

# Addressing Burnout Among Emergency Services Professionals Through Patient Follow-up: An Exploratory Study

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## ABSTRACT

**Introduction:** Emergency services professionals (eg, emergency medical technicians, paramedics, and emergency department registered nurses) work in high-stress, low-resource environments and are consequently vulnerable to burnout. Additionally, many lack opportunities to learn patient outcomes, which may contribute to dissatisfaction or uncertainty regarding their role in the patient care.

**Objectives:** This study evaluated the feasibility, acceptability, appropriateness and estimated the effect size of a patient follow-up program implemented in a rural Wisconsin service area among both prehospital and emergency department-based emergency services professionals on burnout, compassion satisfaction, secondary traumatic stress, and job satisfaction.

**Methods:** Participants were provided follow-up summaries for patients they cared for over a 12-week period. Feasibility, acceptability, and appropriateness were measured using a validated instrument and free-text responses analyzed via content analysis after the intervention. Burnout, compassion satisfaction, and secondary traumatic stress were measured using the Professional Quality of Life Scale, and job satisfaction was measured using 2 items from the Satisfaction of Employees in Health Care survey, administered before and after the intervention.

**Results:** Forty-one participants enrolled in the study. They rated feasibility, acceptability, and appropriateness highly. The majority reported that patient follow-up summaries were valuable and provided clinically useful information that supported their practice.

**Conclusions:** Patient follow-up summaries are valued by emergency services professionals and provide opportunities to learn from patient outcomes.

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## INTRODUCTION

Emergency services professionals (eg, emergency medical technicians [EMTs], paramedics, and emergency department [ED] registered nurses) work in high-stress, low-resource environments and are frequently exposed to unsafe situations. The Wisconsin workforce shortage, particularly among prehospital professionals and in rural areas, is critical: over the past decade, more than two-thirds of the emergency medical services (EMS) workforce has left, and more than 40% of Wisconsin EMS agencies report periods during which they could not respond to calls.<sup>1</sup> Patients in rural areas are often chronically underserved due to a paucity of health care resources, including subspecialty care and adequate staffing.<sup>2,3</sup> Longer patient wait times are associated with increased risk of morbidity and mortality.<sup>4,5</sup> Additionally, health care workers in rural or underresourced emergency settings may be more likely to perceive discontinuity in patient care or feel that their roles are futile.<sup>3,6,7</sup>

Excessive turnover due to burnout—a syndrome characterized by exhaustion and cynicism relating to one's work—is particularly impactful for rural health care systems and EMS agencies, where recruiting qualified replacements is challenging.<sup>7-10</sup> Poor compassion satisfaction (ie, the pleasure derived from helping others), burnout, and high turnover are interrelated and associated with poorer patient outcomes.<sup>11-13</sup> The combined effects of these phenomena may contribute to a cyclic pattern that undermines well-being and retention, particularly in rural emergency

settings. Emergency services professionals may witness poorly mitigated suffering—often among individuals they know personally in small communities—and may struggle to contextualize their role in patient outcomes or derive compassion satisfaction from their work.<sup>8,14</sup> Lower compassion satisfaction has been associated with increased burnout and intent to leave the profession.<sup>4,15,16</sup> Preventable turnover further strains the remaining workforce, increasing the likelihood of preventable patient suffering due to limited health care resources.<sup>9</sup>

Both burnout and secondary traumatic stress—a source of occupational stress resulting from exposure to others' suffering—may be partially mitigated by compassion satisfaction, which provides a sense of meaning for health care professionals.<sup>15,17–20</sup> Compassion satisfaction is associated with lower burnout, improved job satisfaction, and greater intention to remain in health care professions.<sup>15,21</sup> Many emergency services professionals report that making a positive impact on patients serves as both a coping mechanism and motivator.<sup>19,20,22</sup> However, most provide care for only minutes to hours before patients leave their care. This limited interaction, together with lack of reliable follow-up information, often leaves these professionals without knowledge of patient outcomes.<sup>23</sup> Lack of follow-up or closure may contribute to poor compassion satisfaction, lower job satisfaction, and increased burnout.

Compounding the issue, emergency services professionals often report feeling neglected and isolated from other medical professionals despite a desire to learn from subsequent patient care by these professionals.<sup>24,25</sup> Providing access to follow-up information may help improve compassion satisfaction by supporting meaning-making and reinforcing the value of one's role in patient care, thereby reducing perceived futility, job dissatisfaction, and burnout.<sup>15</sup>

Therefore, this pilot study evaluated a program providing emergency services professionals in a rural Wisconsin service area with patient follow-up summaries. Specifically, we aimed to: (1) assess the feasibility, acceptability, and appropriateness of follow-up summary provision and (2) estimate the effect size of the intervention on burnout, compassion satisfaction, secondary traumatic stress, and job satisfaction.

### Conceptual Framework

The Professional Quality of Life (ProQOL) framework is widely used to conceptualize relationships among compassion satisfaction, compassion fatigue, work-related trauma, and burnout in health care professionals.<sup>15,26–30</sup> According to this framework, work characteristics, clients (patient populations), and the fit between the individual goals and the work environment influence compassion satisfaction and contribute to compassion fatigue (a syndrome related to caregiving), burnout, and work-related trauma for health care professionals.<sup>15</sup> Compassion satisfaction, compassion fatigue, and work-related trauma are each associated with burnout. Although intention to leave is not explicitly included in

the ProQOL framework, burnout has been correlated with intent to leave in studies utilizing this framework.<sup>26</sup>

Within the ProQOL framework, compassion satisfaction supports meaning-making for individuals who witness others' suffering.<sup>15,18</sup> Meaning making—the ability to attribute causality to and contextualize adverse events—is believed to facilitate compassion satisfaction.<sup>30–32</sup> Although reflection and contextualization may occur individually, they also may be facilitated by external sources.<sup>33</sup> Reflection on one's impact on patient care may enhance meaning-making but may be limited by ambiguity or uncertainty regarding outcomes.<sup>34,35</sup>

## METHODS

### Intervention

The study intervention consisted of providing each enrolled participant with follow-up summaries for every patient they transported to Tamarack Health Ashland or one of its affiliates (for prehospital EMTs and paramedics) or for patients admitted from the ED to the hospital or one of its affiliates (for ED nurses). Follow-up summaries included the patient's diagnosis associated with the encounter, treatment course, ED disposition (eg, discharged home, deceased, admitted, transferred to another facility), and, if applicable, a summary of the patient's hospitalization course and hospital discharge disposition.

Participants received follow-up summaries for all eligible patients—all transported patients for prehospital EMTs and paramedics and all admitted patients for ED nurses—except those treated at hospitals that did not participate in data sharing with the critical access hospital described. Follow-up summaries were provided weekly in paper form via interdepartmental mail.

Follow-up information was limited to the episode of care in which the participant was involved, in accordance with the Health Information Portability and Accountability Act (HIPAA).<sup>36</sup> Participants were instructed to treat the follow-up information provided as protected health information and to dispose of materials using document-shredding bins after review. Additional information describing the intervention process is provided in Appendix A.

This intervention was developed collaboratively with the Ashland Fire Department, Washburn Emergency Medical Services, and Tamarack Health Ashland emergency department to address a need identified by participating agencies: access to formal patient follow-up information was inconsistent and typically limited to patients with severe trauma or critical illness. This intervention also addressed a need identified by the receiving institution by providing follow-up information without burdening participants with additional paperwork. Furthermore, this approach reduced concerns regarding unauthorized access to patient information.

### Design

This study utilized a preintervention-postintervention design. Feasibility, acceptability, and appropriateness were measured using a postintervention survey adapted from Weiner et al<sup>37</sup> and through content analysis of open-ended questions.

All study data were collected via online surveys; no patient-level data were retained or analyzed. Burnout, compassion satisfaction, secondary traumatic stress, and job satisfaction were evaluated using repeated-measures analysis, in which the same variables are assessed before the intervention and after completion of the 12-week intervention period. Each survey instrument and associated scoring are described in Appendix B.

### ***Feasibility, Acceptability, Appropriateness***

Feasibility, acceptability, and appropriateness were measured using a public-domain instrument developed by Weiner et al.<sup>37</sup> These constructs are established indicators of implementation success.<sup>38</sup> The instrument demonstrates acceptable internal consistency (Cronbach  $\alpha$ , 0.85-0.91), structural validity (confirmatory factor loadings, 0.7-0.89), and test-retest validity (coefficients, 0.73-0.88).<sup>37</sup> The instrument is adaptable to a range of implementation contexts. Higher scores indicate greater feasibility, acceptability, and appropriateness.

Feasibility, acceptability, and appropriateness were also evaluated using the following free-text questions on the postintervention survey:

- “What did you like or dislike about receiving patient follow-up information?”
- “What types of patients would you like to receive follow-up information about in the future?”
- “How did you feel about receiving patient follow-up information from patients who did not have positive outcomes?”
- “If given the choice, would you prefer to receive follow-up communications about patients on a scheduled basis or would you prefer to have access to a privacy-compliant system where you could look up follow-up information yourself?”
- “Is there anything else you would like to share about your thoughts or experiences on receiving patient follow-up information?”

### ***Burnout, Compassion Satisfaction, Secondary Traumatic Stress***

The Professional Quality of Life 5 Scale (ProQOL-5), a validated and widely used 30-item public domain instrument, was used to measure burnout, compassion satisfaction, and secondary traumatic stress.<sup>15</sup> All 3 constructs demonstrate acceptable internal consistency, reliability, inter-item correlation, and validity and have been used in studies of health care workers, including EMTs, paramedics, and nurses.<sup>4,14,39</sup>

### ***Job Satisfaction***

Job satisfaction was assessed using the Global Job Satisfaction subscale of the Satisfaction of Employees in Health Care

(SEHC) survey.<sup>40,41</sup> The subscale, which consists of 2 items, was developed and validated as an independent measure of overall job satisfaction.<sup>40</sup>

### ***Demographics***

Demographics were assessed at baseline (pre-intervention survey). Variables included gender, highest degree, role (eg, EMT-basic, paramedic, registered nurse), age, race, ethnicity, years in the current position, and total years in emergency medical services.

Age, years in the current position, and years in emergency services were collected as categorical variables to preserve participant anonymity. Race and ethnicity were measured using multiple-choice questions. Weekly scheduled hours were self-reported using a slider (range, 0-80 hours). The number of patient follow-up summaries provided to each participant was tracked throughout the study and reported as a mean.

### ***Sample and Inclusion/Exclusion Criteria***

The sample comprised EMTs and paramedics employed at Ashland Fire Department and Washburn Emergency Medical Services, the primary EMS providers for the cities of Ashland and Washburn, Wisconsin, and registered nurses providing direct care in the ED at Tamarack Health in Ashland, Wisconsin. All participants met the following inclusion criteria: (1) age >18 years; (2) employment of  $\geq 0.5$  full-time equivalent; (3) ability to speak and understand English; and (4) access to an internet-enabled electronic device. All EMTs and paramedics worked in a prehospital setting, and all nurses worked in ED settings.

### ***Human Subjects Protection***

This study was reviewed and approved by the Marquette University institutional review board and Tamarack Health Ashland for compliance with patient privacy regulations. Participants were necessarily identified to the researchers during the intervention period to ensure accurate delivery of follow-up summaries; however, survey responses were anonymized using Qualtrics,<sup>42</sup> a secure digital survey platform.

Participants received a \$25 gift card for completing the preintervention and postintervention surveys and were informed that participation was voluntary and that they could withdraw at any time. Written informed consent was obtained from all participants.

### ***Analysis***

Descriptive statistics were used to examine feasibility, acceptability, and appropriateness scores. Qualitative responses to the free-text questions were analyzed using content analysis, a qualitative method in which data are coded and categorized to identify themes.<sup>43,44</sup>

No a priori framework was applied to preserve participants' intended meaning. Three researchers—JC, TW, and TZ—independently reviewed responses, coded data, and identified themes. Discrepancies were resolved through consensus. Exemplar quotes

were selected and agreed upon by all 3 researchers to illustrate identified themes.

Cohen *d* was calculated to estimate effect sizes for burnout, compassion satisfaction, secondary traumatic stress, and job satisfaction by subtracting postintervention means from preintervention means and dividing by pooled standard deviation.<sup>45</sup>

## RESULTS

### Demographics

Participants received an average of 2.46 patient follow-up summaries per week; hospital-based participants (registered nurses) received an average of 2 summaries per week, and prehospital participants (EMTs, paramedics) received an average of 2.71 summaries per week. Approximately 20 follow-up summaries were unavailable due to patient transport to institutions that did not participate in data sharing with the critical access hospital.

### Aim 1: Feasibility, Acceptability, and Appropriateness

Enrollment included 96% of eligible EMTs and paramedics (*n* = 26) and 75% of eligible nurses (*n* = 15). No participants withdrew from the study. The maximum possible score per subscale was 20. The mean feasibility score was 18.28 (SD, 1.7), acceptability score was 17.9 (SD, 2.3), and appropriateness score was 17.4 (SD, 2.1).

The following themes were identified during content analysis of free-text responses (reported by 21 participants).

#### *Desire for Patient Follow-Up*

The majority of participants (*n* = 16) reported a strong desire for follow-up information and high satisfaction with receiving follow-up summaries. Participant 16 wrote:

“For 12 weeks, [receiving patient follow-up summaries] eliminated my biggest complaint about EMS [emergency medical services]: that once we leave the room in the ED, we often don’t know what happens to our patients.”

Participant 1 wrote, “Nice to see the outcomes in a profession where it is rare to hear about outcomes. It is good to know if our care made a difference for the better.” Some participants also reported that they appreciated having closure regarding patients outcomes. Participant 2 noted, “We always wondered how a patient fared after leaving our care. Having that closure significantly improved my work satisfaction.”

Twenty participants reported that they preferred to receive follow-up information regardless of whether the outcome was positive or negative. Participant 3 preferred that “all results be communicated,” and Participant 15 wrote: “I did have several patients who had negative outcomes in this program and in a few cases it was expected by those of us on the call, but it is still a little sad.”

Seventeen participants reported the greatest interest in receiving follow-up summaries from patients with higher acuity or complex medical conditions, including “trauma, stroke, MI [myocardial infarction], and high-acuity” (Participant 7) and “critical

care, cardiac, trauma, and pediatrics” (Participant 20). Participant 1 stated a desire for expanded follow-up across receiving hospitals. Two participants indicated preferences for follow-up on diagnostically uncertain cases or personally meaningful patients, and 2 participants preferred follow-up for all patients.

Seventeen participants reported that they would prefer access to a privacy-compliant system to look up patient information themselves, rather than receiving all follow-up information on a scheduled basis. Participant 16 noted, “I’d prefer to have control over who and when I looked them up. A number of the follow-ups I got were [known patients] who rarely have changes in condition.”

One participant expressed concerns regarding patient privacy, particularly in a small community:

“I feel my job satisfaction increased by receiving the follow-ups. However, patient privacy does concern me. We live in a small community, and I know I would feel humiliated if colleagues received the same information about me. During the study, this was a real worry of mine—that I might have an auto accident and require transport, and my colleagues would be able to read my personal info” (Participant 9).

#### *Additional Learning*

Eight participants reported that follow-up summaries provided valuable opportunities for ongoing learning. Participant 16 wrote, “What surprised me about receiving patients’ follow-ups was many of the diagnoses the ED presented to me that were different from my impression on the scene. It was highly educational.” Participant 13 agreed, “I think it [patient follow-up summaries] is beneficial for those who want to further development.” Participant 2 added, “I learned a great deal about the patient’s general health and treatment that will assist me in becoming a better EMT.”

#### *Affirmation of Competence*

Participants also reported satisfaction reflecting on the care they provided. Five indicated that reading follow-up summaries validated their clinical competence. Participant 15 said, “It was nice to see the times my differential diagnosis was validated.” Participant 7 said, “It affirmed my skills and knowledge as a prehospital provider,” and Participant 13 noted that follow-up summaries “reaffirmed my initial suspicions of a likely negative outcome.”

### Aim 2: Intervention Effect Sizes

Burnout, compassion satisfaction, and global job satisfaction mean scores increased slightly between preintervention and postintervention surveys, with Cohen *d* values of 0.25, 0.02, and 0.05, respectively. Secondary traumatic stress scores decreased, with a Cohen *d* of 0.29.

## DISCUSSION

This pilot study highlights the effects of a patient follow-up communication program implemented among emergency services professionals in a rural US setting. Participant feedback supported the feasibility, acceptability, and appropriateness of

the program and demonstrated a strong desire for follow-up information.

### Barriers to Patient Follow-up Summary Program Uptake

Prior research indicates that programs communicating patient outcomes are desired by emergency services professionals.<sup>24</sup> However, many existing programs are limited by barriers such as data-sharing restrictions, institutional governance challenges, and requirements to request information on specific patients.<sup>24,46</sup>

In contrast, this study's protocol was designed to reduce these barriers. For example, participants were not required to request follow-up information, reducing effort and improving accessibility. Additionally, the structured format of the program was designed to ease concerns regarding unauthorized access to patient data. Despite these features, some participants expressed concerns regarding privacy, particularly within small communities.

### Burnout, Compassion Satisfaction, Secondary Traumatic Stress, and Job Satisfaction

Despite positive qualitative findings, burnout scores increased and compassion satisfaction decreased following the intervention. One possible explanation is that, although participants expressed a desire for follow-up information and reported improvements in both secondary traumatic stress and job satisfaction, exposure to patient outcomes may not reduce burnout.

Another explanation is the lack of selectivity in follow-up content; participants received summaries for all patients. Previous research suggests that improved mental health or job satisfaction is more likely when clinicians receive feedback on the patients they are most interested in.<sup>46</sup>

Nonemergent patients and frequent users of emergency services are estimated to account for over 12% of emergency ambulance transports and over 40% of ED visits in the United States.<sup>47,48</sup> Such encounters are often associated with frustration due to perceived overutilization of limited emergency services resources.<sup>49,50</sup> This study's follow-up protocol did not discriminate based on patient complexity or services received, which may have inadvertently reinforced perceptions of resource strain, contributing to increased burnout and reduced compassion satisfaction.

Additionally, personal familiarity with patients in rural communities may influence these outcomes. Emergency services professionals in rural settings are more likely to know the patients they care for. One participant described discomfort with receiving follow-up information given the community's small size, suggesting that community connectedness may contribute to increased emotional burden.

### Limitations and Recommendations for Further Research

The small sample size and self-selection from a single rural service area limit generalizability. Additional studies with larger and more diverse samples are needed. Approximately 20 patient follow-up summaries were unavailable, all involving patients transferred to

tertiary care centers, highlighting limited data-sharing as a barrier to implementation.<sup>51</sup>

This study did not have sufficient statistical power to control for other confounding factors associated with burnout, such as number of hours worked per week. Further research should examine additional outcomes, including perceived competence.

The ProQOL-5 burnout measure does not include subscales assessing specific dimensions such as emotional exhaustion and depersonalization, which may limit the generalizability of our findings. Future studies should consider instruments with subscales to better assess how follow-up interventions affect different aspects of burnout.

Finally, future interventions should consider prioritizing follow-up summaries for patients with greater clinical complexity or personal relevance to maximize benefit.

### CONCLUSIONS

Patient follow-up summaries were acceptable to study participants, who qualitatively reported high satisfaction with receiving follow-up information. Following intervention, secondary traumatic stress decreased with a small effect size, and job satisfaction increased with a very small effect size. Although burnout increased following intervention, modifications to the program may improve this outcome, such as limiting follow-up summaries to higher-acuity patients.

Agencies providing EMS should consider the potential benefits of partnering with local hospitals to develop mechanisms for requesting patient follow-up information in a manner that is compliant and acceptable to both EMS agencies and hospitals.

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