classified their graduates' preparation for responding to emergency psychiatric/mental health crisis-related calls as appropriately prepared and not fully prepared. For the programs that indicated their students received adequate training, they stated that their programs covered all mental health topics required to meet the minimum state and local regulations. Other programs acknowledged that while graduates are appropriately prepared, they perceive their program as needing improvement to keep up with the increasing mental health demands on the job. For programs that reported their graduates were not fully prepared for mental health crisis work, they described the challenge of students having limited exposure to actual patients and it being difficult to have accurate scenarios with role-plays and actors like the real experience would provide.

Challenge	Frequency (%) N=57
Limited time and more pressing issues to teach	9
Need to focus on life threatening concerns	1
Outdated content of curriculum	15
Difficulty finding opportunities for exposure	26
See patients after they received their medication but not before	1
Certification testing does not emphasize mental health crisis	1
Briefest course despite largest volume of future calls	4

Table 4. Curriculum-related challenges associated with paramedic behavioral health crisis training.

Training Resources	Frequency (%) N=61
Compassionomics and Streetsense as well	3
EMH First Aid course	2
Formal CISM	2
Mental Health First Aid for 1st Responders course	2
Laws	1
Hotlines	1
Paperwork required	1
Information about local resources and agencies that assist with mental health concerns	49

Table 5. Additional resources for paramedic behavioral health crisis training.

According to participants, preparation for responding to emergency mental health calls included the students needing to possess the appropriate disposition for the profession. Participants reported that student characteristics influence graduates’ level of preparation for the field. Therefore, higher standards for admission to the field would serve as a more vigorous gatekeeping practice for the profession and eliminate individuals who do not possess the appropriate professional dispositions. Finally, a student characteristic that was viewed as highly important to be effective in the field and prevent burnout included the individual having strong and healthy coping strategies, self-care, resilience, and a positive perspective. Specifically, the participants discussed instruction on how to manage emotional and mental well-being, refraining from the internalization of mental health interactions, and using actors to simulate verbal abuse scenarios to help students understand the real-life situations they may face.

MOST EFFECTIVE CURRENT STRATEGIES TO TRAIN IN MENTAL HEALTH CRISIS

The participants reported that they perceived the most effective strategies and/or teaching materials, methods, and content for paramedics to better identify and respond to behavioral health emergency calls as the following: 1) fostering an expectation of compassion, empathy, and patient advocacy, 2) developing their style for working with patients, 3) recognizing the need for collaboration with others to address the topic, 4) using training types that involve educating, applying, and evaluating, and 5) intentionally engaging in thoughtful exposure following actual patients that includes reflection and debriefing.

DISCUSSION

In querying paramedic educators, we recognized a disconnect between their student’s behavioral health knowledge and the current realities of paramedicine in the field. The emphasis on life-saving treatment modalities in these educators’ curricula is not unexpected; it also reflects the national standards (National Highway Traffic Safety Administration, 2021). Additionally, the NHTSA (2021) standards require addressing the following behavioral health topics (the letters by the areas indicates the level of breadth and depth respectively, S for simple, F for foundational and fundamental, and C for comprehensive and complex: “Basic principles of the mental health system (S,S), Patterns of violence, abuse and neglect (C,C), Suicide ideation (C,C), Excited delirium (C,C), Anxiety (C,C), Depression (C,C), Medical fear (F,F), Substance use disorder/ addictive behavior (C,C), PTSD (C,C), Acute psychosis (C,C), Cognitive disorders (F,F), Thought disorders (F,F), Mood disorders (F,F), Neurotic disorders (F,F), Somatoform disorders (F,F), Facti-

tious disorders (F,F), Personality disorders (F,F), Other psychiatric/behavior disorders to be determined locally (S,S)" (p. 43). Further, these standards require that all levels of EMS clinicians have basic mental health knowledge and receive suicide prevention training (NHTSA, 2021). Similarly evident is the relegation of behavioral health emergencies to basic life support treatments and a concomitant minimization of training time.

Regarding substance use emergencies, approximately one-third of patients who accidentally overdosed on opioids utilized EMS services within the year before their death, which illustrates the need for EMS encounters to identify individuals who are at-risk of an opioid overdose (Barefoot et al., 2022). Although EMS providers roles in behavioral health emergencies have traditionally been to provide acute stabilization and transportation of patients to hospitals, Ding and colleagues (2023) recommend EMS are uniquely positioned to provide directed care for individuals experiencing these concerns and should engage in interagency collaborations to augment existing models of behavioral health emergencies and provide person-centered care. Regarding current EMS interventions used to address behavioral health emergencies, Cheetham and colleagues (2024) reported that pediatric patients experiencing a behavioral health emergency who required Emergency Detention (ED) and were transported by EMS or police to a hospital were significantly more likely to receive restraints (pharmacologic, physical, or mechanical) compared to self-transported patients. Emergency detention is a legal action where law enforcement detains an individual for their safety so they can be assessed for medical or mental health treatment.

Though most surveyed paramedic educators recognized behavioral health training deficiencies in their programs, a majority had not significantly altered the balance of time spent on subjects. These participants may have preferred improving the quality of instruction on behavioral health emergencies rather than increasing the number of instructional hours on the subject, which aligned with some of the feedback in the qualitative portion of the survey. The respondents were challenged to extend behavioral health training without sacrificing advanced life support instruction, accreditation standards, or community needs. The three least addressed areas based on time spent were seizures, abdominal pain, and behavioral health. Historically, these patient types have been thought to require minimal prehospital treatment and, therefore limited training. It was not until the mid-1990s that pain management for abdominal pain patients began to gain traction (LoVecchio, 1997), and today, it is sometimes the only treatment administered by paramedics. Also, seizures have typically ceased prior to the EMS provider's arrival at the patient's side, sometimes requiring no intervention (Meritam Larsen et al., 2023). While minimalist care for seizures and abdominal pain is often appropriate, behavioral health emergencies often require a higher level of intervention from EMS providers. Specifically, Ding et al. (2023) recommend collaboration and an interdisciplinary approach across multiple disciplines to deliver specialized care to improve patient outcomes and future management of their behavioral health concerns. Many EMS crews respond to a significant number of calls with primary or secondary impressions of behavioral health-related issues (Boland et al., 2023). Furthermore, behavioral health emergencies are increasing year over year for many EMS services, with a still stronger upward trend seen amongst pediatric patients (Knowlton et al., 2016).

It is acknowledged that while program perception of educational needs provides valuable insights, it represents only one facet of the overall picture. To comprehensively ad-

dress the gaps in paramedic education, particularly concerning training for responding to behavioral health crisis calls, it is crucial to also consider the experiences and feedback of learners themselves.

Incorporating the learner perspective would enrich our understanding by highlighting specific challenges and areas where current training may fall short from those who directly engage with the curriculum. By doing so, we can better tailor educational strategies to meet both the theoretical and practical needs of future paramedics. This holistic approach not only strengthens the educational framework but also enhances the readiness and competence of paramedics in managing behavioral health crises effectively. Future studies may wish to explore learners' perspectives to provide additional insight into the area of preparedness for learners.

RECOMMENDATIONS

We recommend national and local standards and policies that align with paramedic educators' recognition of the need for innovation in behavioral health training. To support these changes, efforts to advocate for expanded behavioral health training should focus on securing lobbying support from national EMS regulatory, planning, certifying, and accrediting bodies such as CoAEMSP, NHTSA, and the National Registry of Emergency Medical Technicians, as well as consider adjusting the future vision of the EMS Agenda 2050 (NEMSIS, 2023). Adjustments such as these would align with the National EMS Education Standards (2021) emphasis on mental health, the Substance Mental Health Services Administrations (SAMHSA)'s National Guidelines for Behavioral Health Crisis Care (2020) which recommend collaboration among emergency response organizations, the National Association of Emergency Medical Technicians' (2017) priority to focus on EMS practitioners mental and physical health. Therefore, expanded initial paramedic education, continuing education, and the suggested use of Mental Health First Aid as a card course should be nationally supported goals as research supports the efficacy of this program (Forthal et al., 2021). Producing paramedic textbook sections covering behavioral health should include collaborative efforts between educators from EMS and clinical mental health fields.

We are presenting recommendations geared toward aligning training with the needs of behavioral health calls. We would argue that the most valued aspect of restructured training is the provision of tools that keep behavioral health emergencies in the realm of basic life support treatment when appropriate; however, there are instances when ALS assessment and skills are needed to treat behavioral health emergencies such as substance use disorder treatment. For example, improved de-escalation techniques could reduce instances of chemical and physical restraint. It has been recognized that EMS protocols for behavioral health emergencies should focus on the management of agitation (Cheung et al., 2024), supporting de-escalation techniques. Ideally, this would lower risks for the patient cohort and paramedics alike. Additionally, to maintain competence and provide psychological support for advanced practice in ambulance services, mentorship is considered essential (Hodge et al., 2018). A strong mentorship program can guide paramedics through real-world experiences and foster continuous learning, and debriefing after complex situations, ensuring paramedics feel supported and confident in managing behavioral health emergencies. However, unsuccessful mentoring relationships among paramedics have been characterized by a lack of psychosocial support to the

challenging, stressful, and exposure to varying levels of psychological trauma (Furness & Pascal, 2013).

Paramedic programs could also consider collaborating with their community's behavioral health services providers to enhance local training programs and engage in the co-responder model (Police Executive Research Forum, 2023). This model involves a trained behavioral health crisis worker accompanying paramedics on calls. Additionally, programs that have not yet begun to do so may wish to implement a 911 diversion to 988, directing individuals experiencing behavioral health crises away from emergency services and toward an appropriate crisis hotline and local crisis resources. Partnerships could include local mental health authorities, collegiate counseling centers, child advocacy centers, and mental health program professors. If these resources are limited locally, paramedic educators should consider remote options with appropriate partners including SAMSHA which is a federal resource. Affiliation strategies could be used to provide clinical experience opportunities, in-service training like Mental Health First Aid, and a comprehensive picture of community needs. Building these connections could also assist in addressing the educator's admissions of their own needs for more education. Finally, scenario-based training, a cornerstone of paramedic initial and ongoing education (Myers et al., 2021; National Highway Traffic Safety Administration, 2021), is supported by paramedic preceptors, who enhance paramedic student's educational experience through providing work-based learning opportunities during their clinical experiences. These experiences help prepare students to transition into the workforce upon matriculation (MacQueen & Aiken, 2019). However, in the qualitative responses, respondents repeatedly indicated that some behavioral health scenario examples lacked substantive benefit due to the complex nature of depicting behavioral health concerns accurately and preferred trainees receive more real-life scenarios. To allow for these real-life scenarios in a safe environment, training might consist of guest lectures from individuals who have experienced behavioral health concerns. We recommend using the newfound partnerships to develop accurate and impactful scenarios for training, grounded in research to ensure efficacy.

FUTURE RESEARCH

Lastly, implementing improved training should be accompanied by research, as the literature regarding paramedic behavioral health training methods and outcomes is sparse. Prospective and retrospective research assessing paramedic student competency should accompany new training modalities before broader support for implementation. Research of EMS behavioral health patient populations may benefit from greater granularity. In paramedic training for medical emergencies, pediatric patients are recognized as having distinct needs that set them apart from adults. Similarly, when it comes to behavioral health patients, it is essential to acknowledge their unique requirements, which may deviate from those of more typical patients. Substance-induced behavioral health patients contribute significantly to overall volume for paramedic care. Specific research should be applied to this area to validate training practices aimed at reducing the potential for violence and the need for chemical and/or physical restraint. Additionally, research into treatment protocols, such as the administration of Buprenorphine post-overdose for patients with opioid use disorder, presents an opportunity to enhance paramedic care. Future research may wish to explore these interventions. Because this study solely considered identifying existing training, which is currently being provided

to paramedic programs, future research should investigate the effectiveness of behavioral health training interventions to better prepare paramedics for these challenges. Additionally, the escalating number of behavioral health calls impacts numerous stakeholders including educational accrediting bodies, EMS organizations, behavioral health professionals, healthcare systems, public safety and law enforcement, government agencies, and patients and families; thus, future research should explore behavioral health emergency calls from these varied perspectives. As a result of this extensive list of organizations involved in best addressing behavioral health emergency management, future research should examine strategies for effective collaboration among these stakeholders. Specifically, to address the rise in behavioral health emergencies, standardized protocols for dispatch inquiries and strategies for identifying and strengthening networks with regional mental healthcare providers should be investigated. Finally, research should study any problems unique to various cultural backgrounds to ensure best practices across cultural contexts.

LIMITATIONS

While this study offers implications for paramedic preparation education programs, there are limitations to these findings. A limitation of the study is the relatively low response rate (22.3%), with a sample size of 140, which limited statistical power (66.63%). As a result, findings from this study should be interpreted cautiously and considered suggestive rather than conclusive. Additionally, this study only surveys paramedic education programs therefore it may not be applicable to other EMS clinicians. The bivariate analyses can be more prone to oversimplified relationships and may fail to consider confounding variables. Chi-square and Fisher's exact test cannot provide information regarding the strength and direction of relationships. While the Bonferroni adjustment diminishes the probability of a Type 1 error, it does not eliminate the risk of this error and increases the likelihood of a Type II error or false negative. Another limitation of this study was the lack of operational definitions for key terms, such as "actively involved." This left room for variability in respondents' interpretations, potentially affecting the uniformity of responses. Without clear definitions, participants may have applied personal biases or context-specific experiences, which could lead to inconsistencies in how data was reported and interpreted. An additional limitation of this study is the reliance on self-reported data for training hours, which introduces variability and potential inaccuracies. We did not explicitly verify whether the reported hours meet the minimum training standards or if they encompass clinical rotation hours. Consequently, the reported figures may not fully represent the comprehensive training received. Future research should aim to collect more precise and standardized data to enhance the reliability and accuracy of training hour reports. Regarding the qualitative findings, a limitation includes having a singular data source for the survey and being unable to ask follow-up questions or make any observations regarding the responses.

CONCLUSIONS

Behavioral health calls are increasing for EMS crews across the country. This increase highlights the need to improve the training modalities for EMS crews in behavioral health issues. Enhanced training comes with significant barriers, particularly time allotment, limited resources, and cost of resources, educators' knowledge and preparation, and the value placed on such training. The present research depicts the program direc-

tors' perceptions regarding the need to increase training, while sharing strategies participants utilized to address the barriers such an increase would create.

Despite these limitations, the study indicates a need for improved and expanded behavioral health training for EMS providers. The recommendations presented in this study, both national and local, provide a roadmap for addressing the barriers to such training and improving outcomes for patients with behavioral health emergencies. Further, this study did not evaluate training implementation or its effectiveness but rather focused on identifying existing training currently provided to paramedic programs; therefore, continued research in this area is also crucial to validate training practices and improve patient and EMS worker outcomes. Overall, this study underscores the importance of addressing the growing need for behavioral health training in paramedic education programs to provide better patient care and improve the well-being of EMS providers.

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