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## Original Research

# Supporting Emergency Medical Services Clinicians Through Acute and Sustained Crises With Informal Peer Support and Intentional Acts of Kindness: The Emergency Medical Services Code Lavender Program



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## A B S T R A C T

**Objective:** Given the recommendations against the use of critical incident stress debriefing, the emergency medical services (EMS) Code Lavender program was created as a mechanism to consistently recognize and reach out to EMS clinicians after acute crisis events, offer nonintrusive informal peer support and acts of kindness, and provide stepwise support via mental health professionals as needed. The study aimed to assess program utilization and evaluate the program's impact on EMS clinicians' perceptions of support and resources available to them after an acute crisis event.

**Methods:** Anonymous surveys were distributed before program implementation and 18 months later. Program utilization was tracked using REDCap (Vanderbilt University, Nashville, TN). Fisher exact tests and logistic regression were used to analyze the survey results.

**Results:** Within 30 months, 87 referrals were made. Seventy-seven preprogram (59% response rate) and 104 intraprogram (88% response rate) surveys were collected. There were no differences between respondents by sex or role. There were significant improvements in knowing where to go for help (from 40% to 85%,  $P < .001$ ) and willingness to seek help if needed (from 40% to 59%,  $P = .02$ ).

**Conclusion:** The implementation of an EMS Code Lavender program led to significant increases in EMS clinician self-reported knowledge of where to go and willingness to seek help after acute crisis events.

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The EMS Code Lavender Program would not be even remotely possible without the buy-in and trust of the Stony Brook University Hospital EMS team; we are merely scribes on their behalf in hopes of sharing our collective successes with our extended first responder family. We would like to thank the department's supervisory and administrative leadership for their continued support as well as Drs. Megan Lochner, Cynthia Cervoni, and Adam Gonzalez, who have been invaluable resources and genuine champions as our EMS Code Lavender Program has evolved.

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Emergency medical services (EMS) clinicians are inherently involved in physically and psychologically exhausting events as they treat sick or injured patients in dynamic, often uncontrolled environments and with time, space, and resource constraints. An acute crisis event, or critical incident, occurs when a situation provokes "an unusually strong reaction which has the potential to interfere with [an EMS clinician's] ability to function at the scene or after,"<sup>1,2</sup> often due to unexpectedly chaotic, tragic, or gruesome circumstances.<sup>1</sup> Stress related to providing patient care during an acute, short-duration crisis event is further compounded by chronic work-related stress, which takes a cumulative toll on the individual.<sup>1</sup> These chronic

stressors include persistent occupational stressors (ie, the risk of exposure to infectious disease, the potential for verbal or physical violence, and the risk of injury or death in vehicle-related incidents)<sup>1,3</sup> and pervasive operational stressors (ie, insufficient salaries necessitating extra work hours and strain of shift work).<sup>1,3</sup> Increased chronic stress seems to magnify stress associated with acute crisis events,<sup>3,4</sup> and recurrent exposure to traumatizing events in conjunction with chronic stressors are likely factors in the significantly higher adjusted suicide mortality odds ratios of EMS clinicians compared with the general public.<sup>5</sup> National surveys of EMS clinicians have suggested that 37% of respondents have contemplated suicide, with 7% having survived a prior suicide attempt (values 10 times higher than the national average for adults in the United States at that time),<sup>6</sup> and that only 46% of respondents believe their EMS agency provides mental health resources, with only 59% knowing where to go for help if they need it.<sup>7</sup>

Historically, the primary agency-level mechanism to support the mental health of EMS clinicians has been using mandatory critical incident stress debriefing sessions to attempt to mitigate acute crisis event stress and prevent the development of posttraumatic stress symptomology.<sup>8–10</sup> Although well-intentioned, a single critical incident stress debriefing session scheduled 24 to 72 hours after an acute event may do more harm than good<sup>11–15</sup> and thus is no longer recommended.<sup>10,12,16</sup> Pushing an EMS clinician to share vivid details of the event likely causes secondary traumatization,<sup>14</sup> and doing this within a rigid framework that expects uniformity and predictability of individuals' reactions to the event prevents the self-titration of that individual's emotional release and thereby their own unique, natural psychological processing of an event.<sup>11,14,17</sup>

Therefore, the driving question is as follows: How can an EMS agency offer meaningful mental health support that is realistic and sustainable in terms of budgetary and workforce constraints?

Some hospitals have begun Code Lavender programs to provide a coordinated response for staff after a distressing event.<sup>18–21</sup> A Code Lavender serves as a way to pause and acknowledge that something stressful or tragic has occurred and offer support and acts of kindness to the involved caregivers.<sup>18,22</sup> The phrase “Code Lavender” represents both urgency and calmness; code implies a rapid intervention by a special team, and lavender alludes to the soothing influence its aromatherapy is believed to provide.<sup>21</sup> Although the response team composition and process varies by institution, most programs involve staff recognition of an event that initiates a multidisciplinary team member response, which often includes offering lavender aromatherapy.<sup>19–22</sup>

When considering ways for EMS agencies to offer support to EMS clinicians after an acute crisis event, several components of the Code Lavender approach are appealing. Existing research suggests EMS clinicians are often among the first to recognize concerning changes in their colleagues<sup>23</sup> and are more likely to seek out and respond well to informal support from their peers compared with mandatory formal counseling.<sup>3,6,23</sup> This peer support seems to be most beneficial when integrated directly into the standard operations and infrastructure of the agency<sup>24</sup> and when it occurs immediately after the acute crisis event<sup>17,23</sup>; it offers the opportunity for a brief time-out period to casually talk about the event with colleagues or an insider who “gets” the significance of the event,<sup>23,25,26</sup> thereby allowing for the self-titrated release of emotion in a safe, supportive environment.<sup>17</sup> Furthermore, EMS clinicians seem to value when supervisors offer support by acknowledging the event, express concern about the well-being of the EMS clinician as a human, display a willingness to listen, and facilitate formal support with mental health professionals who are familiar with EMS if it is needed.<sup>6,7</sup> Collectively, it would seem that developing a mechanism to consistently recognize and acknowledge an acute crisis event with immediate stepped support that is nonintrusive, part of standard agency operations, and driven

by trusted colleagues and supervisors would be beneficial to the EMS community.<sup>24</sup>

Therefore, the primary objective of this study was to develop, implement, and assess the volume of use of a Code Lavender program tailored to meet the unique attributes of an EMS agency. Of note, EMS Code Lavender was scheduled to launch a mere 2 weeks before the local area became an epicenter of the first wave of the coronavirus disease 2019 (COVID-19) pandemic in the United States,<sup>27</sup> necessitating real-time programmatic modifications. In addition, we aimed to evaluate the impact of program implementation on EMS clinicians' perceptions of support and resources available to them after an acute crisis event.

## Methods

### Study Design

This is a prospective, observational study on the impact of a department-wide initiative to implement an EMS Code Lavender program. This study was reviewed and approved by the Stony Brook University Institutional Review Board.

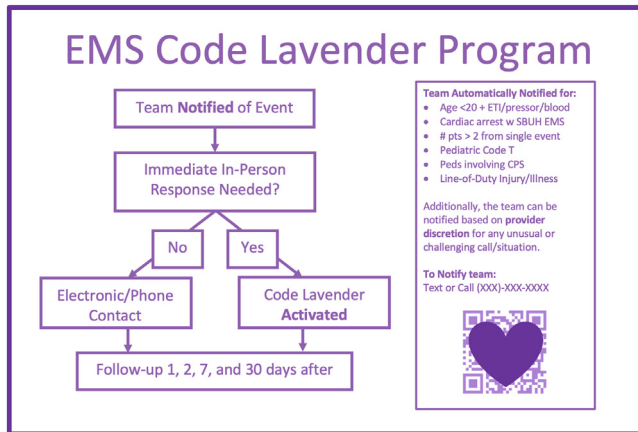
### Population and Setting

This study was conducted with Stony Brook University Hospital EMS (SBEMS). Stony Brook University Hospital is a suburban, academic, level 1 trauma and tertiary care center with an annual emergency department census of approximately 110,000 patients. In addition to critical care interfacility transport, SBEMS provides 9-1-1 response to the surrounding county via ambulances, rotor wing air medical services, paramedic intercept vehicles, and mobile stroke units. SBEMS receives approximately 12,000 requests for service per year. At the time of the study, SBEMS staff consisted of approximately 20 emergency medical technicians and 80 paramedics supported by 5 EMS supervisors, 2 educators, 3 administrators, and 4 medical directors. Approximately 20 transport nurses were intertwined within SBEMS via critical care transport and mobile stroke unit nursing shifts, with their primary clinical responsibility being emergency department nurses.

### EMS Code Lavender Program

The initial SBEMS Code Lavender team consisted of 2 women and 5 men, including a supervisor, 2 educators, 3 paramedics, and an EMS medical director double board certified in emergency medicine and EMS with extensive field experience as a paramedic. The male supervisor and female EMS medical director are the primary points of contact for the program and coordinate its resources.

Reflecting on prior distressing events, the initial criteria were developed by team members to facilitate automatic team notifications (Fig. 1). By modeling the process after the objectivity of activating a trauma code and incorporating it into standard dispatching procedures, we hoped to reduce the sentiment of “tattling” on coworkers when notifying the team about an event. The final criteria, provider discretion, is in acknowledgment that individuals likely have their own variation in what they consider to be distressing or challenging. A Google Voice number is used to simultaneously notify team leaders 24/7, who then collect information about the specific scenario and EMS clinicians involved. When a real-time notification is made, a team leader immediately reaches out to the involved EMS clinicians to gauge their reactions to the event and discern if immediate in-person support would be meaningful to the individuals involved. For example, what may be a stressful event for one individual may not be perceived as stressful by another. During the screening contact, we found it helpful to gauge the dynamic or pre-existing relationships between EMS crewmembers (especially in the context of prior stressful experiences they have individually or collectively managed), assess their relative energy level and speech patterns, and



**Figure 1.** The EMS Code Lavender program: a hierarchy diagram detailing the EMS Code Lavender teams' response after an acute crisis event.

determine how much longer they were on shift. If an immediate in-person response seems to be needed, which is the default if there is any doubt as to how the EMS clinicians are handling the event presuming the notification is made in real time, it is referred to as an EMS Code Lavender activation. During an activation, a SBEMS Code Lavender team member arranges to meet the EMS crew at the hospital or responds to the hospital if someone is not already in-house. Circumstances that generally result in an activation include pediatric major trauma or cardiac arrest, serious workplace injury, or unplanned helicopter incidences. In many circumstances, an immediate in-person response is not needed; the initial contact via phone, text, or e-mail is deemed reasonable and appropriate. Additionally, a website was created to describe the program and provide a continuously updated annotated inventory of available institutional, regional, and national resources. A purple QR code that links to the website appears in several high-visibility locations within the SBEMS office and is printed on stickers for the back of employee IDs. EMS clinicians are reminded of these resources after every notification regardless of if an activation occurs or not. Finally, as a safety net in

case a notification is not made in real time, an automated daily electronic patient care report (ePCR) report queries calls meeting notification criteria.

The SBEMS Code Lavender response, whether in person or via technology, is in no way intended to be a formal, professional therapeutic intervention but rather a consistent, genuine show of camaraderie and kindness. Overall, it draws on elements from the United States Air Force's wingman concept that you will always have someone by your side in your time of need to look out for you, show genuine concern, actively listen, pick up on stressors, and be aware of the assistance that is available.<sup>28-30</sup> It also embodies the psychological first aid model proposed by the World Health Organization, which emphasizes providing immediate and practical supportive care while following an individual's lead on how they would prefer to process the event.<sup>16</sup>

During a Code Lavender activation, a team member meets the SBEMS clinician or full crew after patient care handoff is complete in a private room separate from the SBEMS office. This room has a locked cabinet that contains a variety of snacks, Hershey's Kisses (Hershey Company, Hershey, PA) with purple foil, small bottles of water, tissues, items for tea, and aromatherapy (lavender scent packs and lavender lotion). Team members generally begin the conversation with something to the effect of "I understand you were involved in a tough call. I am not here as a medical director/supervisor/paramedic, I am here as a human who cares about you as a fellow human." The SBEMS crew is reminded that this is not intended to be a call review, and conversations will be kept in confidence unless concern arises that someone is in imminent danger. The team member gauges the overall reaction of the SBEMS crew to the event and allows for a natural, nonintrusive flow of conversation using general questions (Fig. 2).<sup>12,14,24</sup> The SBEMS crewmembers are offered snacks, bottles of water or juice, and lavender aromatherapy and are encouraged to sit down and decompress. At times, the team member may simply just be physically present to acknowledge, bear witness to, and validate the crew's response to the acute crisis event.<sup>31</sup> The team member ensures everyone has a purple QR code on their employee ID, reminds them of the professional resources available, and lets them know team members will continue to check in over the next couple of days to weeks to see how they are processing the call and offer whatever support they may find beneficial. These check-ins are done

Day of Event
What was successful?
What could have gone better?
What was frustrating?
What can we improve as a system for future events?
Checking-In Days to Weeks After the Event
How are you sleeping?
Have you had less patience than usual?
How are things at home?
What is hardest right now?
Is there anything about the event that you find yourself repeatedly thinking about?
Can I reach out to one of our resources for you?

**Figure 2.** Sample questions used to facilitate voluntary, nonintrusive conversation with EMS clinicians as part of an EMS Code Lavender response.<sup>24,39</sup>

automatically to relieve any sentiments that SBEMS clinicians are bothering someone as they work through their reaction to the event on their own timeline. Attention then turns to helping the SBEMS crew clean the ambulance, make up the stretcher, and restock supplies. If an individual feels they are unable to finish their shift, a process is in place to arrange for immediate coverage. Finally, either on the day of the acute crisis event or during the period of watchful waiting, stepped care with mental health professionals can be coordinated.<sup>24</sup> Specifically, we are able to draw on resources available through a hospital-wide Code Lavender program, which developed in parallel to our EMS Code Lavender program,<sup>32</sup> including counselors from the Stony Brook World Trade Center Health and Wellness Program who are familiar with EMS as well as hospital clinical psychologists and psychiatric nurse practitioners. If an individual were to disclose thoughts of self-harm, a process exists for immediate and confidential notification of appropriate parties for immediate, mandatory clinical care.

#### *Programmatic Changes During COVID-19*

After receiving supervisory and administrative approval, the SBEMS Code Lavender program was intended to roll out during a series of department-wide training classes during the spring of 2020 with the hopes of increasing buy-in via honest face-to-face discussions of the initiative. Only 1 training class was held before the COVID-19 pandemic was declared. Therefore, the program was launched via e-mail, which given the stigma and exquisite sensitivity of any discussion regarding mental health in EMS, we believed to be impersonal and less than ideal, but we had no better alternatives.

Unbeknownst to us, the infrastructure of the SBEMS Code Lavender program would serve as a critical mechanism for staff support throughout the ensuing sustained crisis. As the COVID-19 pandemic evolved, the program's response changed with it. In addition to responding to acute events, intentional daily contact was made with SBEMS clinicians under quarantine to reduce psychological isolation

and offer whatever support may be needed by the individual and her or his family. Given the precautions necessitated by COVID-19, although hugs are sometimes the best medicine, human hugs for those under isolation were not possible. Recognizing this, dozens of purple teddy bears were donated to act as hug givers for EMS clinicians requiring hospital admission (Fig. 3).

#### *Measurements*

The preprogram survey consisted of basic demographic questions (sex and EMS certification level) and questions about the respondents' perception of mental health resources and the availability of workplace support. The intraprogram survey included the same questions as in the preprogram survey, with several added about the interactions with and impressions of the SBEMS Code Lavender program. Preprogram surveys were distributed on paper and electronically via hospital e-mail during March 2020. Intraprogram surveys were distributed electronically via hospital e-mail and on paper during education days from September 2021 through January 2022. Notifications were anonymously tracked using REDCap (Vanderbilt University, Nashville, TN).

#### *Analysis*

Statistical analysis was performed using SPSS 27 (IBM Corp, Armonk, NY) with 2-tailed tests with  $P < .05$  indicating statistical significance. SBEMS clinicians' responses to opinion questions were collapsed into "agree" (strongly agree and agree) and "not agree" (neutral, disagree, and strongly disagree). Demographics and changes in opinion prompt responses from the preprogram survey to the intraprogram survey were analyzed using the Fisher exact test. Forward stepwise logistic regression with interactions was performed to determine if respondents' sex (male or female) or role (EMT, paramedic, or registered nurse) were associated with their opinion response. All questionnaires were anonymous. Although there was some overlap between the pre- and intraprogram respondents, no



**Figure 3.** Purple teddy bears donated to act as hug givers for EMS clinicians requiring hospital admission or who are healing from particularly challenging circumstances.

matching could be done so the 2 samples were treated as independent. This would result in more conservative analytic results.

## Results

For the preprogram survey, 78 responses were collected with 1 excluded for a duplicate identifier, yielding an overall 59% response rate (17 [55%] EMTs, 50 [62%] paramedics, and 10 [56%] transport nurses). For the intraprogram survey, 114 responses were collected with 8 excluded (2 for no unique identifier completed and 6 for duplicate identifiers), yielding an overall 88% response rate (26 [96%] EMTs, 73 [92%] paramedics, and 7 [50%] transport nurses).

Table 1 describes trends in responses to demographic and opinion questions. There were no differences between respondents by sex or role. For all 5 survey questions, there were statistically significant increases in agreement from the pre- to intraprogram periods. The largest increase was for knowing where to go for help (from 40% to 85%,  $P < .001$ ). The smallest increase was in those who would seek help if they needed it (40%–59%,  $P = .02$ ).

Based on logistic regression, sex and role were not related to any of the responses except for knowing where to go for help. The 2-way interaction between role and pre-/intraprogram surveys showed an

approximate 2-fold increase in knowing where to go for help for paramedics compared with EMTs and registered nurses. Sex was not related to knowing where to go.

During the first 30 months of the SBEMS Code Lavender program, the team received 87 Code Lavender notifications, of which 42 (48%) resulted in immediate in-person Code Lavender activations to support 97 SBEMS clinicians (Table 2). The median duration of time spent with SBEMS clinicians during an activation was 30 minutes with a range of 10 minutes to 4 hours. Four notifications came from the automatic daily ePCR reports. Additionally, the team maintained regular intentional contact with over 75 SBEMS clinicians when they were placed on isolation during the pandemic.

The annual direct cost for snacks, water, and lavender lotion is approximately \$150. The QR code stickers were printed in-house and cost less than \$25. Person power to respond to notifications and activations is done on a volunteer basis if not already present at the hospital during regular working hours.

## Discussion

The implementation of the SBEMS Code Lavender program, a process incorporated into standing operating procedures aimed at

**Table 1**  
Emergency Medical Services (EMS) Clinicians' Responses to Demographic and Opinion Questions

	Preprogram Survey (n = 77), n (%)	Intraprogram Survey (n = 106), n (%)	P Value
Sex			.63
Female	26 (34)	32 (30)	
Male	51 (66)	74 (70)	
Role			.35
EMT	17 (22)	26 (24)	
Paramedic	50 (65)	73 (69)	
Transport nurse	10 (13)	7 (7)	
After stressful events/calls, I feel supported by my colleagues:			.003
Agree	41 (53)	79 (74)	
Not Agree	36 (47)	26 (25)	
Missing	0	1 (1)	
After stressful events/calls, I feel supported by my supervisors:			.006
Agree	16 (21)	43 (41)	
Not agree	61 (79)	63 (59)	
After stressful events/calls, I feel supported by my medical directors:			<.001
Agree	38 (49)	78 (74)	
Not agree	39 (51)	28 (26)	
If I needed help processing a stressful event/call, I know where to go:			<.001
Agree	31 (40)	90 (85)	
Not agree	46 (60)	16 (15)	
If I needed help processing a stressful event/call, I would seek help:			.02
Agree	31 (40)	62 (59)	
Not agree	46 (60)	44 (41)	
Have you notified the Code Lavender team of an event?			
Yes		24 (22)	
No		75 (71)	
Missing		7 (7)	
The EMS Code Lavender program should continue:			
Agree		93 (88)	
Not agree		6 (6)	
Missing		7 (6)	
I would feel comfortable reaching out to the Code Lavender team for a colleague:			
Agree		84 (79)	
Not agree		14 (13)	
Missing		8 (8)	
I would feel comfortable reaching out to the Code Lavender team for myself:			
Agree		73 (69)	
Not agree		26 (24)	
Missing		7 (7)	
If a colleague was concerned about me, I would want them to reach out to the Code Lavender team:			
Agree		74 (70)	
Not agree		25 (23)	
Missing		7 (7)	

EMT = emergency medical technician.

**Table 2**

A Description of Indications for Emergency Medical Services (EMS) Code Lavender Notifications and Activations During the First 30 Months of the program

Indication	Notification (n = 87), n (%)	Activation (n = 42), n (%)
Critically ill pediatric patient		
Cardiac arrest	18 (21)	14 (33)
Noncardiac arrest	18 (21)	12 (29)
Unexpected illness/death of family member	14 (16)	2 (5)
EMS clinician as an ED or hospital patient		
Line of duty injury	3 (3)	0
Non-line of duty illness/injury	10 (11)	6 (14)
Direct threat to EMS clinician's safety	6 (7)	3 (7)
Caring for colleague or colleague's family	4 (5)	3 (7)
Caring for patients with fatal burns	3 (3)	0
Other	11 (13)	2 (5)

ED = emergency department.

consistently recognizing, reaching out to, and supporting EMS clinicians after acute crisis events by offering timely, nonintrusive, practical peer support and acts of kindness with the ability to provide watchful waiting and stepwise support via mental health professionals as needed, has led to significant increases in EMS clinicians' knowledge of where to go and willingness to seek help when processing a stressful event. Two years into the seemingly well-received program, SBEMS clinicians report feeling significantly more supported by their peers, supervisors, and medical directors after stressful events or calls. Knowing that rates of suicidal thoughts and actual attempts made by EMS clinicians are likely decreased when an EMS clinician feels the support of their colleagues and supervisors and receives encouragement to take advantage of professional resources available to them<sup>6</sup> makes these findings all the more powerful.

Even though a very significant rise in SBEMS clinician awareness about how to get help seems to have come from the EMS Code Lavender program, we must strive for 100% of our SBEMS clinicians to know the resources available to them on a tough day. Part of this likely stems from workforce turnover; education about the SBEMS Code Lavender has since been incorporated into our departmental new hire orientations.

Initially, notifications were made by team members themselves based on the predetermined criteria. With persistent visibility and consistent team responses to events, notifying the team became incorporated into SBEMS clinicians' routines, and notifications were made by peers, supervisors, administrators, and medical directors. Within several months, "Code Lavender" was regularly heard during office conversations. Approximately half of the SBEMS Code Lavender notifications to date have resulted in immediate, in-person Code Lavender activations. These activations are usually less than 30 minutes and have had minimal, if any, agency operational impact. Beginning a conversation after an acute crisis event can be awkward; we found the best way to break the ice is through the simple act of kindness of offering snacks and bottled water. Providing something tangible as they begin to process the event seems to make the support sincere and nonintrusive. As folks rummage around the snack selection, silence often falls upon the group; just sitting and being physically present as an acknowledgment of what just occurred has a palpable sense of camaraderie. Casual conversation generally begins as the adrenaline fades, which eventually wraps up with reminders of check-ins they can expect and professional resources that are available. We found that offering to reach out and introduce the EMS clinician to an affiliated psychologist seems to reduce a barrier of seeking formal help in that the psychologist is framed as a genuine real person and not a random name on a list of providers to call. Going forward, we aim to increase the exposure of SBEMS clinicians to these providers with the hope that a pre-existing relationship will facilitate

the development of a formal provider/patient relationship if and when an acute crisis event were to occur.<sup>23</sup>

Overall, the activations embody the intentions of psychological first aid—immediate contact, ensuring basic physiological needs are met, protecting from further harm, actively listening, assessing real-time needs, mobilizing and embracing social connections, and facilitating formal support as needed.<sup>12,16,33</sup> Collectively, the process likely replenishes and reinforces Maslow's representation of an individual's most basic needs (ie, food and hydration to support physiological functioning, safety, and love and belonging with social connectedness).<sup>34–36</sup> With these fulfilled, an individual can find their confidence in facing the world and become everything they are capable of becoming.<sup>35</sup>

Some of the notifications that did not result in activations, particularly the ones regarding threat to personal safety and line of duty injury, were not received by the SBEMS Code Lavender team until the EMS clinicians were already home for the day. This may have occurred, for example, via word of mouth or via the automatic daily ePCR reports. Regardless of if the contact with EMS clinicians was via technology or in person, continued follow-up contact was made, and EMS clinicians were reminded of the additional resources available to them.

Many of us can recall learning about Kubler-Ross's 5 stages of grief: denial, anger, bargaining, depression, and acceptance.<sup>31</sup> A sixth stage, finding meaning, has recently been added in acknowledgment that although in time the intensity of our grief will lessen, by allowing ourselves to transform our grief into something meaningful, we can be empowered to propel ourselves into our new path forward.<sup>31</sup> As we collectively process the tremendous anger and sadness caused by the COVID-19 pandemic,<sup>37,38</sup> perhaps the meaning we can derive from it is embracing the opportunity we have to replace the prevailing EMS culture of "just suck it up and move on" after an acute crisis event with that of "I am human and I need to take a pause." We must lead by example in demonstrating that asking for help is not a sign of weakness or being unfit for the job; on the contrary, it takes tremendous courage and strength to reach out and allow others to share the weight of the acute and chronic stressors our profession inevitably confers.

#### Limitations

These results reflect a single EMS agency functioning during the COVID-19 pandemic. It is likely that program acceptance and utilization were impacted positively by the pandemic. Responses to opinion prompts are dependent on an individual's willingness to answer the questions honestly and only measure self-reported behavior. With this, additional demographic data such as age, race, ethnicity, and education level were not solicited because they could be used to identify specific individuals. Also, given concerns that a longer survey may discourage survey completion, additional questions that may have been of interest were not included. For example, a better understanding of what aspects of the program participants found most beneficial would be helpful when adapting the program. Anecdotally, EMS clinicians described appreciating the active involvement of leadership having intentional direct contact with EMS clinicians—in essence, not just talking the talk but walking the walk. Others described the program as an opportunity for empowerment, a way to protect and advocate for their colleagues on a bad day or during a challenging life event.

Some degree of the Hawthorne effect and response bias is likely at play, although given the high response rate and the presence of negative responses, we believe the impact to be minimal. Additionally, because many SBEMS clinicians hold multiple jobs, opinion responses may not be reflective of only SBEMS experiences.

Overall, the maximal benefit of this program was increasing awareness of the availability of mental health resources. We believe there are multiple confounding variables at play, not the least of which being the COVID-19 pandemic, and thus this study was not

powered or intended to detect specific mental health outcome measures such as suicidal thoughts or attempt rates.

We recognize that having direct access to mental health professions from the in-hospital Code Lavender program, which developed in parallel with EMS Code Lavender, as well as the World Trade Center clinicians, may not be generalizable to other agencies, especially those that are not hospital based. In such a scenario, recruitment of a local mental health professional familiar with EMS would be necessary. However, it should be noted that with national mental health resources being increasingly more existent, opportunities for telehealth visits may reduce disparities in access.

Finally, we are unable to measure how many potential events failed to trigger the notification process. EMS clinicians were regularly reminded about the program and notification criteria, with signage strategically placed at dispatching consoles. Additionally, the automatic daily ePCR reports were created as a safety net in the event a notification was not made in real time. Acknowledging the variability in how an individual person will interpret a particular scenario, the final activation criteria is “provider discretion.” Although we hoped to catch most of the challenging or distressing events, there is still some degree of onus on the individual person to recognize events unsettling to them and reach out to the team for support.

## Conclusion

We offer a pragmatic description and evaluation of what we have assembled thus far and hope that our genuine and realistically sustainable efforts bring ideas to other departments as we all try and figure out what our “new normal” looks like. Not only does an EMS Code Lavender program seem to encourage statistically significant improvements in the perceptions of support, knowledge of resources available, and willingness to seek help, but also these improvements are felt at the individual human level.

## CRedit authorship contribution statement

**Lauren M. Maloney:** Conceptualization, Study design, Data collection, Data analysis, Writing—Original draft preparation, Writing—Revision. **Jason Hoffman:** Conceptualization, Study design, Data collection, Writing—Revision. **Edder Peralta:** Conceptualization, Study design, Data collection, Writing—Revision. **Rudolph Princi:** Conceptualization, Study design, Writing—Revision. **Henry C. Thode Jr:** Data analysis, Writing—Revision. **Mark Tomlin:** Data collection, Writing—Revision. **Christopher DiDonato:** Data collection, Writing—Revision. **Anthony LaBarbera:** Data collection, Writing—Revision. **Erin Lambert:** Data collection, Writing—Revision. **James King:** Data collection, Writing—Revision. **Daniel G. Johnson:** Conceptualization, Writing—Revision. **Shawn Edouard:** Data collection, Writing—Revision. **Sarah Williams:** Conceptualization, Data collection, Writing—Revision.

## Declaration of Competing Interest

L.M.M. and J.H. received an honorarium and travel support to present the EMS Code Lavender Program during the 2023 Critical Care Transport Medicine Conference. Otherwise, the authors report no other conflicts of interest.

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