

Frontline Stress behind the Scenes: Emergency Medical Dispatchers

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Key Words: emergency medical dispatchers; communications operators; occupational stress; organizational support.

Abstract

The role of emergency medical dispatchers (EMDs) is critical to the outcome of emergency calls. They are the first point of entry for emergency calls; they act as conduits for information between civilians and emergency workers; and they may administer limited interventions via telephone. However, their experiences have been virtually ignored. This is among the first studies to focus on the differential work experiences of EMDs. Semi-structured interviews and focus groups were conducted with eight EMDs to explore their descriptions of the work environment and recommendations to minimize occupational stress. The results suggest that although EMDs and paramedics share many of the same stressors, EMDs experiences are distinguishable across several domains, including the following: *Decoding, Deciding and Dispatching on Deadline; Lack of Control as Conduits; Call Center Conditions; Organizational Issues – Management, Supervisors and Policy; and ‘One big dysfunctional family’ – Support and Secrecy*. These are encompassed by a higher-order theme: the *Dispatcher–Paramedic Divide*. This study highlights the differential stressors experienced by EMDs and underscores the importance of organizational climate for both contributing to and mitigating the effects of occupational stress. The findings parallel research with other emergency communications workers, as well as paramedics. Implications for evidence-based interventions are described.

You're just this faceless, anonymous person...So, thank you for including us, because a lot of people do only see that the stress is on the people who actually see the incident. And the incident is a lot bigger than just being on the scene. That's only one component. (#P201)

And that's part of your job. You're supposed to develop that ability to hear three or four things. (P#801)

Introduction

The literature on occupational stress among emergency personnel emphasizes the direct, hands-on contact with distress, injury, violence and death as the central cause of stress (Jenkins, 1997). The role of emergency dispatchers is positioned as more peripheral, which is reflected in both the sparse research on this population and the narrow scope of this work (Burke, 1995). The implicit presumption is that because they are not present in the field, their exposure to stressful events is more removed and they are, thus, less likely to experience the negative consequences of stress. It is now well established that paramedics are exposed to high rates of critical incidents¹ that eventuate in both posttraumatic and other psychiatric symptoms, such as general anxiety and depression (e.g., Alexander & Klein, 2001; Bennett, Williams, Page, Hood, & Woollard, 2004; Marmar, Weiss, Metzler, Ronfeldt, & Foreman, 1996; Smith & Roberts, 2003), in addition to high levels of burnout (e.g., Alexander & Klein, 2001; Clohessy & Ehlers, 1999). The rates of both posttraumatic symptoms (Stein, Walker, Hazen & Forde, 1997) and anxiety and depression (Crawford, Henry, Crombie, & Taylor, 2001) appear to be two to three times higher than those reported in epidemiological studies of the general population. In contrast, the experiences of emergency medical dispatchers (EMDs) have been virtually ignored. While ambulance dispatchers are arguably exposed to similar occupational stressors, there are no published reports comparing the distress levels of dispatchers versus ambulance personnel. In

fact, the experiences of dispatchers across all emergency fields (e.g., police, fire) have been relatively unexplored compared to those of field workers.

Emergency work in general, whether on the ‘front lines’ or ‘behind the scenes,’ is characterized by several common requirements: working under pressure; multi-tasking; making rapid and effective decisions; working in shifts with 24/7 coverage; and managing difficult emotions. The role of dispatchers, in particular, is critical to the outcome of emergency calls as this is first point of entry for all emergency responses. As such, dispatchers are required to collect, decode and transmit complex amounts of information in making determinations about emergency status, location, and contact with ancillary emergency personnel (e.g., the call might simultaneously require police, fire and medical personnel) (Burke, 1995; Burke, 2005b). Moreover medical dispatchers must, often with minimal information from an agitated caller, make a determination as to the level of patient acuity of illness, and send the appropriate level of response. As conduits between the distressed public and emergency care workers, they must navigate a minefield of anguish, panic, and uncertainty with simultaneous demands for precise information. And all of this must be done nearly instantaneously, using manual or computer aided dispatch (Burke, 2005a).

The available literature also suggests that emergency communications operators are drawn to similar aspects of their work when compared against field workers, such as fire fighters, police officers and Emergency Medical Technicians (EMTs) or paramedics. Among these are a strong commitment to helping others, an affinity for tolerating and working efficiently under time pressure, and responding effectively to unpredictable events (Doerner, 1987; Ksionzky & Mehrabian, 1986). For instance, Doerner (1987) reported that police dispatchers cited the following aspects of their work as most enjoyable: helping civilians and

facilitating field officers in their work; coordinating strategic decisions under pressure; and facing a range of unpredictable events. While these requirements necessitate reliance on a range of cognitive and emotional constellations, there are also more obvious emotional dimensions of such work that are both taxing and rewarding.

Among the central features of emergency work, for both dispatchers and field workers, is the emotional labor that accompanies such responsibilities. Emotional labor refers to the exigency to manage emotions as part of an occupational role (Shuler & Sypher, 2000). Such work may include implicit or explicit organizational injunctions to exhibit, suppress, or produce emotions. Emergency dispatchers are required to exhibit emotional neutrality (Shuler & Sypher, 2000), which serves to convey 'dispassionate authority' (Morris & Feldman, 1996) and control under pressure. In a US qualitative study of sixteen 911 call takers (who dispatch calls for police, fire, ambulance and animal control), Shuler (2001) describes dispatchers' routine suppression of fear, anger, sadness, and sense of helplessness. She identified three types of problems that result, in part at least, from these emotional labor performances: physical (e.g., sleep disorders, chronic pain, migraines), psychological (e.g., depression, desensitization, burnout) and relational (e.g., co-worker conflict and compromised personal relationships). The emotional demands of the job are exacerbated by the lack of control that characterizes their work; call takers in the US are not trained to be emergency medical technicians and are actively discouraged from providing medical or psychological advice (Shuler, 2001).

Although the work of both operators and field workers contain similar features, including exposure to similar stressors, the training of dispatchers in general places much less emphasis on stress management skills development, and the more sedentary nature of their occupation also provides fewer opportunities for workplace physical release of stress (Jenkins, 1997). With few

exceptions (e.g., dispatcher assisted cardio-pulmonary resuscitation or childbirth management), they also cannot exert direct control over handling the required emergency, reliant as they are on the field workers for this task (Forslund, Kihlgren, & Kihlgren, 2004; Weaver, 1987). In fact, the primary focus of the existing literature on EMDs is on: the effectiveness of dispatcher-assisted telephone cardiopulmonary resuscitation (e.g., Idris & Roppolo, 2003; Vaillancourt et al., 2007); delays in ambulance dispatch (e.g., Govindarajan & Schull, 2003; Schull, Morrison, Vermeulen, & Redelmeier, 2003); and the conversational difficulties between citizens and 911 call takers (e.g., Imbens-Bailey & McCabe, 2000; Tracy & Tracy, 1998). None of these studies examine directly the impact of these events on dispatcher stress.

A few early studies, focusing mostly on police dispatchers, showed greater psychological stress among this group than the general population (Doerner, 1987; Ksionzky & Mehrabian, 1986; McCammon & Schmuckler, 1993); comparisons between front-line workers (i.e., police officers) and dispatchers were not reported. Several later studies also examined stress among fire and police dispatchers and 911 call takers. In one such study, 68 fire and police dispatchers and 911 operators were assessed for three days 2.5 months following Hurricane Andrew (Jenkins, 1997). These workers reported rates of traumatic stress that were analogous to those of field emergency workers on the scene of a major air crash (Gibbs, Lachenmeyer, Broska, & Deucher, 1996) and relocated flood victims (Steinglass & Gerrity, 1990). Because this occurred in the context of a major disaster as opposed to day-today emergency dispatching, they faced stress in both their occupational and personal lives; thus, it is difficult to disentangle the distress attributable to their roles as victims versus as rescue workers. Nonetheless, more robust social networks were associated with lower general distress, although not uniquely with posttraumatic

stress symptoms. Social support-seeking was among the three most frequent and equally used coping strategies (in addition to planned effort and positive reappraisal).

Daily dispatcher stress was examined in relation to locus of control, job satisfaction and social support among 254 civilian (non-sworn) police, fire/ambulance, dual dispatchers (911 operators), and civilian clerks (e.g., receptionist, record keepers) in New Jersey (Burke, 1991). Dispatchers who reported occupational stress and burnout experienced diminished (external locus) control over their work environment, dissatisfaction with their job, and inadequate support to perform required job tasks. Among the specific stressors were: inadequate pay, excessive and vague demands, lack of supervisor and collegial support, lack of control, shift work, outdated equipment, physically confining and isolating work space, inadequate breaks, and negative citizen responses (see also Burke, 1993a; Burke 1993b; Burke1993c; Burke, 1995). There were no significant differences among the dispatch groups in the amount of reported stress, although all groups perceived their stress levels to be elevated. Among the numerous stressors reported, the following were described as distinctive features of dispatcher stress: diminished perceived status within the organizational hierarchy (supported by “dispatcher bashing” by both civilians and the department); an amplified sense of responsibility (serving as the “lifeline” for police officers and civilians; and lack of formal training (most training is “on the job” and outside training is not financially supported by the department) (Burke, 1991; see also Burke, 1993a; Burke, 1993b; Burke, 1993c; Burke, 1995).

The impact of coping strategies, vicarious trauma and psychological distress was also explored in a cross-sectional sample of 129 police dispatchers in California, as part of an unpublished doctoral dissertation (Latter, 2003). Structural equation modeling revealed that negative coping strategies (mental and behavioral disengagement, focusing on and venting

emotions, and resistance) predicted vicarious trauma and burnout. Vicarious trauma, in turn, led to psychological distress and further trauma. The average dispatcher exhibited moderate to high levels of burnout, with depersonalization scores being higher than emotional exhaustion scores. Notably, they also reported high levels of personal accomplishment. This is consistent with a recent unpublished report (Bevan & Wild, 2007) comparing 41 medical dispatchers to 32 paramedics in the UK, in which rates of posttraumatic stress, anxiety, depression, and burnout were similar in both groups and higher than those found in the general population. Notably, greater interference and distress related to posttraumatic symptoms were reported by dispatchers, rather than paramedics. Personal accomplishment levels also were lower for dispatchers compared to other human service workers, while paramedics reported higher levels of personal accomplishment than the normative group, although the trend towards higher personal accomplishment levels among paramedics compared to dispatchers, did not reach significance. In terms of recommendations, both groups expressed a desire for greater support from management, greater overall organizational support and improvements in the work environment; the latter (e.g., improved lighting, regularization of breaks) was emphasized more by the dispatchers.

In a rare study on biological correlates of stress in this population, cortisol measures in eight EMDs in an emergency care unit of a French hospital were compared to those of matched controls during leisure activities (Weibel, Gabrion, Aussedat, & Kreutz, 2003). EMDs exhibited significantly increased cortisol levels throughout the day (measured every 2 hours over a ten-hour period), with an average elevation of 22.8% compared to controls. The subjective reports of distress by EMDs were strongly positively correlated with objective cortisol concentrations. Paradoxically, while job satisfaction was very high in this sample, mental work load, emotional

distress, and dissatisfaction with the physical work environment were also rated as very high. High noise levels and poor lighting, in particular, were cited as the most problematic and such evaluations were correlated with higher cortisol levels. Interestingly, a negative appraisal of the physical work environment was highly correlated with a perception of poor interactions with the hierarchical work structure.

In summary, the limited research base on communications operators points to an elevated risk for exposure to both critical incidents and daily occupational stressors that lead to a range of psychological sequelae, including posttraumatic stress symptoms, anxiety, depression and burnout. The attendant individual, organizational and societal costs may include, respectively, diminished mental health and quality of life, increased absenteeism, poor job performance and high employee turnover, and a greater load on the national social service and healthcare system. Given a particularly negligible focus on ambulance dispatchers, it is important to understand the first-hand experiences of EMDs. The purpose of the present exploratory study was to identify the scope and nature of their work, the kinds of stressful events they face, and the kinds of strategies they would find helpful to manage these stressors. Interview approaches provide valuable information about emergency medical service (EMS) workers' stressors and coping strategies that are not as fully captured by self-report measures (Clohessy & Ehlers, 1999; Ørner, King, Avery, Bretherton, Stolz, & Ormerod, 2003).

Method

This report is based on an ongoing study of critical incident stress in EMS personnel in a large urban Canadian city. While the parent study focuses on paramedics, the present sample relies on semi-structured interviews with dispatchers. Participants were recruited from a cohort of 108 dispatchers (96 Emergency Medical Dispatchers and 12 Supervisors) during a mandatory

continuing education program of an urban EMS service (Continuing Dispatcher Education). Twenty dispatchers initially volunteered for the study and eight were interviewed; the rest declined when contacted or were unavailable at the time of data collection. They were offered a choice of group or individual interview format. Eight dispatchers participated in one focus group (n = 3) and 5 individual interviews. Semi-structured interviews for both paramedics and dispatchers focused on: nature and scope of the job; chronic stressors; critical incident types and symptoms; strategies and resources used in recovery and their perceived benefits; and recommendations for improving the recovery environment. Focus groups lasted between 1½ to 2 hours; individual interviews 1 to 1½ hours. The study received local Research Ethics Board approval. Each participant received an honorarium of \$60.

Socio-demographic characteristics are described in Table 1. Notably, as reflected in our sample, the majority of dispatchers at this urban EMS center are female (64% vs. 36% male), while the majority of paramedics are male (74% vs. 26% female).

Analysis

Interviews and focus groups were audiotaped and transcribed, along with field notes. Transcripts were coded independently by two researchers (MG and PD) and compared regularly to ensure coding consistency. Coding trees were developed and themes were categorized to reflect both broad and more specific themes, using the *constant comparative method* (Strauss & Corbin, 1998). This entails a systematic, iterative examination and categorization of text based on specific uniquely meaningful data segments related to the broader study focus. Following initial textual categorization, multiple re-readings eventuate in progressively more precise thematic coding. Specifically, this entails a categorization of text passages, based on specific themes, statements or attributes designated by the researcher. Data segments are comprised of

information that is uniquely meaningful (i.e., contains one idea, episode or piece of relevant information) but is also related to the larger picture (Tesch, 1990). Following initial textual categorization, multiple re-readings eventuate in thematic coding. Thematic coding relies on identification of events, ideas, themes or properties in a data segment and these are, in turn, labelled for further analysis. In this way, thematic coding names the major characteristics of the segment.

Results

The results of the parent study on paramedics include a focus on critical incident types and recovery strategies (Authors, 2007a; Authors, 2007b), while the focus of this paper is to explore stressors that are specific to the dispatch work environment. This emphasis on the differential stressors was provided by explicitly by the participants. Although questions about critical incident stress types and experiences were asked, the interviewees' responses focused primarily on aspects of dispatcher work that they viewed as distinct from paramedic work. The findings on critical incidents and coping strategies are reviewed elsewhere (Authors, 2008). Briefly, that analysis suggests that EMDs use similar criteria to paramedics to designate calls as critical incidents (e.g., personally relevant or gruesome events). While the personal strategies they use in recovering center on solitary activities (e.g., alone time during a shift, distracting activities, leaving work at work), the professional resources focus on peer and supervisor support. Notably, supervisor support was positioned as central to recovery, while its absence was described as exacerbating.

Despite these similarities, EMDs' experiences are distinguishable across several domains. These include the following: *Decoding, Deciding and Dispatching on Deadline; Lack of Control as Conduits; Call Center Conditions; Organizational Issues – Management, Supervisors and*

Policy; and ‘*One big dysfunctional family*’ – *Support and Secrecy*. These are encompassed by a higher-order theme entitled: *Dispatcher–Paramedic Divide*. A central tension underlying these domains, as captured by this higher-order theme, is the competing demands for executing rapid and precise assessments while working within a delimited environment in relation to decision-making autonomy and information availability. Specifically, decision-making capacity is constrained by working within a frequently unsupervised, non-visual access environment, relying on secondary (potentially inaccurate) information delivery. Descriptions of these structural limitations always occur in tandem with references to the different nature and scope of their work compared to that of paramedics. In doing so, a degree of divisiveness is invoked throughout.

The divide between paramedics and dispatchers is positioned as stemming from different role demands and mutual misapprehension. Although individual instances of camaraderie and mutual support are cited, the talk about divisiveness predominates:

Paramedics very rarely talk to dispatchers. There’s definitely a division. They’re very friendly to us and I get along with them...but there’s always that us versus them mentality. (#P200)

Notably, when the parent study was initiated with the paramedics, the suggestion to include the dispatchers was advanced by the paramedics.

I think they’re definitely two different jobs. I don’t think I could ever be a paramedic. And I know a lot of paramedics would make horrible dispatchers...Even when they come to the dispatch center, you just think, ‘Oh, please go back on the road. Because you can only handle one call at a time.’...It’s the same job, but it’s not. (#P200)

The paramedics are perceived as downloading their frustration and stress on both patients and dispatchers:

I’ve seen paramedics lose it on patients. And a lot of medics lose it on dispatch because we’re safe to lose it on...I think they take it out on us because they can. And that’s stress. (#P201)

Decoding, Deciding and Dispatching on Deadline

Multi-tasking is a central feature of dispatch work. While they clearly excel in this arena, the EMDs in our study also cite a number of barriers that can hamper decision-making and escalate stress levels. These center primarily on lack of available resources and include the following domains: call overload; insufficient call center staff; decisions about priority status; shortage of ambulances for numbers of calls; precision imperative; and absence of down time.

That I find extremely stressful, that there are times when we have more calls for help than we have resources available to send them...The hardest part I find is watching calls keep coming in and not having ambulances. I find that extremely stressful. On a very busy day, having to actually look at call information and decide, okay, this person's going to get an ambulance and this person's not for a while. I find that very difficult. (#P801)

The pressure to perform very quickly without jeopardizing precision is cited as a key stressor. Here again, the comparisons with paramedics emerge as salient. The dispatchers emphasize the relentlessness of their role, which does not permit down time and the close scrutiny to which they are subjected, wherein every call is recorded verbatim. While the paramedics in our study cited similar pressures (Authors, 2007a; Authors, 2007b), the dispatchers underscore what they perceive as the central differences:

There's just so much pressure to perform and to make sure I go quickly and that I do the right things...At dispatch, everything's recorded. Everything is by the second. It can be so scrutinized. And all I think of on some calls is like, if this was played at an inquest, lawyers have months and months to go over everything with a fine tooth comb. I have milliseconds to make a decision...Usually [paramedics] have some sort of down time afterwards where you're doing paper work or you're going from one place to another. With call-taking, especially when it's busy, it's just incident after incident. A paramedic might be at 6 scenes in a day, we're at 60. (#P201)

The relatively greater surveillance of dispatch work, the greater numbers of calls per shift, and the lack of adequate down time are exacerbated by the constraints of working in a 'non-visual environment' (Patterson, 2005). Split-second decisions that directly affect safety are made

routinely without the benefit of being on the scene, which provides access to the visual cues that could enhance information. In fact, this kind of work has been likened to confronting “a gunfight with blinders on” (Patterson, 2005, p. 21).

Lack of Control as Conduits

A related central tension faced by dispatchers pertains to the competing expectations to make immediate decisions while simultaneously lacking sufficient autonomy for decision-making. Central among these are: making decisions without adequate supervisory input; being reprimanded for dispatching ‘too much’ help (i.e., too many resources); ‘having one’s hands tied’; limits on telephone help; and greater presumed control on the scene. As this dispatcher asserts, many critical choices are made without supervisory input, and with the awareness that this judgment may later be questioned:

We had 37 calls stacked at one point. At that point, there’s four of us in that little area and it’s not the supervisor or anyone else, it’s the four of us who are deciding who’s going to get an ambulance and who isn’t. I find that stressful. (#P801)

One of the common consequences of autonomous decision-making described by dispatchers was being disciplined for sending ‘too much’ help:

When I got traumatic injury calls, I would upgrade them manually, I’d rather over-send than not...although I’ve been criticized and disciplined for sending too much help before. I don’t mind being disciplined if it means it’s going to help somebody...but very rarely are we supposed to. The doctors are the ones that are determining the level of response. (#P200)

In fact, the consequences of both ‘over-prioritizing’ and ‘under-prioritizing’ have been cited recently as a significant ongoing issue for a peer ambulance communications system in our jurisdiction (D’Angelo, 2006). While patient safety might be compromised by under-prioritizing, over-prioritizing can also ultimately hamper safety of subsequent calls if too many ambulances are on the road at the same time and response times are thus affected.

The tension between competing exigencies to act instantaneously while simultaneously not overstepping decision-making power, combined with inadequate resources, contribute to escalating powerlessness and cumulative stress:

The constant ongoing struggles that you feel like your hands are tied and you're beating your head against a wall and you're not getting anywhere, despite really trying. Like the lunch policy that's come in with the paramedics. Just try to get all their lunches done. But not giving us enough cars to get the calls done. It's frustrating. (#P200)

These conflicting demands are again framed within a discourse of the paramedic-dispatcher difference. Being on the scene is positioned as less taxing owing to the greater control over possible modes of assistance and more proximal awareness of their consequences:

That's why I find it less stressful to be on the scene. Because then if someone's having a sudden cardiac arrest and you're there and you're doing CPR, you're doing something productive and if that person's number's up, their number's up. You've done everything that you can possibly do with the resources that you have. When it's over the phone, it's just so frustrating, so frustrating... It's just like you so want to jump through the phone. It'd be so much easier just to be there. (#P201)

Notably, the burden of responsibility was linked to working under such rigid role and time constraints. The emphasis here was on potential for dispatcher error, with resulting costly consequences:

It's mostly this feeling of, it's so easy to screw up. Especially when you're dispatching, it's so easy to screw up...Because I think today might be the day that the mistake that I make bites me in the ass. And you might do a thousand things really, really well and incredibly accurate and it's the one thing that you don't that will bite you in the ass. Because there's such a huge consequence...Because one little mistake. You hit one number too many, right? And now 116; it should have been 16; now it's 116; it's one little keystroke error. Everyone makes typing mistakes, but that is a huge difference to someone that needs an ambulance. And it can mean the difference between someone being alive and someone being dead in an extreme case, to someone being in the hospital longer or having their condition worsened because you've made that error. (#P201)

The sense of responsibility is complicated by their role as intermediaries between the distressed, frequently panicked and incoherent public and paramedics:

I take responsibility because I used the wrong technique and that was my fault. And yeah, partially it's his fault because we need to trust the information that people give us and he seemed very confident that that's where he was. So it goes both ways. But at the end of the day, because they've called me for help, and I'm the one that's supposed to know what I'm doing. (#P201)

Thus, swift multi-factorial decisions are made within a limited informational context, wherein a range of critical variables that are outside of the dispatcher's control may determine the outcome. Central among these are the caller's capacity for conveying accurate information and the often rapidly shifting features of the scene (e.g., the status of the victim can shift from urgent to critical) (Patterson, 2005).

Call Center Conditions

Inadequate environmental conditions were frequently cited as a source of chronic stress, with the following as the central areas of concern: absence of available quiet space; lack of physical outlets/activity; poorly regulated temperature; and infrequently replaced ergonomic equipment. The lack of available quiet space was positioned as a barrier to getting a reprieve from the relentlessness of the work:

You go in the lunchroom and somebody's talking about a call. And every once in a while, like, it irritates me and I just want to say, would you just fucking shut up... Now most people respect your boundaries but every once in a while you get people that just, they just don't stop. It's your break. Take a break. (#P203)

Physical confinement in one location is a unique additional stressor for EMDs (Burke, 2005b). Paramedics are much more mobile, and are thus able to relieve some of their stress physically, as well as have greater access to socialization opportunities with colleagues. In contrast, the role of dispatchers demands that they stay in one place and in close proximity to rapidly incoming calls:

There's people who have the dispatch desk, like chest pain or things like that and there's times when, especially when I just started training and it just, everything was going so fast and you got to dispatch ambulances and there's the trunk radio. People are calling the

trunk; people are calling the portable; people are calling on the phones. Other quadrants are talking to you...And all these calls are coming in and you try to deal with all this stuff and it's just like, it's so much. And if you're not right on your game, you can't keep up. And the more you can't keep up, the more frustrated everybody else becomes...And there's been times when I've felt, like, oh my God, like one more thing happens and I'm just going to start crying right here. (#P201)

This physically restrictive environment not only has consequences for psychological health but the sedentary nature of the job also has a potential impact on physical health. In particular, poor eating habits and weight gain were described as being ubiquitous. This is consistent with other research showing that dispatchers report high rates of smoking, gastric problems and headaches as a result of limited flexibility on the job (e.g., regular eating or bathroom breaks) (Grand-Holsten, 1992; Schmuckler, 1991). In our study, both the pervasive reliance on unhealthy coping strategies to manage the job-related stress and the absence of resources that might support healthier choices are highlighted. Notably, this absence is positioned as both a personal and an organizational issue.

Organizational Issues – Management, Supervisors, Policy

Organizational structure was the recurring scaffolding underlying most of the interview accounts. The perceived lack of recognition on the part of management regarding unhealthy working conditions and perceived underestimation of the degree of stress that dispatchers face was viewed as a lack of responsibility:

We're running the most unhealthy environment in that place. We're just taking relatively healthy people, making them sick and then giving them the...work and making them sicker. And not addressing, no one's taking any responsibility for anything. It makes me angry...I just see a lot of people in management very ignorant on the subject. Ignorant in the fact that it's not acknowledged. It's an insult to me. (#P202)

This lack of support from management was framed as a lack of acknowledgment that dispatcher stress is indeed a problem. The underlying assumption, even when not openly stated, is that dispatcher stress is negligible compared to paramedic stress:

A friend of mine...was in a meeting with a manager from the control center and [the friend] made a reference to stress in the control center and he looked at [the friend] and smiled and said, 'You people have no stress. What are you talking about?' (#P800)

This disparity between the perception of dispatchers and management also enters the decision-making arena. Dispatchers described managers as making crucial decisions without an adequate understanding of the dispatcher job:

It's frustrating when he [manager] is making the decisions that affect our job, when he fully admits that he doesn't understand the job. I can understand where he's coming from and I don't think he's a bad manager, but I think that he doesn't seem to make any effort to try to understand the job. And yet still continues to make the decisions that make a big difference. (#P200)

Notably, in such comparisons, the alliance with paramedics was emphasized; paramedics and dispatchers were presented as a unified force, facing similar concerns about management (Authors, 2007a; Authors, 2007b). Policy changes and the associated low work morale were also cited as reasons for leaving the profession:

There's a lot of people leaving right now...And as much as people complain about it, if you work a day in the province, you kind of realize how good [local region] has it. It's a world of difference. But there are a lot of people leaving [local region] due to stress reasons. (#P200)

Management was also positioned as being largely unsupportive in specific cases of dispatcher distress. In the following account, an Employee Assistance Team (EAT) member was called in by a dispatcher on duty to speak to distraught dispatchers after a call informing them of the death of a colleague. The severity of the dispatcher distress was described as being underestimated by the manager:

The supervisor who was on duty didn't think there was a problem. I paged one of the...Employee Assistance Team. I said, 'look, this has just happened'...Him and another supervisor, they were like half way across the city; they were up there in 8 minutes...So him and another supervisor came in and they started just trying to talk to people...but the supervisor who was there at the time didn't think that there was a problem. That was difficult to stomach at that point. (#P801)

Supervisor support was described as not only absent but as actively discouraged. In fact, seeking support was framed as an act that could engender derision. The absence of supervisor support was juxtaposed against the more frequent and dependable reliance on peers:

Which is kind of funny because you can tell your peers. You don't get ridiculed at all. But there's not really a good support system when it comes to supervisors that way...and I found there's really a good support system among the call-takers, or dispatchers, it doesn't matter who's there. If you wanted to talk about something, I don't know anybody that wouldn't listen...I find if you're going to look for anybody, you have to go to your peers. (#P200)

These barriers to support seeking or provision were positioned as being responsible for burnout and as being exacerbated by the absence of paid stress leave (unlike for paramedics):

That's the most discouraging part too, because not only do they, they won't support you internally if you wanted to go talk to somebody, or there's no trust there or anything. They won't help you out if you want to go outside the circle as well too. Which I think is why the burnout rate is so high. Because I know they [paramedics] are able to book off on stress but we're not. Because we have had people go off on stress. But they don't get paid for it. (#P200)

In contrast to these problematic scenarios, one dispatcher indicated that supervisor support was not only adequate but actually more than satisfactory:

I'm very fortunate, the shift that I'm on, I have a supervisor who has no problem saying, "Unplug, walk away. Just take a walk; take 20 minutes; take an hour, whatever you need...There are some supervisors who would say, suck it up, the phones are ringing out, answer the phone. (#P204)

Notably, this example of excellent supervisor support was positioned as a fortuitous exception to the general rule of supervisors advocating silent endurance. The emphasis on management and organizational features as significant and often more common sources of chronic stress than daily operational demands and acute stressful incidents, parallels other research on emergency personnel (Brown & Campbell, 1991; McCammon, 1996). For instance, Mitchell (1984) identified "administrative hassles," such as poor administrative support, to be a ubiquitous complaint among paramedics.

‘One big dysfunctional family’ – Support and Secrecy

Given the idiosyncratic culture of EMS work, it is the organizational and professional structure that both imposes specific demands and is simultaneously optimally positioned to provide support and mitigate against the deleterious effects of these demands. The exigencies of EMS work include reliance on idiosyncratic rules of conduct, linguistic repertoire, uniforms, etc. Given this unique and encompassing nature of their work, the centrality of peers in providing support and in transmitting key information was frequently highlighted, as this discussion from a focus group participant illustrates:

I think there’s quite a bit of camaraderie in the center. Even though we may not socialize that much off the job, we’re all in on the same thing...It’s like one big dysfunctional family. (Everyone laughs) (**P#800**)

In the following excerpt, the dispatcher relies on the metaphor of brick holding to help cope with the stress of the calls. The individual views each call as brick that needs to be put down after the call is done to minimize the weight of the stress. And this metaphor is invoked here in describing the role of peers in stress reduction:

There is a medic on the road here and in [another region] as well and our support has been the biggest thing when it comes to anything. He’ll call and he’ll say ‘I picked up a brick today and I need you to help me carry it.’ You know what I mean? And we have a little code. It works out well because then, if he’s with other people and he’s trying to be macho or whatever...And they do, because there’s an expectation that you can take it all and those things aren’t going to bother you. So we help each other carry our bricks. I think that’s what’s been the most helpful, that it’s someone I can just spew to and they know what I’m talking about. Because you get home at the end of the day and [can’t talk about work]. (**#P201**)

Peers are, thus, centrally positioned as conduits for negotiating the emotional labor (Shuler & Sypher, 2000; Shuler, 2001) associated with emergency medical work. That is, managing emotions (e.g., suppressing anxiety, exhibiting control under pressure) is a key aspect of such

occupational roles (Shuler & Sypher, 2000). The absence of adequate outlets for the expression of difficult emotions was frequently cited as a source of stress:

I think expressing anger, we don't do it enough because it's all about PR and customer service and we don't do it enough and we need an outlet there...And you can't let it out because it's unprofessional and you'd be sued or charged. (#P201)

In these accounts, emotional labor is positioned as both a stressful demand and an opportunity for actively constructing and maintaining workplace culture (Waldron, 1994). An additional unintended (and perhaps unavoidable) consequence of this creative solution to managing the unique emotional demands of the job is the increasing distance between workplace life and home life. Because emergency workers are exposed to conditions and emotional responses on a daily basis that the general public or other professions do not experience with such regularity, they frequently find it difficult to communicate their experiences to those outside the profession. Reciting the events of a typical work day with family or friends in this context is no easy matter. Notably, the tension between the role that peers play in both providing vital support and further entrenching the demarcation between the inside world of EMS and the outside world is ubiquitously described:

I think that's really strengthened my friend and I a lot, my friend at work. Because there are things that he can tell me that he can't tell the most intimate relationships in his life, and the same with me. (#P201)

You kind of see things that most people don't see. And you kind of bond with the people. Because then you're going through these stressful times together with them...And I didn't realize how much of a kind of cocoon you go into...from the rest of the world and how much the lifestyle kind of takes over...It's like you're living two lives all in one. And you don't mean to be. But you do feel a kind of like the cheating husband or the cheating wife. Because you've got this other family that you can't really talk about. You can, but not really. (#P200)

Against this backdrop of kinship experiences based on exposure to similar events, there is also a parallel narrative of secrecy, shame and even ridicule. Control center personnel report being

more guarded and secretive as a result of either directly experiencing verbal abuse or ridicule for seeking support, or witnessing the trivialization of others' distress, thereby minimizing the possibility for accessing support from peers. In the following excerpt, an incident is described in which a dispatcher decided not to return to work due to stress, but colleagues were kept in the dark:

Even when X from X shift who has decided he's had enough of the stress and wants to be positioned somewhere else, not a lot of people knew about it because nobody would talk about it...So it's kind of, any issues like that, or any issues relating to stress are very...(Hush, hush.) Yeah. (#P200)

In the following excerpt, the dispatcher describes being extremely reticent about asking for a break from the desk unless it was an extreme situation, such as experiencing chest pain. The reluctance was rooted in not wanting to convey the perception that this individual could not handle a call:

But I would feel, especially starting new in training, I would really have to be having chest pain and sweating and turning some sort of ghastly color, before I ever gave up the desk. Because then I would feel like I can't take it, that I'm telling everyone I can't take it. (#P201)

Participant Recommendations

Participants advanced a number of recommendations that might diminish occupational stress associated with dispatch work. This included the provision of the following: designated quiet rooms; ergonomically sound equipment and properly ventilated rooms; consistent rotating shifts; explicit guidelines for handling difficult calls; proximal feedback about outcomes of (particularly difficult) calls; positive feedback from supervisors; cross-training between paramedics and dispatchers; regular mandatory educational programs; and institutionalized paid stress leave.

While a few of the recommendations focused on the physical environment and workplace structure, it was the psychosocial environment that received most of the attention in our sample. One of the most salient themes was the relatively greater emphasis placed on the technical aspects of the job (e.g., CPR technique) during training versus the psychological features (e.g., sensitivity training regarding mental health), although the psychological component comprised a significant proportion of regular calls. No stress management component currently exists as part of dispatcher training for this urban EMS center. A call taker course (6 weeks, 240 hours) is provided first, followed by a dispatcher portion (8 weeks, 320 hours). This training focuses on the computerized phone and radio systems and operational processes (Olynyk, personal communication, 2007). In contrast, stress training is provided for paramedics as part of their 2-year community college program, as well as during their orientation to the EMS center (Olynyk, personal communication, 2007). Relatedly, the provision of explicit guidelines for handling difficult calls (e.g., in the form of written instructions) was cited as a much needed resource. The following excerpt captures this suggestion:

If we had more training on mental illness, or stress or anything like that. I can tell you how to do CPR in my sleep, and that's a good skill to have. I mean, it's so, so valuable, or any of the first aid instructions that we have, I do think that they make a big difference. But about 30% of our calls are psych calls, or actually it's probably even higher than that. You know, 30% are just plain psych and 60% are psych mixed with [medical]. It's so hard to figure out a way to talk to them, or to make a difference, or to help them even, in a first aid sort of basis. And there's not really much instruction for that part of it. (#P200)

Importantly, a tension was raised in these discussions between the necessity for training related to coping strategies versus the frequent reluctance of dispatchers to access help and support. Given the demands of the job, dispatchers were described as being much more comfortable providing help than requesting it or making use of help that was offered. Some participants suggested that this kind of training might even need to be introduced surreptitiously,

in the guise of information needed for handling client calls, rather than explicitly directed at helping personnel. For instance, getting information about how to ask callers about signs of severe depression or suicidal ideation may eventuate in a self-education tool for dispatchers, but it might be better received if it is framed as training for managing the public. It was also suggested that this kind of training be mandatory and incorporated into the continuing dispatcher education seminars, perhaps with credit points being offered for participation. The emphasis here was on ensuring that regular training was available to all, rather than singling out individual dispatchers who might need help, as a way to de-stigmatize the process.

A recurrent theme was that the focus of the training should be not only on critical incidents but also on the cumulative stressors that are characteristic of their daily work environment. This was framed as an emphasis on preventative measures versus post-incident treatment approaches. Moreover, the importance of having consistent (rather than frequently alternating for different sessions) staff was raised as key to providing greater legitimacy. Finally, it was suggested that dispatchers might be much more receptive to training staff from outside the organization, thereby increasing the perception of confidentiality and minimizing fear of reprisal (e.g., fear of losing one's job).

Cross-education between dispatchers and paramedics was described as being useful for increasing understanding about the unique kinds of stressors specific to each role, thereby diminishing the misconceptions and resulting potential divisiveness. This would, ideally, include paramedics visiting the call center and dispatchers going on ride-outs. Notably, this suggestion was also extended when this preliminary data was presented at two conferences, one aimed at safety communications workers (Authors, 2006) and the other comprised primarily of paramedics (Authors, 2007).

Feedback regarding the outcome of (particularly difficult) calls was cited as serving several functions, including the provision of information about how to improve responses to future calls and increasing the possibility of achieving closure. Proximity of feedback to the actual call was cited as central; delayed feedback was described as being insufficient to achieving the beneficial effects. Relatedly, supervisor support was positioned as central to both recovery from difficult calls, as well as enhancing overall work morale.

Apart from the frequent ambivalence on the part of EMDs to seek help, the absence of institutionalized paid stress leave acts as an additional disincentive to requesting support. While paramedics are entitled to paid stress leave (minimum of 1 day off, which can be extended for 2 additional days with physician or supervisor approval), the same formalized paid stress leave is not available to dispatchers, although 1 hour off the desk after a stressful call is now permitted (Olynyk, personal communication, 2007). Both dispatchers and paramedics work 12-hour shifts.

Discussion

This study reveals the differential stressors experienced by EMDs and underscores the importance of workplace climate for both contributing to and mitigating the effects of cumulative stress and CIS. Notably, although the interview schedule was nearly identical for dispatchers and paramedics in the parent study (Authors, 2007a; Authors, 2007b), with a primary focus on cumulative and critical incident stress, the dispatchers redirected the interviews to an emphasis on the unique features of dispatch work. This may reflect several factors, all of which may be operating either independently or in combination: 1) the dispatchers were aware of being recruited for the study after the paramedic study was already initiated, thereby highlighting their perceived subordinate status within the organizational structure; 2) the specificity of dispatch work does not lend itself to the application of the same interview template for exploring chronic

or traumatic stress; and 3) the relative neglect of medical dispatcher stress in both research and within the organizational framework of emergency medical work may amplify dispatchers' focus on differences. All are likely to be operating, as confirmed by another research team currently working in the UK on critical incident stress among dispatchers and paramedics (Wild, 2007, personal communication). In their interviews, they also found that dispatchers frequently repositioned the discussion to highlight the differences between the stressors they face and those faced by paramedics.

Although both paramedics and EMDs face many of the same stressors (Authors, 2008; Bevan & Wild, 2007) the idiosyncratic environment and demands of dispatch work eventuate in a range of specific stressors. In the present sample, the stressors described by EMDs are encompassed by two broad categories: the physical work environment and the psychosocial work environment. The first centers on: call overload; insufficient call center staff; decisions about priority status; shortage of ambulances for numbers of calls; precision imperative; inadequate call center conditions; absence of down time; and absence of available quiet space. The latter focuses on: adversarial relationships between EMDs and paramedics; making decisions without adequate supervisory input; being reprimanded for dispatching 'too much' help; 'having one's hands tied'; limits on telephone help; and greater presumed control on the scene. A central tension faced by dispatchers pertains to the competing expectations to make instantaneous, accurate decisions while simultaneously lacking sufficient autonomy and first-hand information.

The results of our exploratory study parallel the findings of research on other emergency communications workers. Among the stressors cited by fire and police dispatchers, as well as call takers and mixed samples containing ambulance dispatchers are: inadequate pay, excessive and vague demands, lack of supervisor and collegial support, lack of control, shift work,

outdated equipment, physically confining and isolating work space, inadequate breaks, and negative citizen responses (Burke, 1991; see also Burke, 1993a; Burke, 1993b; Burke, 1993c; Burke, 1995; Shuler, 2001). Among the numerous stressors reported, the following were described as distinctive features of dispatcher stress: low perceived status within the organizational hierarchy; an elevated sense of responsibility as intermediaries between front-line workers and civilians; and inadequate formal training (Bevan & Wild, 2007; Burke, 1991, see also Burke, 1993a; Burke, 1993b; Burke, 1993c; Burke, 1995; Shuler, 2001).

Several studies have confirmed the buffering effects of social support among emergency workers. An early study on police radio dispatchers (Kirmeyer & Dougherty, 1988) found that supervisor support moderated the impact of both objective (all hourly rated other-initiated work activities) and perceived workload on tension-anxiety and coping. Specifically, under high perceived workload conditions, dispatchers experienced less tension-anxiety and engaged in more coping activities when they received supervisor support. The effects of objective load on tension-anxiety (but not on coping) was also buffered by high support. Similarly, civilian police dispatchers reported that peer support was strongly implicated in the reduction of stress and burnout (see also Burke, 1993a; Burke, 1993b; Burke, 1993c; Burke, 1995). Although given the exploratory and qualitative nature of our small-sample study, we did not systematically assess the buffering effects of supervisor or peer support, our participants cited these as central to mitigating the effects of occupational stress. A notable tension, however, is the EMDs' ambivalence about both requesting and accepting support. While they indicated that greater support, particularly from supervisors, was desirable, they also conveyed their reticence about seeking out support for fear of being perceived as too fragile to competently perform this work. This parallels other research suggesting that EMS workers may be reluctant to disclose distress

or rely on mental health services (Shepherd & Hodgkinson, 1990). The barriers to such resource utilization may stem both from perceived or actual stigma associated with revealing specific symptoms such as anxiety, depression or intrusive thoughts and from a belief that their disclosure would undermine one's ability to perform the job (McCammon, Durham, Allison, & Williamson, 1988).

Limitations and Implications

This is a small-sample exploratory study, based on a self-selected sample of participants, which limits the generalizability of the findings. As volunteers, participants may be a more troubled or more vocal segment of the workplace than those who did not volunteer. However, the demographic characteristics (e.g., gender, years on the job) are representative of the larger population of dispatchers at this urban center. Despite the small sample size, our findings appear to be consistent with other work with paramedics and EMDs, as well as other communications operators. Given the unique features of dispatch work as compared to paramedic work (e.g., its status as the first point of entry for emergency calls; its role as the conduit for information between civilians and emergency workers; its delimited intervention status; its sedentary nature), there are implications for both empirical explorations of dispatcher stress and intervention development.

Despite the numerous similar stressors faced by both paramedics and dispatchers, chronic and/or traumatic stress may be experienced differently in the context of dispatch work. For instance, while paramedics might struggle with lingering visual images from a difficult call, dispatchers might be left with auditory reminders (in some cases these may be experienced as auditory assault, particularly in the case of a long string of difficult calls). That is, involuntary recollections resulting from calls might take the form of auditory reverberations. Moreover,

visual images that may be elicited by listening, in the absence of verifiable visual information (perhaps in conjunction with auditory re-experiencing), may lead to different symptoms and may require different intervention possibilities. A recent unpublished UK project comparing paramedics and dispatchers has begun to explore some of these issues. Similar levels of intrusive visual imagery were reported by dispatchers and paramedics/EMTs, and dispatchers who presented with posttraumatic symptoms exhibited non-veridical visual re-experiencing symptoms (Bevan & Wild, 2007). Notably, visual imagery ability was a moderator of the relationship between posttraumatic symptoms and call-related visual imagery among dispatchers in particular. This suggests potential differential intervention pathways for paramedics versus dispatchers.

The lack of control imposed by the dispatch role in providing on-the-scene, hands-on help, may also elicit a specific type of second-guessing about decision accuracy or sense of helplessness that may be different from the kind of struggles paramedics report in relation to retracing their decision-making for a call. Moreover, the self-selection process that might be operating in choosing to become a paramedic versus a dispatcher may also have implications for how emergency work-related stress is experienced and managed. Although some have performed both roles at different points in their career, for the most part these are discrete positions.

The preliminary evidence provided by our study, in conjunction with other research on paramedics, EMDs and other communication workers, points to an integrated model for dealing with occupational stress that addresses both personal and organizational features. Rather than viewing stress management as an individualized, privatized problem of the employee, coping can be conceptualized as an organizational or joint venture (Fineman, 1996; Newton, 1995). This

approach is also compatible with the finding that resilience in response to even deeply disturbing events is the rule rather than the exception for the majority of individuals (Bonanno, 2004). It is important to underscore, however, that this propensity for natural recovery can be either facilitated by appropriately-timed and -calibrated, supportive responses or undermined by their absence. Intrusive interventions or those incongruent with the recipient's needs may be potentially even more damaging than the doing nothing (e.g., Lilienfeld, 2007; McNally, Bryant, & Ehlers, 2003).

A recurrent theme in our work with both dispatchers and paramedics, as echoed by the larger literature on EMS work, is that work-related stress can be both exacerbated and mitigated by institutional factors. Issues such as decision-making latitude, scheduling, stress-leave policies, and peer and management support repeatedly emerge as central and frequently outweigh concerns over specific critical incidents (e.g., Beaton & Murphy, 1993; Bevan & Wild, 2007; Shuler, 2001). The organizational structure can, thus, be appropriately galvanized to build prevention and intervention approaches that foster both individual and organizational resilience. This is line with current recommendations for combating occupational stress in EMS systems (Gist & Taylor, 2008; see also Gist & Woodall, 1999 for overview of stress management in EMS). In addition to the specific dispatcher recommendations outlined earlier, these approaches, gleaned from our own work, the broader EMS literature, and crystallized by Gist and Taylor (2008), are summarized below. While the focus here is on dispatcher stress, some are more generally applicable to EMS workers across a range of occupational domains (e.g., paramedics, firefighters). These are as follows:

1. *Proximal, non-intrusive responses from peers and supervisors.* Informal peer and supervisor support appears to be effective in mitigating the effects of both critical incidents and

daily occupation-specific stress (e.g., Alexander & Klein, 2001; Bennett et al., 2004; van der Ploeg & Kleber, 2003). This is particularly useful when provided in close proximity to the stressful event and tailored to the immediate needs of the employee (e.g., an informal chat retracing operations issues vs. a deliberate debriefing about the emotional impact of an incident), rather than delivered in a formal, explicitly interventionist manner. The focus here is ongoing solidarity, compassion and non-invasive vigilance that build on existing best practices provided by some EMS organizations and workers.

2. *Routinized time-out.* Given the greater number of paramedics compared to dispatchers in EMS organizations (e.g., 108 dispatchers vs. 1000 paramedics in our urban centre) and the frequency of incoming calls, the number of potentially stressful incidents that dispatchers face in a given shift is arguably higher than those of paramedics. Regularly instituted breaks (Authors, 2007a) with adequate provisions for a quiet space, may mitigate the cumulative effects of these rapid-fire calls, thereby alleviating the negative effects of emotional labor that is an unavoidable feature of emergency work (e.g., Figley, 1995; Mann, 1997; Rentoul & Ravenscroft, 1993).

3. *Explicit guidelines about decision-making latitude.* The physical distance from the scene, as well as communication problems engendered by telephone interactions, can amplify feelings of helplessness on the part of dispatchers, as well as diminish their sense of competence. While training in specific telephone-delivery assistance is a necessary feature (and already exists for some EMS systems), it is not sufficient to mitigate the effects of delimited decision-making power. Dispatchers may also benefit from regular, explicit information about realistic organizational expectations that can also re-calibrate individual employee expectations. This is also integrally related to the provision of routine, informal, case-specific and immediate support by supervisors (outlined above).

In conclusion, there is emerging evidence that emergency medical dispatchers regularly experience a range of both daily stressors and critical incidents that are similar to those faced by their communications operator counterparts and other emergency frontline workers. They also report additional stressors that are specific to the nature and scope of their work. The occupational stress literature increasingly points to the centrality of organizational factors in both exacerbating and mitigating the effects of such stressors. Given the individual and organizational costs, there is an urgent need to include EMDs in empirical, theoretical and intervention efforts that address these issues. Specifically, both cross-sectional and longitudinal research is needed to identify: the range and severity of stressors faced by EMDs; comparative stressor rates and types that distinguish paramedics and EMDs; and predictors of negative and positive outcomes. Suggestions drawn from our own sample and from others currently engaged in EMS research indicate that the EMS organizational structure can be a powerful conduit for change in reducing distress and improving employee morale.

Notes

1. We are adopting Mitchell's (1983) definition of critical incidents, which refer to events that elicit unusually strong emotional responses which may interfere with functioning. This is also consistent with the terminology typically adopted by ambulance personnel.

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Table 1. Socio-demographic characteristics.

| | | |
|--------------------------------|---------------------|---------------|
| <i>Age</i> M (SD) | (R = 29 - 56) | 43.34 (10.76) |
| <i>Years on the job</i> M (SD) | (R = 8 mo - 29 yrs) | 12.40 (12.79) |
| <i>Gender</i> n (%) | | |
| <i>Male</i> | | 2 (25%) |
| <i>Female</i> | | 6 (75 %) |
| <i>Partner Status</i> n (%) | | |
| <i>Single</i> | | 4 (50 %) |
| <i>Married</i> | | 4 (50 %) |
| <i>Children</i> n (%) | | |
| <i>Has children</i> | | 2 (25 %) |
| <i>No children</i> | | 6 (75 %) |

Acknowledgments

The authors would like to thank the participants who so candidly articulated experiences rarely visible in the research literature. This research was supported by the Tema Conter Memorial Trust. Portions of the research were also facilitated by several Ryerson University administered Social Sciences and Humanities Research Council small grants, including the Ryerson New Faculty SRC Development Fund, as well as the Ryerson Research Assistant Program. Earlier versions of this paper were presented at the Association of Public Safety Communications Officials, Toronto, Ontario, October 1-4, 2006 and the Ontario Paramedic Association Conference, Niagara Falls, Ontario, September 18-20, 2007.