

Measuring the Impact of Training on Emergency Medical Dispatcher Management of General Mental Crisis Calls and Suicide Calls

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ABSTRACT

Introduction: Historically, 911 professionals have not received specialized training in dispatch and call management related to mental crises and suicidality. This lack of training may contribute to lack of confidence and elevated anxiety in successfully handling these call types. A new model of training, Emergency Mental Health Dispatching™ (EMHD), which aims to equip 911 professionals to manage these calls has been developed to address this need.

Objective: The objective of this case study was to measure the impact of EMHD via two specific aims. The first aim was to determine if EMHD training changed dispatcher self-reported levels of confidence or anxiety related to these call types. The second aim was to assess post-EMHD changes in self-reported effectiveness in handling suicide calls.

Methods: Our case study used a retrospective email-based survey design with data collected from calltakers who had recently been certified in EMHD and trained on use of the extended protocol LifeBridges FlexProtocol™. Self-reported Likert scales were utilized to assess calltaker confidence, anxiety, and effectiveness metrics. Changes in these metrics were explored via Mann-Whitney-Wilcoxon tests ($\alpha = 0.05$).

Results: In total, 26 participants completed the survey (response rate: 66.7%). Comparing pre-training and post-training, average confidence in handling general mental crises increased from 2.54 to 3.92 ($p < 0.001$). Average confidence in handling suicide calls increased from 2.12 to 3.89 ($p < 0.001$). Average level of anxiety in handling calls from those struggling with general mental crises decreases from 2.89 to 2.46 ($p = 0.2005$). Anxiety in handling suicide calls decreased from 3.15 to 2.31 ($p = 0.0064$). All measures of effectiveness increased in a statistically significant manner ($p < 0.001$).

Conclusion: This study provides strong preliminary evidence that focused formal clinically-informed training can improve confidence and effectiveness of Emergency Medical Dispatchers handling mental crises and suicide calls.

INTRODUCTION

911 dispatchers face an extraordinary challenge responding to calls involving mental illness and suicide risk. Callers in peril expect that calling 911 will result in immediate assessment and care planning, a task that begins with the dispatcher. When workers at crisis phone hotlines or text lines determine that callers are at imminent risk of suicide, they refer these high-risk individuals to 911 (or share the call) to enable provision of emergency care on scene and transportation to psychiatric facilities for assessment and intervention. Other resources such as the National Drug Helpline state on their website, at the top of their homepage in bold and italicized text, "If you are experiencing a crisis or emergency, call 911. Our hotline is NOT a crisis hotline or suicide hotline. Call 911 immediately".¹ Yet, the degree of specialized training most 911 professionals have received to manage and dispatch such calls is particularly limited and/or not well reported on within the existing literature.²

This lack of training may predispose dispatchers to a lack of confidence and elevated anxiety relating to these call types. Both these psychological factors could potentially contribute to underdeveloped or impaired alliance with callers, more errors, less positive call outcomes, and increased risk for stress-related conditions among emergency dispatchers. By contrast, equipping 911 professionals for greater

call mastery as they face repeated exposure to this potentially traumatizing call type could contribute to positive changes in their immediate psychophysiology, thereby protecting and boosting resilience,³⁻⁴ call performance, job satisfaction and retention, and longer-term health and well-being.

This leads us to suppose that callers struggling with mental illness and suicide risk may not receive a quality of emergency response comparable to that provided to callers with other medical emergencies. Such callers pose a unique challenge to 911 since their cognitive-affective state can be dominated by confusion, despair, and fear fueling impaired and ambivalent cooperation with emergency response efforts.⁵ The 911 professional often serves as the very first responder to such callers and as the first vital link in the care continuum. Accordingly, to achieve the best possible outcomes, dispatchers must be prepared with knowledge about mental illness and suicidality, and be equipped for resilient and systematic, yet strategically flexible, response.

A new approach, Emergency Mental Health Dispatching™ (EMHD), is designed to provide 911 telecommunicators with this preparation through a three-day training experience.⁶⁻⁷ EMHD includes a specialized protocol fostering optimal response to suicide risk when used in coordination with EMHD training. The EMHD model was developed by the 911 Training Institute, which is led by a licensed mental health professional. Additionally, the EMHD training involves equipping dispatchers for real-time use of empirically supported resilience skills to optimize their psychophysiological stress response during stressful interactions with callers at risk. The study herein aims to assess the impact of this new approach.

OBJECTIVE

The objective of this case study was to measure two possible impacts of EMHD in a 911 center where training has been implemented:

1. The extent to which EMHD training changed dispatcher self-reported levels of confidence or anxiety relating to these call types
2. The extent to which EMHD training changed dispatcher self-reported effectiveness in four tasks related to handling suicide calls

METHODS

Our case study used a retrospective email-based survey design with data collected from dispatchers who had recently been certified in EMHD and trained to use the LifeBridges FlexProtocol®, a comprehensive tool for assessing and intervening with callers at risk.⁶ Data was collected from participants approximately three to six months after completing their EMHD training. The training courses occurred between October 2018 and January 2019. Self-reported Likert type scales were utilized for scores. Participants' protocol compliance was not assessed since standards for use of the LifeBridges FlexProtocol have not been integrated into

existing systems such as ProQA® Dispatch Software (Priority Dispatch Corp., Salt Lake City, UT, USA).

The email survey was generated using Survey Monkey™ and was sent out to those who completed the course by their agency's communications manager. Participants were recruited with an initial email and a reminder was sent roughly one week later.

Data analysis

Descriptive statistics described self-reported dispatcher metrics. Changes in these metrics were explored via Mann-Whitney-Wilcoxon tests ($\alpha = 0.05$) as normality of sample distributions could not be assumed and sample size was relatively small due to being a case study.

RESULTS

In total, 26 participants completed the survey (response rate: 66.7%). A majority of respondents were Frontline Dispatchers (65.4%). Remaining participants were Dispatchers and Supervisors (11.5%) or Dispatchers and Trainers (23.1%). Years of service was well represented across ranges of 1-3 years (26.9%), 4-10 years (26.9%), 11-20 years (23.1%), and 21 years or more (23.1%). Table 1 summarizes the sample participants. The majority of dispatchers (61.5%) in the study had managed more than ten calls involving suicide risk prior to the EMHD training. All except three participants (11.5%) also managed this call types after the training (Table 1). It is important to note that this measure, pre-training, indicates lifetime suicide calls taken and therefore it should not be surprising to see such lower numbers during the shorter post-training period.

Categorical Metric	n	%
Years of Service		
1-3 Years	7	26.92%
4-10 Years	7	26.92%
11-20 Years	6	23.08%
21 or more Years	6	23.08%
Position		
Frontline Dispatcher	17	65.38%
Dispatcher and Supervisor	3	11.54%
Dispatcher and Trainer	6	23.08%
Number of Suicide Calls Pre-training		
None	0	0.00%
1-5 Calls	4	15.38%
6-10 Calls	6	23.08%
10+	16	61.54%
Number of Suicide Calls Post-Training		
None	3	11.54%
1-5 Calls	18	69.23%
6-10 Calls	1	3.85%
10+	4	15.38%

Table 1. Demographic Information

Figure 1 compares confidence and anxiety via pre-test and post-test scores. Comparing pre-training and post-training, average confidence in handling general mental crises increased from 2.54 to 3.92 on the Likert type scale ($p < 0.001$). Average confidence in handling suicide calls increased from 2.12 to 3.89 ($p < 0.001$). The average level of anxiety in handling calls from those struggling with general mental crises decreased from 2.89 to 2.46 ($p = 0.2005$). Anxiety in handling suicide calls decreased from 3.15 to 2.31 ($p = 0.0064$).

All measures of self-reported effectiveness increased in a statistically significant manner (Fig. 2). Effectiveness in establishing a meaningful human connection with the caller increased an average of 1.46 Likert points ($p < 0.001$). Effectiveness in assessing the caller to gather vital information about their suicide risk increased an average of 1.74 Likert points ($p < 0.001$). Effectiveness in actively helping the caller lessen their suicide risk through meaningful conversation about their struggle increased by 1.97 Likert points (p

< 0.001). And effectiveness in actively helping the caller lessen their suicide risk by joining with them in strategic planning increased by 1.92 Likert points ($p < 0.001$).

DISCUSSION

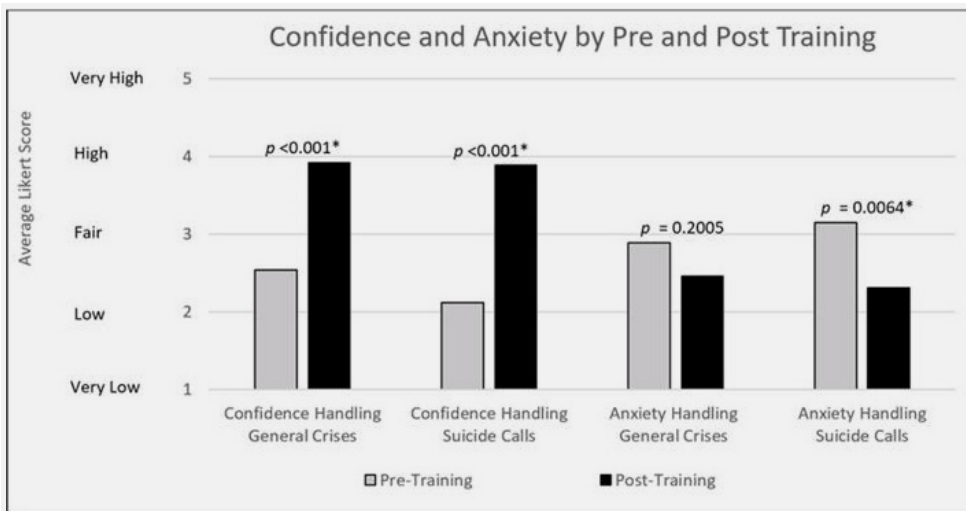
Our study results show that EMHD training increased overall confidence in handling general mental health calls, increased confidence in specifically handling suicide calls, decreased anxiety levels in specifically handling suicide calls, and decreased anxiety around handling general mental health calls—although this decrease in anxiety regarding general mental health calls was not statistically significant or as drastic a change as other scores. Our results also showed a significantly increased self-reported effectiveness in core elements of call management: establishing a connection with the caller, assessing caller risk, lessening suicide risk through conversation (i.e. active engagement), and lessening risk via strategic planning (i.e. active rescue).

Limitations

The limitations of this initial case study include its retrospective design and its vulnerability to recall biases. Additionally, this study utilized self-report data and may be subject to participants having a more positive view of their own metrics than performance measures might indicate.

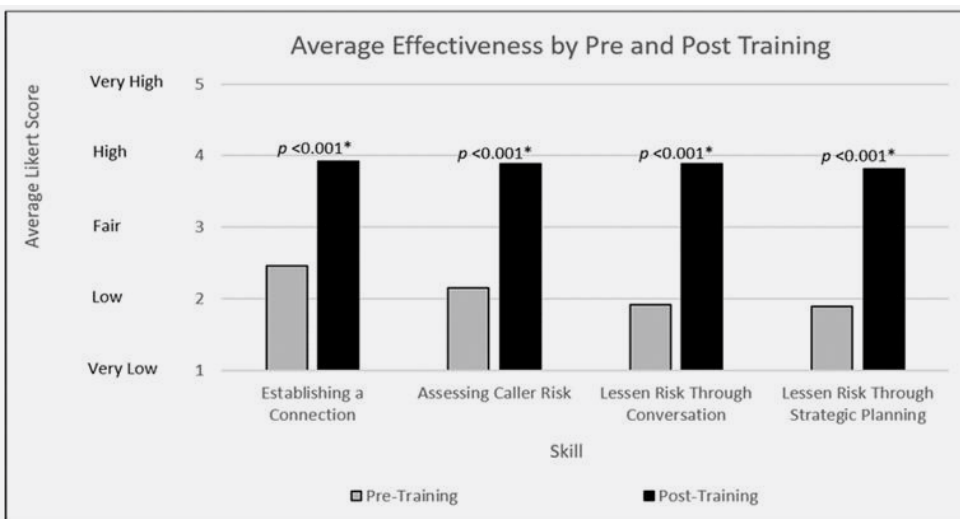
While this study reports trends in self-reported metrics, it is important to note how influential perceived effectiveness can be on a workers’ performance. In general, a positive relationship is often observed between confidence in performing a behavior and success. For instance, individuals with greater confidence generally invest more resources, such as working more hours or giving more effort, and have higher average performance than those with lower confidence.⁸⁻⁹

Past research indicates that when a stressor is perceived as less threatening, the human reaction shifts from the basic “fight or flight, freeze or faint” responses (most energy draining with less integrated brain functioning in comparison) to the “challenge response”. The challenge response involves release of a more optimal combination and ratio of stress hormones which



*Indicates statistical significance at the 0.05 level

Figure 1. Confidence and Anxiety by Pre and Post Training



*Indicates statistical significance at the 0.05 level

Figure 2. Average Effectiveness by Pre and Post Training

supports higher order thinking under pressure⁴. EMHD training is designed to equip dispatchers with the ability to produce this challenge response⁴, gain greater insight, compassion, and skill relating to callers in mental crisis; and to use a specialized protocol for management of suicide risk. Such preparation may contribute to the cited improvements in all four measures of self-reported effectiveness within this study as well as the observed changes in confidence and anxiety. Such improvements may have positive immediate and long-term implications for both individual and group performance as well as morale in the 911 center. Further study of dispatcher psychophysiology related to these possible trends and their implications is indicated.

Follow-up studies of other 911 centers implementing the EMHD model are needed to draw comprehensive conclusions on the trends reported herein; specifically, to determine if improvements in self-reported metrics and the suspected health and performance implications proposed here are observed in long-term outcomes for both the dispatchers and the center. Accordingly, future studies should explore possible connections between these improved confidence/call mastery metrics *and* dispatchers' personal resilience, morale, and rates of 911 employee retention and turn-over. Further, this study did not seek to distinguish if the reported effects were due to the general EMHD training or specifically the LifeBridges FlexProtocol (one component of many within the EMHD training). Future study of EMHD should seek to determine the relative value of these EMHD components individually versus collectively.

CONCLUSION

Overall, anxiety levels decreased while confidence and self-reported effectiveness both increased after EMHD training. Anxiety levels may be less impacted than confidence. However, while dispatcher anxiety relating to general crises calls reduced only modestly; dispatcher anxiety relating to suicide calls decreased significantly. And it should be noted that average anxiety scores decreased for all measures to some extent. This case study provides strong preliminary evidence that focused clinically guided training can improve confidence and effectiveness of 911 dispatchers handling calls involving mental crises and suicide risk.

CONFLICTS OF INTEREST

The authors would like to disclose that our lead author developed and conducted the EMHD training that was assessed in this study and currently serves as an EMHD instructor.

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