Evaluation of the Mental Health Temperature of Rhode Island Emergency Medical Services (EMS)

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ABSTRACT

Mental health among first responders is often impacted by repeated exposure to stressors and traumatic events. As a result, Emergency Medical Services (EMS) professionals have a higher risk of suicide than the general public. With each state having different EMS cultures and operations, the Rhode Island Department of Health (RIDOH) Center for EMS identified a need to assess the mental health of EMS professionals in Rhode Island. A survey was distributed to EMS professionals in Rhode Island to evaluate their mental health and identify demographic gaps, as well as assess the risk of suicide for EMS professionals. Survey results provided evidence of concerning mental health among first responders in Rhode Island, with 15.4 percent of responders reporting suicidal ideation in the past 12 months. The results suggest that increased programming to provide resources and awareness is necessary to improve mental health and ensure the longevity of EMS professionals' careers.

KEYWORDS: Emergency Medical Services; Mental Health; Occupational Stress

INTRODUCTION

EMS professionals in Rhode Island have an extensive scope of practice, allowing them to perform life-saving measures in the prehospital setting. In 2023, 233,445 patient care reports were completed in Rhode Island.² Nationally, EMS employment is projected to grow by five percent between 2022 and 2032, which is higher than the average across all occupations.³ As the profession grows, recruiting and retaining healthy employees is extremely important to provide life-saving care to communities across the state.

As of 2023, the State of Rhode Island had 4,576 licensed EMS professionals and 83 EMS agencies. The agencies include fire departments, stand-alone EMS agencies, private ambulance companies, collegiate, and corporate EMS.⁴ EMTs in Rhode Island can become licensed at the age of 18 and can retain their license as long as they meet the necessary continuing education requirements for re-licensure.⁵

Between January 2009 and October 2024, 16 EMS providers died by suicide in Rhode Island. This number was

derived from reports to the RIDOH Center for EMS from family and agency leaders. It is possible there are additional unreported cases. While this number may appear small, the culture of the tight-knit Rhode Island EMS community was profoundly affected by these losses.

Studies have shown that EMS professionals die by suicide at higher rates than the general public. Further research confirms this by demonstrating that EMS professionals have an increase in risk factors associated with suicide, including acute and chronic stress, fatigue, depression, and substance misuse. The presence of these risk factors significantly increases the risk of suicide. The presence of these risk factors is predicted to be the result of repeated instances of the physical and psychological stress associated with being an EMS professional. In addition, EMS professionals have a higher rate of completed suicides compared to the general population. Because of this, it is imperative that mental health is addressed before suicide attempts occur.

The goal of this survey was to assess the EMS mental health in Rhode Island, in order to identify the need for resources and policy updates. EMS professionals were surveyed on physical health, mental health, substance use, stigma, and availability of resources. The RIDOH Center for EMS wanted to evaluate the current mental health status of EMS professionals in addition to assessing how many professionals currently exhibit risk factors. Results from the survey will guide future mental health initiatives and resources for all first responders.

The survey was conducted anonymously due to the sensitive nature of the questions posed. It was felt that EMS professionals would be less likely to respond to the survey honestly if their names were recorded. The Rhode Island Department of Health Center for EMS is responsible for disciplinary actions, and while the authors had no intention of using this research for disciplinary investigations, fear of punishment or affected reputation was predicted to result in skewed data.

The survey primarily consisted of multiple-choice questions. The authors included one short answer question to survey advice on how to improve the Critical Incident Stress Management program that is put on by The Rhode Island Critical Incident Stress Management Team. The question asked "Critical Incident Stress Management could be



improved with the following." These data were omitted from the paper as the authors were not looking to publicly critique the organization. These data were shared internally.

Peer-reviewed research that queries individual EMS professionals on their mental health with this scope does not exist. The only other state to conduct a similar survey was the Virginia Department of Health (VDH) in 2019.8 Due to significant differences in demographics, provider level, and employment status, the authors felt that it would not be relevant to directly compare the results of RIDOH's survey to VDH's survey.

METHODS

We identified a need to learn about the mental health of Rhode Island EMS professionals, as no other research on this topic existed. Fifty-one multiple-choice and short-answer questions were formulated. Some questions were objective-based, such as the subject's demographics. Others were added from the Substance Abuse and Mental Health Services Administration (SAMHSA) mental health questions, in collaboration with the Comprehensive Suicide Prevention Program at RIDOH, and previously completed surveys from the Virginia Department of Health. The survey was created and distributed via Research Electronic Data Capture (REDCap, Nashville, TN). An email list was compiled from the RI state EMS data repository ImageTrend, the state licensing platform MyLicense Office (MLO), and the EMS Learning Management System Train.org. There were 9,072 email addresses collected from the three sources. Duplicate email addresses were removed; however, some individuals had different emails listed in each data source. About 1,000 to 1,500 emails were returned to the sender after the distribution of the survey. The survey was first distributed on May 21, 2024, and closed on July 15, 2024. Two reminder emails were sent out following the initial launch of the survey. Results were analyzed using Microsoft Excel (Microsoft, Redmond WA).

RESULTS

There were 953 survey responses recorded in the REDCap survey system. The study participants' demographics were consistent with national data for EMS providers for both sex and race. About 91.0 percent of survey respondents reported their race and ethnicity as non-Hispanic White, compared to approximately 85.0 percent of nationally certified EMS personnel identifying as non-Hispanic white. With 78.9 percent of individuals assigned male at birth, this is also representative of the national EMS professional population, with 76.0 percent male. Since respondents were predominantly from similar demographics, no significant conclusions could be determined based on race, ethnicity, or sex. It is worth

noting that 48.2 percent of respondents are EMT-Cardiacs, a licensure type specific to Rhode Island but similar to the national Advanced EMT level.¹⁰ This should be considered for the generalizability of the study.

While mental health struggles are present across all demographics, young professionals seem to be the population most burdened with suicidal thoughts. The data show 22.2 percent of EMS professionals ages 18–24 have had suicidal ideation in the past 12 months, with the percentage of reported suicidal thoughts declining as age increases. Similarly, 21.3 percent of EMS professionals with three to five years of experience had thoughts of killing themselves. Of the 471 providers who reported burnout, 42.9 percent are aged 25–39. Of the providers ages 25–39 with burnout, 23.8 also reported suicidal thoughts. Also, 33.3 percent of all professionals who reported that they quit EMS experienced suicidal thoughts.

Mental health resource accessibility varied across respondents. Overall, 65.6 percent of responding EMS professionals reported that their agency offers mental health resources, with 20.8 percent of respondents unsure. When asked about specific resources, 68.6 percent of respondents reported an available employee assistance program with 21.3 percent of respondents unsure. In addition, 60.9 percent of respondents had received mental health training during the prior 12 months, and 81.5 percent of respondents knew where to find help for mental health issues in their agency. An overwhelming 92.8 percent of respondents knew about Critical Incident Stress Management (CISM). CISM is a program that provides debriefing after emotionally stressful or traumatic events. 11 Despite the program's broad recognition, only 23.4 percent of providers had participated in a CISM debriefing.

Rhode Island EMS professionals listed several reasons for not receiving mental health support, with, "I didn't think it was needed," and, "I already possess sufficient coping skills." having the highest percentages with 58.1 and 23.6, respectively. Following this, the next highest reason was "I didn't have time," at 16.3 percent. [Tables 1–5]

Seven questions from the survey were directly linked to risk factors for suicide [**Table 6**]. While the presence of these risk factors may or may not be directly attributed to the EMS profession, research concludes that the presence of these risk factors is linked to suicide.⁶ They included physical injury on the job, stress level, emotional problems, mental health effects on relationships, frequency of alcohol consumption, and average number of drinks in one day.^{6,12,13} Results were filtered based on answers that reported very high levels of stress, mental health affecting relationships very often, daily drinking, and seven or more drinks per day, in addition to positive responses on the yes/no questions.



Table 1. Baseline characteristics of surveyed participants

	n (%)	
Age		
18–24	87 (9.4)	
25–39	296 (31.9)	
40–49	195 (21.0)	
50–64	299 (32.2)	
65+	51 (5.5)	
Sex assigned at birth		
Male	737 (78.9)	
Female	183 (19.6)	
Intersex	2 (0.2)	
Prefer not to disclose	12 (1.3)	
Gender Identity		
Agender	2 (0.2)	
Genderqueer or genderfluid	2 (0.2)	
Man	727 (78.0)	
Non-binary	4 (0.4)	
Questioning or unsure	1 (0.1)	
Two-spirit	2 (0.2)	
Woman	174 (18.7)	
Prefer not to disclose	21 (2.3)	
Additional gender category/ identity not listed	5 (0.5)	
Ethnicity		
Hispanic or Latino	40 (4.3)	
Not Hispanic or Latino	895 (95.7)	
Race		
American Indian or Alaska Native	5 (0.5)	
Asian	20 (2.1)	
Black or African American	22 (2.4)	
Native Hawaiian or Other Pacific Islander	5 (0.5)	
White	898 (96.2)	

 Table 2. EMS employment demographics

EMS License Level Emergency Medical Responder 36 (3.9) EMT 239 (25.6) Advanced EMT 23 (2.5) EMT Cardiac 450 (48.2) Paramedic 186 (19.9) Serves with a fire department Yes 688 (73.5) Average hours worked in a weet <20 69 (7.4) 20-40 110 (11.8) 41-50 287 (30.7) 51-60 205 (21.9) 61-70 144 (15.4) 71-80 63 (6.7) >80 57 (6.1) Have you ever served in the military Yes 123 (13.2) Employment and Volunteer Status Full-time 563 (60.2) Part-time 45 (4.8) Unpaid Volunteer 73 (7.8) Full-time & Volunteer 47 (5.0) Part-time & Volunteer 47 (5.0) Part-time & Part-time 11 (1.2) Stipend/Paid Volunteer 53 (5.7) Taking a break, but plan to return in the future 54 (5.8)		10/1			
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Serves with a fire department Yes 688 (73.5) Average hours worked in a week <20	EMT Cardiac	450 (48.2)			
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71-80 63 (6.7) >80 57 (6.1) Have you ever served in the military Yes 123 (13.2) Employment and Volunteer Status Full-time 563 (60.2) Part-time 45 (4.8) Unpaid Volunteer 73 (7.8) Full-time & Volunteer 47 (5.0) Part-time & Volunteer 41 (4.4) Full-time & Part-time 11 (1.2) Stipend/Paid Volunteer 53 (5.7) Taking a break, but plan to return in the future 21 (2.2) Retired 54 (5.8) Other 16 (1.7) Quit 11 (1.2) Years of Experience 43 (3.6) 1-2 61 (6.5) 3-5 85 (9.1) 6-10 131 (14.0) 11-15 128 (13.7) 16-20 134 (14.3) 21-25 117 (12.5) 26-30 86 (9.2)	51–60	205 (21.9)			
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Years of Experience <1	Other	16 (1.7)			
<1	Quit	11 (1.2)			
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3-5 85 (9.1) 6-10 131 (14.0) 11-15 128 (13.7) 16-20 134 (14.3) 21-25 117 (12.5) 26-30 86 (9.2)	<1	34 (3.6)			
6-10 131 (14.0) 11-15 128 (13.7) 16-20 134 (14.3) 21-25 117 (12.5) 26-30 86 (9.2)	1–2	61 (6.5)			
11-15 128 (13.7) 16-20 134 (14.3) 21-25 117 (12.5) 26-30 86 (9.2)	3–5	85 (9.1)			
16-20 134 (14.3) 21-25 117 (12.5) 26-30 86 (9.2)	6–10	131 (14.0)			
16-20 134 (14.3) 21-25 117 (12.5) 26-30 86 (9.2)	11–15	128 (13.7)			
21–25 117 (12.5) 26–30 86 (9.2)					
26–30 86 (9.2)		117 (12.5)			
	>30	160 (17.1)			

Table 3. Reported substance use and misuse of EMS providers

	n (%)				
Frequency of having a drink containing alcohol in the past year					
Never	141 (16.2)				
Monthly or less	176 (20.2)			
Two to four times a month	233 (26.8)				
Two to three times a week	185 (21.2)				
Four or more times a week	136 (15.6)				
Number of alcoholi when drinking in th		on a day			
None, I do not drink	167 (19.2)				
1 to 2	388 (44.5)				
3 to 4	184 (21.2)				
5 to 6	90 (10.3)				
7 to 9	28 (3.2)				
10 or more	14 (1.6)				
Reports of frequent	Reports of frequent substance use				
Substance	Weekly use n (%)	Daily or almost daily use n (%)			
Tobacco	26 (3.0)	117 (13.4)			
6 or more alcoholic drinks	70 (8.1)	20 (2.3)			
Prescription drugs for non-medical reasons	4 (0.5)	5 (0.6)			
Cannabis	57 (6.5)	67 (7.7)			
Illegal drugs 5 (0.6) 1 (0.1)					



Table 4. EMS professional evaluation of health

Question	Yes
Suffered a physical injury due to job	183 (20.4)
If you suffered an injury, did you have to take time out of work	114 (62.3)
Problems with work or daily life due to emotional problems, such as feeling depressed, sad or anxious	429 (47.8)
Diagnosed with a mental health disorder	252 (28.1)
Thoughts about killing oneself	138 (15.4)
In the last 12 months, have you done anything, started to do anything, or prepared to do anything to end your life?	29 (3.2)
Called/texted/online chatted with 988 for oneself	9 (1.0)
Experienced burnout	471 (52.6)
Sought out help for mental health	281 (31.4)
Physical Health Rating	
Excellent	172 (19.2)
Average	574 (64.0)
Somewhat poor	122 (13.6)
Poor	28 (3.1)
Not sure	1 (0.1)
Mental Health Rating	
Excellent	151 (16.8)
Average	470 (52.4)
Somewhat poor	197 (22.0)
Poor	69 (7.7)
Not sure	10 (1.1)
Stress Levels	
Very low/none	25 (2.8)
Low	151 (16.8)
Moderate	459 (51.2)
High	217 (24.2)
Very high	45 (5.0)
Average Hours of Sleep in a 24 hour Period	
0–5	216 (23.1)
6	397 (42.4)
7	227 (24.3)
7	227 (24.3) 78 (8.3)
8	78 (8.3)
9	78 (8.3) 13 (1.4)
8 9 10+	78 (8.3) 13 (1.4)
8 9 10+ Effect on Relationships	78 (8.3) 13 (1.4) 5 (0.5)
8 9 10+ Effect on Relationships Very often	78 (8.3) 13 (1.4) 5 (0.5) 102 (11.4)

Table 5. Mental health stigma in EMS

	Strongly Agree or Agree	Neutral	Disagree or Strongly Disagree
My agency considers mental health important	479 (55.6)	226 (26.2)	157 (18.2)
I feel comfortable talking about my mental health with my colleagues	367 (44.0)	249 (29.9)	218 (26.1)
I am afraid to ask for mental health resources due to fear or retaliation or disciplinary action	126 (15.1)	182 (21.8)	526 (63.1)
I am afraid to ask for mental health resources due to a fear of being labeled or treated differently by my colleagues	199 (24.0)	208 (25.1)	422 (50.9)
I feel appreciated by my agency when I think about what they pay me	233 (29.9)	239 (30.7)	306 (39.3)

Table 6. Presence of risk factors for suicide in EMS professionals

Number of risk factors	Total	Male	Female	18–24	25–39	40–49	50–64	65+
1	318	245	67	34	105	62	104	13
2	151	115	34	11	65	41	33	1
3	82	64	15	12	26	25	18	1
4	18	13	4	1	10	4	2	1
5	10	6	3	0	6	1	2	1
6	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0

DISCUSSION

RIDOH Center for EMS hypothesized that there would be a high percentage of EMS professionals suffering from mental health problems, and even higher percentages of professionals with suicide risk factors. However, the 15.4 percent of providers who have had thoughts of killing themselves was far larger than expected as the national average of adults ages 18 or older with serious thoughts of suicide in the past 12 months is approximately 5.0 percent.¹⁴ Rhode Island EMS professionals are struggling with their mental health at a rate higher than the national average, likely due to high presence of risk factors which have been linked to suicide in previous research. EMS professionals are burdened by their job and are not receiving and/or utilizing the resources they need to cope with job-related pressures. This burden enters their personal life, with high rates of relationship instability and substance misuse, putting these professionals at risk for suicide. Just one risk factor can lead to suicide, and our survey identified 110 professionals with three or more risk factors. EMS professionals between the ages of 25–39 reported the highest number of risk factors. This age group has also been overrepresented in EMS professional suicides in Rhode Island over the past 15 years.

Mental health stigma is an issue in the RI EMS community. Answers to stigma-related questions in **Table 5** suggest that RI EMS professionals



feel mental health is stigmatized, given answers to stigma questions did not reach an overwhelming positive majority. Some 25.5 percent of EMS professionals aged 25-39 either disagree or strongly disagree with the statement: "My agency considers mental health important." This is the largest percentage of any age group to report this finding. Given that these professionals are more likely to be in junior leadership positions based on national recommendations for EMS leadership qualifications, 15 they represent the bridge between the longest-serving professionals and the newest professionals. Their response to this question is particularly relevant because junior leadership interacts significantly with both staff and senior leadership, giving them the broadest view of organizational values. In addition, 44.4 percent of all respondents reported either a negative or neutral response to the same question. These data indicate that stigma is still a barrier to mental health care for many EMS professionals in Rhode Island. With a community as small as Rhode Island EMS, peer response plays a large part in a professional's willingness to seek help.

Rhode Island EMS professionals most common reasons for not receiving mental health support, are, "I didn't think it was needed," and "I already possess sufficient coping skills." These results would suggest that awareness of mental health's importance and de-stigmatization of mental health care through the entire chain of command is essential to provide reform. EMS professionals need to recognize when it is imperative to seek help while departmental awareness and recognition of individuals in need is enhanced, and individuals can receive support and help without negative consequences.

Data addressing the accessibility of mental health resources show that there is a significant number of professionals who do not have access to mental health resources via their agency. With only 65.6 percent of EMS professionals with guaranteed resources, this leaves the remaining providers in need of locating and paying for services on their own. The one resource that is available to all providers is Critical Incident Stress Management (CISM). RI has a CISM program that, upon request, will send a team member to an agency to facilitate one group discussion after a particularly traumatic incident. In addition, CISM team members will refer EMS professionals to other mental health resources for additional support. It is also important to note that CISM debriefings are typically organized at the request of agency leadership and is most often optional for EMS professionals to attend.¹⁶ As a result, if an agency does not have a strong mental health culture, these debriefings will not occur. Although studies have not shown CISM single-session debriefing to be as effective as intended, as illustrated by a 2002 paper that found no significant benefit from single session psychological debriefing following trauma, the EMS professionals with suicidal ideation in our population reported that they valued CISM intervention.¹⁷ Of the professionals with suicidal ideation who had completed a CISM debrief, 73.1 percent feel that CISM is helpful. In addition, of the professionals with suicidal ideation who had not completed a CISM debrief, 45.6 percent of professionals feel that CISM is helpful, with an additional 38.9 percent with a neutral opinion. These data would suggest that CISM could be beneficial to those who are most at risk for a suicide attempt and should be made broadly available as an optional resource.

CONCLUSION

EMS professionals in the State of Rhode Island experience job-related stressors that can degrade their mental health and put them at risk for suicide. The future of the EMS profession is projected to be significantly affected by high rates of mental health struggles, substance misuse, and burnout. 18 Many EMS professionals do not feel as though they need help when stressed, which will delay care should a mental health challenge occur. Longitudinal studies would need to occur to determine how many professionals leave EMS due to mental health issues. According to the National Registry of EMTs, the number of EMS professionals being certified increases each year.19 This indicates that there is not necessarily a lack of interest, but rather a lack of sufficient incentive to work in such a mentally grueling field without adequate mental health support.20 Increased funding for mental health programming targeted at the EMS system, in addition to de-stigmatization of mental health in the EMS community is essential to combat these challenges and ensure the safety of those who provide life-saving care to Rhode Islanders.

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