

**Perceptions of Psychosocial Training on Behavioural Responses in Emergency
Operations Centres**

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When a disaster strikes, the well-being of Emergency Operations Centre (EOC) personnel is often not the first priority for emergency managers working to help provide support to their local community and the incident command site. Through the development and testing of an iterative series of simulation exercises with EOC personnel, this study identified adverse psychosocial outcomes that may emerge within an EOC during an emergency. Having identified a number of practices which led to less than desired psychosocial outcomes, researchers developed a training and awareness video to identify the practices and demonstrate strategies to overcome negative impacts. A comparative analysis was undertaken to compare EOC actions pre- and post-exposure to the video. The results indicated a change in behaviour following the viewing of the video and supported training initiatives that stress the importance of strong leadership in an EOC, encouraging staff to take breaks, respecting diversity, and providing psychosocial support.

Keywords: emergency operations, disaster, psychosocial

Around the world, large populations of people are experiencing the devastating effects of extreme weather, infectious diseases, natural and human-induced disasters, and chemical, biological, radiological, nuclear and explosive (CBRNE) events. The material consequences for individuals, families and communities are immense. While the physical traumas from such disasters are visible, the psychological and social consequences may go unnoticed. Those

engaged in emergency and disaster management have identified a need for policies, protocols and procedures that will provide effective psychosocial support for decision makers, first and second responders and receivers, other professionals, and community members. In this context, the phrase “psychosocial support” refers to resources that address the combination of psychological, emotional, behavioural, and social aspects and impacts of a disaster (BC Ministry of Health 2009).

During a disaster, it is common to activate an Emergency Operations Centre (EOC) comprised of senior personnel to manage the resource needs of the community at the strategic level and provide support to the incident commander at various on-site command posts (Justice Institute of British Columbia 2010). Addressing the psychosocial needs of EOC personnel is challenging, given that they are under intense pressure to resolve the crisis as quickly as possible while saving as many lives as possible. Although not mandatory, post-event recovery strategies can be used among emergency response groups following incidents and other specific events where such a response is indicated. Debriefings, demobilizations, and defusings – short, structured meetings immediately following the conclusion of a critical incident of people who normally work together and were involved in the same incident - are well-known examples of such strategies (Bryce 2001; Tuckey 2007). These sessions provide personnel with the opportunity to gain information and receive support regarding the incident and to help manage their stress reactions. Trained peers and professionals conducting defusings and debriefings can also use these times to assess the need for further psychosocial supports for attending personnel. Taking a proactive approach to managing stress, strain, and trauma in the EOC can complement the operational response. What is not clear in the research literature is how to best provide psychosocial support to EOC personnel in the moment in order for them to maintain their psychological well-being and complete operational tasks during the crisis period.

The purpose of the present study is to enhance the responses to psychosocial issues among EOC personnel during disaster situations. This paper begins with a literature review and then presents the research methodology and participant demographics. The results are presented in four different areas: (1) effective leadership; (2) the importance of taking regular breaks from work in the EOC; (3) respecting diversity; and (4) the importance of having a Team Support Worker to provide psychosocial support to EOC personnel. The paper then provides a discussion of the results and outlines the implications for emergency managers. The concluding sections include the limitations of the study and areas for future research.

Literature Review

EOCs are typically activated when a community or agency is faced with a disaster or emergency event which requires coordination and support at levels greater than can be achieved at the local site level (e.g., a major fire or extended flood). Generally, EOC personnel are comprised of senior decision makers representing emergency services agencies (e.g., police, fire and ambulance); staff from non-emergency services agencies such as engineers, public works, communications, social services; municipal emergency management; and other agencies as needed such as utility companies, non-governmental organizations such as the Red

Cross, and the military. EOC personnel are responsible for strategic decision-making and providing support to site operations in difficult and sometimes no-win situations during disasters.

Following an operational period, emergency management procedures and actions during the event are reviewed and at times examined as they relate to impacts on the people and communities affected. Reports on lessons learned from such operations are crucial for continuous improvement in response and recovery efforts. A review of the relevant research revealed a lack of assessment of EOC staff needs relating to identifying and addressing potential psychosocial issues in an operational EOC. However, some studies highlighted ways to reduce stress during the operational period and recognized important issues to consider in EOC administration.

It must be acknowledged that disaster response personnel often remain psychologically healthy throughout their careers. The trajectory of trauma is complex; while individuals may experience emotional and physical distress in the course of their work and following a disaster event, many do not develop psychopathology (Alexander and Klein 2009; Bonanno and Mancini 2012). Potential long-term consequences of disaster response work and cumulative effects of exposure to trauma can involve compassion fatigue, job dissatisfaction, substance abuse, and the development of physical health issues over time such as cardio-vascular problems and gastrointestinal distress (Jackson et al. 2004). The challenge in training EOC personnel to respond to psychosocial needs as they arise is finding a way to honour the coping strategies that EOC personnel have learned to use on the job to get through a crisis, while assisting them in recognizing ways to help others who may have different coping techniques in the EOC and on-site. Several themes were identified in the emergency management literature that relate to the potential to address psychosocial concerns. These are: diversity, effective leadership and self-care and support for others, each of which will be discussed here.

Diversity Amongst EOC Personnel

EOC teams consist of individuals of different genders, different cultures and different work-related backgrounds. Therefore, it is important to consider the experiences and various levels of expertise that contribute to the abilities of both individuals and the collective team to deal with stressors that arise in an emergency. In their study on the collective framing of crisis management, Bergeron and Cooren (2012) explain that although individuals may share the same experience of being in a particular EOC during a crisis event, their perspectives on the event and areas of focus can be quite different due to their varied occupations and responsibilities.

Stress levels can differ greatly between EOC staff from emergency services agencies and those from non-emergency services agencies. Individuals from non-emergency services agencies tend to experience higher levels of stress in EOCs because they have less experience with emergency situations. This stress can result in cognitive deficiencies and a lack of confidence in oneself (Lutz and Lindell 2008). As a result, those from emergency services agencies tend to take on more work and often take on leadership roles within an EOC, creating

an environment that closely mimics a “quasi-military” emergency response workplace, further alienating those from non-emergency services agencies (Lutz and Lindell 2008).

One significant challenge faced by temporary EOC teams is how to share information efficiently among the different representatives to make sense of the emergency and the priorities for action (Faraj and Xiao 2006; Wolbers and Boersma 2013). Confusion regarding areas of responsibility between federal, state and local emergency management personnel and lack of role clarity was listed as one of the significant issues during the Hurricane Katrina disaster (Townsend 2006). In a study exploring trust as it relates to multi-agency coordination in EOCs, personnel interviewed from both emergency services and non-emergency services agencies described role clarity as an essential element in developing a coordinated response (Curnin et al. 2015). Participants from non-emergency services agencies described a lack of understanding from emergency services personnel on the nature of their work and their role in the EOC, thus creating an obstacle to trust and recognition. Interviews with emergency services personnel revealed the opinion that individuals from non-emergency services agencies need to be clear on their respective roles, and the roles of other non-emergency services representatives in order for the EOC to operate effectively. What is not apparent is how clarification of EOC roles can be obtained. Events are unpredictable and high-stakes decisions must be made during the disaster response period. A sense of trust among EOC team members must be established quickly based on roles and areas of professional expertise to ensure that information is shared freely and all individuals in the EOC are recognized in the decision-making process (Curnin et al. 2015; Faraj and Xiao 2006), as a lack of trust can impair team functioning and response capability. Familiarity amongst EOC personnel, clarification of roles, and the open sharing of information can be enhanced through participation in simulated training exercises, scenario planning, and Incident Command System training (Curnin et al. 2015; Paton 2014; Waugh and Streib 2006). Also, the quality of leadership in an EOC can have a significant impact on the level of trust and openness within the team.

Effective Leadership

Leading a team of disaster response personnel during a crisis involves managing people and stressors (e.g., political pressure, media scrutiny, miscommunication of information, time constraints), all while making critical decisions with life-or-death outcomes, as well as socio-economic and political ramifications (Devitt and Borodzicz 2008; Meyers 1994). The detrimental effects of critical incident stress can be mitigated by leaders who build rapport with their personnel, participate with their team in training exercises, and offer resources such as psychological first aid and debriefings to address psychosocial concerns following emergency response (Brookshire 2011; National Child Traumatic Stress Network and National Center for PTSD 2006).

In their research on strategic crisis leadership, Devitt and Borodzicz (2008) developed a model that encompasses four domains of skills and qualities of an effective leader – Tasks, Interpersonal, Personal, and Stakeholder Awareness (TIPS). *Tasks* includes skills such as decision making, planning, prioritizing, and creativity in problem-solving; *Interpersonal* involves the communication style of the leader, emotional awareness of self and personnel, and

strategies for regulating emotions and maintaining relationships; *Personal* emphasizes the qualities of a good leader, including confidence, credibility, and ethics; and *Stakeholder Awareness* focuses on leadership skills in addressing issues involving politics, media, and communication with other disaster response teams. The researchers argue that the position one holds within an organization, one's years of experience, and history of involvement in other major incidents and disasters are necessary, but not sufficient for effective crisis leadership. Rather, a good crisis response leader balances all four of these skill areas and leader characteristics. Complementary to their work, Blythe (2008, p. 11) states that, "no learned crisis leadership skill will overcome a lack of character, ethics, or integrity," in highlighting the caring behaviours, knowledge, insight, and communication skills required of strategic crisis leaders.

In the EOC, effective leaders should have the situational awareness to recognize psychosocial issues and the knowledge of resources and strategies available to promote the well-being of workers during the operational period. Confidence and a willingness to call upon such resources when needed are also qualities of a competent leader in the EOC. Taking into account both the physical and emotional well-being of workers, the first priority in disaster response is to ensure the safety of responders. As Ballam (2011, p.20) states, "safety is not a class or a piece of equipment, it's a culture and it has to be from the top down."

Self-Care and Support for Others

In the development of proposed competencies for disaster response professionals, knowledge of strategies for both self-care and supporting colleagues is listed as important. This includes awareness of rest breaks as a way to decrease stress among workers (Everly et al. 2008). It is crucial to ensure ample coverage of personnel for regular shift rotations in order to reduce the risk of overtiredness and mistakes that could harm workers or the communities they are serving (Meyers 1994; U.S. National Response Team 2009). In an investigation of the role of second responders in the Christchurch, New Zealand earthquakes of 2010 and 2011, interviews with responders revealed a lack of breaks and shift rotations during the response period (McNally 2014). Additionally, study participants described a need for health and safety training related to disaster situations as opposed to training based on day-to-day work environments. Greater involvement of human resources professionals was also recommended for planning and developing best practices in psychosocial support for second responders.

Providing the opportunity for workers to take breaks, and encouraging this practice during the response period is listed as a key strategy in coping with the psychological stress related to handling bodies following a disaster (McCarroll et al. 1993). To this point, The National Center for PTSD (Young, Ford, and Watson 2007), indicates that taking regular breaks for exercise and nourishment are key strategies for coping with stress thereby staving off fatigue and increasing one's ability to engage effectively in operational tasks. Young et al. (2007) recommend the implementation of a "buddy system" to encourage this practice. Similar to the concept of police officers having back-up when responding to call-outs that are potentially violent in nature, or of firefighters watching out for one another when entering a structure to contain a fire, an agreement is made with a colleague to support each other in the EOC. This

practice is essential during a disaster response. The purpose of such support is not only to provide practical coverage for operational tasks, but also to observe when the other person may require a break if they appear tired or distressed. A comprehensive guide developed for managing worker fatigue during disaster operations, including an assessment of events to which workers respond; the conditions of the work; the identification of risk factors and controls for managing worker fatigue; and an evaluation of past strategies used for worker fatigue management (U.S. National Response Team 2009) may assist human resources personnel in advanced planning of strategies for worker care during disasters.

A common coping strategy used in emergency services and disaster response work is emotional compartmentalization or emotional distancing (McFarlane, Williamson, and Barton 2009; Halpern et al. 2009; Walsh 2009). While this strategy can be useful and perhaps necessary in performing the work required during disaster response, it has been recommended to make on-scene peer support available in order to provide EOC personnel with immediate access to psychosocial support, if needed. This normalizes the need for support while acknowledging that some may not be comfortable speaking with professionals who are “outsiders” (Castellano and Plionis 2006; Kronenberg et al. 2008). Clinical support is also advised, as mental health professionals can assess the job performance and psychological well-being of individuals throughout the operation and enlist co-workers as sources of social support in the moment. Furthermore, the inclusion of a respite area for personnel, where they can retreat from the EOC or site and take a break to eat, change their clothes, or make a phone call, is another way to support these workers (Substance Abuse and Mental Health Services Administration [SAMHSA] 2005). Overall, the supports perceived to be most important by emergency services personnel in the first 24 hours following a response to a disaster include: 1) recognition, 2) genuine concern, support, and assistance offered from a supervisor, 3) the opportunity to have a rest, and 4) the presence of someone to reach out to and who shows a willingness to listen, thus decreasing the stigma related to talking about the experience of the incident (Halpern et al. 2009). Learning how to recognize the signs of critical incident stress in co-workers was acknowledged as a valuable tool in being able to provide these supports (Halpern et al. 2009). Given that EOC personnel also include non-emergency services staff, a further investigation of EOC needs is warranted.

In her handbook on disaster response, Meyers (1994) describes the qualities of an individual, such as a Team Support Worker in the EOC, who is dedicated to promoting mental health. These qualities include being “specifically knowledgeable in the field of disaster mental health... having the authority to make key decisions ...and serve as advisor to the top official in charge of the EOC” (Meyers 1994, p. 37) on issues related to support for personnel. It is indicated that whenever possible, this representative should be introduced to EOC personnel by the director, with his or her duties clearly explained to others in the EOC, to emphasize the acceptance and importance of this work.

Mental health expertise in the EOC can address concerns outlined by Jackson et al. (2004: 73), who stated,

if the individuals responsible for managing responder safety are too close to or absorbed in the details of an operation, it is much less likely that they will be able to fully

understand and address the risks at a complex disaster scene. This can make it difficult or impossible to make good safety decisions and meet worker safety needs” (p. 73).

According to Jackson et al. (2004), in order to make good safety decisions and to meet worker safety needs, the person responsible for providing mental healthcare should be independent (within reason) of the details of the operation. Based on these findings, the researchers for this project developed a research methodology to identify existing EOC activities and to develop strategies to enhance the responses to psychosocial issues among senior EOC personnel during disaster situations.

Methodology

Through a two-phased approach consisting of developing a simulated disaster-based exercise and then following up with data collection, the following research question was addressed: What is the perceived impact of psychosocial training on the behaviours of EOC personnel in response to psychosocial concerns in a simulation exercise?

The research team developed a simulation exercise in collaboration with the Expert Working Group—an assortment of practitioners, academics, and other pertinent stakeholders with applied EOC experience. The exercise consisted of an extreme winter weather scenario with incidents and events designed to elicit psychosocial responses from the participants, who were expected to decide how to respond as the exercise progressed. Examples of incidents within the exercise include: the death of an on-duty paramedic, flooding of emergency routes, power failures in critical facilities, a major apartment fire, multiple motor vehicle accidents involving fatalities and culminating with a roof collapse at a hockey arena during an international youth hockey tournament.

The project consisted of two components: an exploratory phase and a test phase. In the exploratory phase, the researchers conducted two simulation exercises in order to document the pertinent areas of psychosocial concern in an EOC. Ways in which decisions were made and the outcomes of these decisions in the two exploratory exercises are discussed in our previous paper by Javor et al. (2014). Emergent psychosocial themes were then integrated into a training and awareness video designed to build awareness of psychosocial concerns during disasters and related response strategies.

The test phase was a replication of the simulation exercises used in the exploratory phase (with some minor modifications based on the feedback received from participants). Additionally, participants in this phase were asked to watch the psychosocial training and awareness video prior to the exercise. Results from this study include data from participant groups in both the second exploratory exercise and the test exercise.

Participants

In 2012, 26 emergency management directors from British Columbia were contacted for participation in both the second exploratory phase and test phase of the study. Seven communities agreed to participate and nominated senior personnel to attend. These individuals

represented municipal and provincial agencies in the areas of communications, emergency management, emergency social services, engineering, parks and recreation, planning, public works and first responders. Participants were then contacted by researchers, invited to participate in this research study and contact letters and letters of consent were provided prior to the exercise. Participants were also advised that they could withdraw from the study at any time.

In the exploratory phase, 20 participants (16 males, 4 females) were recruited from municipalities in Metro Vancouver, the Fraser Valley, and the province-wide BC Ambulance Service. The first series of exercises was conducted in February 2012 and involved three simulated municipal EOCs. The average age of participants was 34 years, with a standard deviation of five years. Among participants, 90% were senior decision makers in their respective agencies, meaning that they had an average of 15 years of experience and held management positions with titles such as directors, chiefs, managers, staff sergeants, and inspectors.

In the test phase, 21 participants (15 males, 6 females) were recruited from four municipalities and the BC Ambulance Service to participate in the exercise in March 2012. The average age was 37 years, with a standard deviation of six years. Approximately 90% of participants held senior management positions within their respective agencies. There was no overlap of participants between the exploratory phase and the test phase.

Procedure

Both the exploratory exercise and the test exercise were held in a specially designed simulation training building. One large main meeting room was used for the introduction and debriefing of the exercises, and four “pods” - separate rooms set up as simulated EOCs - were used, each with four to six members from both emergency services agencies and municipal departments. Participants were grouped by municipality, providing individuals with the opportunity to train together and increase their familiarity with those they would not normally work with in their day-to-day professional activities. Each pod was equipped with audio and visual recording devices for the purpose of collecting data during the exercise. Televisions, speakers, computers, and printers in the pods were used as tools for relaying information in the most realistic way possible to participants during the simulation. While the participants in the simulated EOC teams engaged in the exercise, the researchers were positioned in the control room listening and watching each of the teams respond to the disaster scenario, and taking notes based on their observations.

Semi-structured interviews with Subject Matter Experts (SMEs) were conducted before and after each simulation exercise. In addition, semi-structured interviews were conducted with individual participants; and focus groups were held following each exercise. Interview questions concentrated on participants' perceptions of the realism of the exercise, the resources available to them, decision-making processes in the group, and the communications and inputs throughout the exercise. The training video was designed following the exploratory phase, with the purpose of demonstrating strategies to buffer negative impacts of stress in the EOC that were perceived in the exploratory exercise. The training points for inclusion in the video and

the recommendations for best practice in providing psychosocial support to EOC personnel were based on the extensive literature review, the common themes developed through thematic coding in the exploratory phase, interviews with participants, and the feedback from SMEs.

In the test exercise, in addition to addressing the realism and the decision-making processes in the pods, interview questions concentrated on the participants' perceptions of the training video, including its effectiveness, its potential influence on decision-making and actions taken in the pods, and its usefulness for future training. All audio and video recordings from the exercises and follow-up focus groups and interviews were transcribed verbatim. The field notes of the researchers were collected for each pod in each exercise for reference in the data analysis process.

Analysis

The research team used both deductive and inductive methods of analysis. A code book was developed prior to the exercise and informed by interviews with SMEs and literature reviews on decision theory and the psychosocial dimensions of disaster management. Using a qualitative data analysis software program, NVivo 10 (QSR International 2012), transcripts of audio recordings from all EOC pods in the exploratory phase and the test phase were coded and analyzed, and corresponding video footage was analyzed for non-verbal behaviours. Analyses were iterative in process (Srivastava and Hopwood 2009). More specifically, a thematic analysis was conducted to identify patterns within and across the exercise and interview transcripts (Braun and Clarke 2006). In addition to the themes developed through analysis of the exploratory exercise, behavioural responses in the test exercise were analyzed according to the training points presented in the video.

The researchers engaged in reflexivity to identify their thoughts regarding any patterns, potential themes, and contradictions in order to develop a rich understanding of the data. Reliability was obtained through discussions that occurred among the researchers responsible for coding the data during joint coding sessions, and weekly team meetings held to discuss the coding process and interpretations, including any new themes that emerged in the process of analysis. Inter-rater reliability was conducted by having a number of transcripts coded separately by more than one researcher.

Results

In order to enhance responses to psychosocial issues among senior EOC personnel, researchers explored the perceived impact of psychosocial training on the behaviours of EOC personnel in response to the stressors included in the exercise. During the test phase, participants demonstrated an awareness of the impacts of the psychosocial injects during the exercise, and put into action the training points presented to them in the video. However, as the exercise progressed and participants became more engaged and more stressed, their proactive behavioural responses to psychosocial issues deteriorated. In acknowledging this phenomenon, post-exercise, some participants commented that they wished they had more time to reflect on the training points, and others remarked on what might assist in reminding EOC personnel to respond to psychosocial prompts. "You get so tied up that you forget the psychosocial part.

Everybody is just focusing and reacting and doing the best they can to help citizens as opposed to people next to them, who they see as relatively okay.” (C3EP06)

Overall, four main psychosocial themes emerged as potential areas for improving responses within an EOC environment: a) leadership, b) encouraging breaks, c) respecting diversity, and d) providing psychosocial support to all parties involved in the disaster.

Demonstrating Strong Leadership

Effective leadership is relevant to all of the psychosocial considerations as it is needed to maintain cohesiveness and motivation among EOC personnel throughout the disaster response period. Participants in both phases of this study identified the importance of having a strong leader in the EOC. Remarks made throughout the simulation, individual interviews and focus groups highlighted various perspectives on the qualities and responsibilities of an effective EOC leader. In one of the focus group interviews, an EOC director did share his reflections on his responsibility for the inclusion of everyone in the group and stated:

[...] while I've worked with [name of female] and [name of 2nd female] quite a bit, I've worked with these other two guys in an emergency context more and maybe I leaned more heavily on them. I probably would have done a check and balance with [2 females] at some point and made sure that they didn't feel that I was favouring the boys. [...] you want to make sure everybody feels valued and that you're tasking them appropriately. So in a longer event that was not quite as condensed as this that would definitely be something I would get to. (C2EP01)

Some participants expressed their appreciation for a leader who is very decisive and keeps the team focused on the priorities of the EOC while steering them away from getting too involved in site-level operations. In the words of participant B4EP06, “He [the director] was very decisive [...] Very concise and stuck to his guns but not with his head in the sand.” Others recognized the skill of the EOC Director in building consensus within the group, exploring different perspectives on a problem and ensuring all have an opportunity to share their knowledge and opinions, while ultimately assuming responsibility for the decisions of the group. As participant B4EP05 suggests:

The more you get immersed, the less you are able to step back and make the right decisions. You run the risk of taking on too many roles. Look at the bigger picture and then bounce the ideas off everybody [...] make those higher-level decisions that will have consequences and be willing to make them, but think it through.

Some participants explained that it is essential for EOC leaders to balance the needs of individual team members with the overall goals of the EOC, and suggested further training that could be of benefit.

C3EP01: [...] the one thing that I somewhat disagree on is letting everyone talk. In our EOC during actual events is that there can be a lot of talking and everyone has their say and an hour has gone by before the section managers get out of their briefing which

can't happen. There needs to be a strong leader.... One thing we're lacking in B.C. is strong training for people to run crisis team meetings.

C3EP04: To cut people off?

C3EP01: Not so much to cut people off, but here's an agenda, I don't care about everything you have in your head or what's going on in your section. I want to know what your current status is, the four bullet points and the three things that you need or you're having trouble with [...] Boom, boom, boom.

It appears that a strong, well-respected EOC leader is knowledgeable and decisive, yet considerate of others in the room. When commenting on the urgency with which EOC teams perform their duties, participants indicated that deliberations must be balanced with the need to make quick decisions, sometimes without hearing all perspectives. These remarks are also consistent with an analysis of collaboration and leadership in for effective response in emergency management settings (Waugh and Streib 2006).

Taking Breaks: Possible Yet Difficult

The act of taking a break or reprieve from work is typical in most work environments, however, it is not uncommon for personnel from emergency services agencies to work long hours consecutively during disasters (Adams et al. 2012). The findings from this study suggest that regular breaks are possible but that cultural norms within the EOC may act as a significant barrier.

For example, using the query text search feature of NVivo 10 for analysis, it was noted that eight verbal references to participants taking breaks were identified in the exploratory exercise, compared with seventy-one references in the exercise in the test phase after having watched the training video. In the exploratory exercise some participants took brief breaks, but most did not take a break. Participants in one of the three pods did not take any breaks, nor did they discuss the need to take breaks. In another pod, supplies and food were requested for the EOC; however, no breaks were taken by participants. In the third pod, the EOC Director asked the other participants if any of them required a break, and if so, to go ahead and take turns. Later, he checked in again with the group by asking, "How's everybody doing anyway? Everybody want to take five seconds? Take a deep breath?" It appears that this EOC Director was trying to normalize the need to take a break, and encourage the practice within the group (D3EP06). In this pod, participants also checked in with the EOC director regarding whether he or she needed a break, a drink, or something to eat.

Twenty out of twenty-one participants took at least one break during the test exercise. Comments from the individual who did not take a break are presented below along with comments from her fellow pod-members:

Interviewer: Why didn't you leave [to take a break]?

C3EP06: [...] It's hard sometimes [...] how many of us would actually do it [take a break] in a real event if you have few staff and we have to all be okay for another few hours or so?

C3EP04: That's where the Director [...] has to say 'you need to go and get yourself a cup of coffee right now and just get away for a second.'

The following exchange among participants in another focus group which took place after the exercise highlights perspectives on why people avoid taking breaks from the EOC:

C1EP03: Worker care is one of those things that sometimes falls to the wayside at this level. [...] people want to keep working, they want to find a solution and going to the bathroom is not at the top of their priority list.

C1EP01: In real life, you feel like you can't leave.

C1EP06: You're not going to leave.

C1EP01: Ya. Here you had that latitude, right.

C1EP06: If we hadn't watched that [psychosocial training video], there would have been no break.

Interviewer: So what is it that stops that from happening in real life?

C1EP03: Pride.

C1EP01: You don't want to miss out on anything.

C1EP06: Control.

C1EP03: Control, ya... Ownership.

C1EP02: You get shot down even if you ask.

C1EP01: I remember having to go to the bathroom and holding it in. It was bad but it's just the way it is.

C1EP04: Unless there's going to be lives at risk, you just keep going based upon your own level of comfort. I know when I worked [name of specialized first responder unit]; hell I worked 50 hours straight without sleeping sometimes. You just keep going.

Taking breaks appears to be the simplest training point to put into action immediately in the simulation exercise. The participants did so; however, they expressed that it is difficult to feel like one can leave a *real* operational EOC, given both the very real and perceived sense of responsibility to their colleagues and the communities in which they serve. There is a clear need to continue building awareness and strategies for taking care of oneself in order to take care of others and avoid being a liability in the EOC.

Respecting Diversity: Acknowledging Differences among Workplace Cultures

Coping strategies, roles, experiences, and leadership styles vary among individuals in an EOC. Participants in both phases acknowledged that there could be differences among uniformed and non-uniformed personnel in how they respond to psychosocial concerns or incidents. In an individual interview following the exploratory exercise, one participant explained how observing others in the EOC can help determine who might need support:

...knowing people and what's out of the ordinary for them. For somebody who is inexperienced or typically doing a desk job where they don't deal with much more than

emails or phone calls that might have a different impact on them. As a team member or as a Director you have to look at that differently and recognize that. (B4EP04)

Although the above comment is supportive of the need to recognize differences among EOC personnel, it can also be interpreted as a lack of awareness or respect for the operational duties of non-first responder personnel in assuming that their primary role is simply to answer the phone or send and receive email messages.

The following excerpt highlights a perspective of a participant from an emergency services agency background in the exploratory exercise.

I was mentioning it to the – I can't remember her name – we had a female in here and she's not from police, fire, or ambulance. So she was sort of the communications person and was doing a lot of writing. I made a joke to her, I said, 'so how was that spending three hours with three triple-A type personalities?' She said, 'oh I'm used to that' and that's the thing because people that are normally in these types of jobs are those types of people. They're problem solvers and I know how to do it and I'm going to get it done. (B3EP01)

This remark appears to indicate a perception that emergency services personnel take charge and act as the decision-makers, while the non-emergency services staff are there to support them.

Also in the exploratory exercise, another participant representing an emergency services agency noticed the reaction of a non-emergency services participant. He chose not to address it in the moment. His comment relates to emotional compartmentalization as coping strategy and how he perceives the reactions of individuals with differing workplace cultures in the EOC.

B4EP06: I'm a heartless bastard...at the time I am because there's work to be done The one inject that came in with photos of kids in the rubble, I know I looked at the pictures but I just dropped them on my desk. ... but one of the ladies ... she did a great job, but it noticeably upset her. It identified the need to be conscious of that the next time I'm in an EOC. ... A couple of us that just said, 'Are you okay? Can we get back to this thing and focus?' In hindsight, maybe that could have been emphasized more. Some people who are immersed in that as a culture, it affects differently and certainly you do the job first and deal with it later if you are going to deal with it at all.

The same participant then acknowledged the value of offering psychosocial support, and how flagging it for follow up in memory or by writing it down could be useful because "...it benefits the worker. At the end of the day you get someone that can get something off their chest and move forward in life instead of dwelling on something (B4EP06)."

In the test phase, comments from some participants indicated that they perceived a respect for diversity of experiences in their EOC teams. As participant C2EP06 observed:

There was [name of female], who is probably the newest person to this role, when she had her opportunity to ask questions for clarification or her own education, she was able to get in and get an answer to them too.

Participant C2EP05 explained their view of how different professional backgrounds were treated in their EOC team:

It's like uniforms or rank at the door, we are coming in to do a job. [...] it doesn't matter where you work, what you were wearing, who you were in the ranking of things.

It is important to note here that the researchers did not prescribe individual roles for each participant; instead, pods were permitted to allocate EOC positions independently and generally did so based on individuals' professional specialties and the role that one would typically be assigned in an EOC. A fully-staffed EOC would typically have more personnel than those who participated in the exercises. Thus, some personnel had to cover more than one responsibility from time to time. This is not atypical, as in the initial stages of setting up an EOC not all of the personnel would arrive at the same time. However, initially, in terms of gender, female participants were often placed in paperwork and filing roles and were restricted in making director or lead role decisions in the exercises in both phases, despite the reality that they were in senior decision-making positions.

Providing Psychosocial Support to EOC Personnel: More than Debriefing

In the exploratory exercise, when asked about the opportunities for psychosocial interventions and the responses of the EOC throughout the simulation, several participants equated addressing psychosocial concerns with debriefing and stated that it would happen after the operational period had ended. This indicated a need for further training in the area of psychosocial support for emergency management personnel to increase awareness of both self-care strategies and ways to support colleagues during the operational period, not simply once the event has ended. Other participants explained that it was not a priority for their EOC team.

Appointment of a Team Support Worker to the EOC.

The test exercise introduced the concept of a team support worker being present in the EOC during the operational period. Addressing the safety of EOC personnel and ensuring they have support in performing their duties is not a new idea; as these points are included within the descriptions of the Risk Management and Logistics sections in an EOC adhering to the Incident Command System (Justice Institute of British Columbia 2010). Nevertheless, of the 24 responsibilities listed under the role of the Risk Manager, only one, "Advise on actions to reduce loss and suffering to proactively support response and recovery" (Emergency Management British Columbia 2011, p. 25), speaks in any way to psychosocial issues.

It is evident that psychosocial support within the EOC itself could be useful to assist in mitigating the impact from exposure to the crisis. In response to a focus group question that

asked if participants had any physical or emotional responses to any of the psychosocial cues during the simulation, one participant stated:

C4EP03: I was trying to ignore some of them. I didn't want to pay attention in detail to the screams and the people on the radio. I felt it would be disrupting.... It obviously had an effect, hearing them for three hours.... I tried not to focus on it.

This remark is consistent with the notion of emotional compartmentalization as a coping mechanism during disaster response. Another participant responded:

C4EP04: You'd listen because you don't want to miss something and then when you hear what it is, it can affect you.... If it was real life then that would be really hard to keep your spirits up if you didn't know what was going on because you know them. They're your coworkers.

Two participants in the test phase reflected on the addition of a team support worker, versus the current risk management role in the EOC:

C1EP01: We talked about in principle the Risk Officer, that's their role to do, they're the mental health. Yet they're so busy from the legal perspective and liability that they don't have time. We almost need another position that looks after the worker health.

C4EP01: A separate position should be created. The Risk Officer is supposed to do some of it, but is usually not fit to deal with the emotional part of it.

Other participants considered the potential benefits of a team support worker for EOC personnel and expressed the usefulness of such a role.

C4EP05: that role might be like a family contact. So I know that if I was in an EOC and things were really busy, I'd be hard pressed to break away and try to contact my family and find out 'is everything okay? Is everybody okay?' But it might be nice if an outside person was doing that on your behalf and just came up and said 'oh by the way, I was talking to your wife. Everything's okay at home. Don't worry about it. Things are fine.' And so it doesn't involve my time, even though, maybe I still would want to do it at some point in the day but if they were doing it for me then it would be nice reassurance.

More specifically, they recommended that this person should be independent of the operation/logistical decision-making and focus solely on the well-being of EOC staff. According to C4EP05, the team support worker is "monitoring the events and knows when it's appropriate to say 'time to take a break.' I don't think that an EOC Director could do that, or any other individual based on their responsibilities." The same participant highlighted the importance of sincerity in offering support by stating: "I think that you could almost do more damage if you don't appear to be sincere... if it's just reading from the rule book." (C4EP05)

Universally, participants indicated that they would appreciate having someone in the EOC dedicated to ensuring there is psychosocial support available to personnel during the operational period. They emphasized that this person would need to have disaster response

training - such as Psychological First Aid - and sound judgement in timing their support, in order to facilitate, rather than impede the response efforts of the EOC. In the test exercise, the importance of how psychosocial support is offered is emphasized by one participant's concern related to the reality of an operational EOC:

C1EP06: Does the EOC stop every ten minutes and have a moment of silence? It's, this sounds so cold, but it's not realistic to think that we would do that. [...] I mean maybe disaster psychosocial would be outside the EOC waiting to support individuals like that. But to actually stop everything, that just couldn't happen.

Discussion

The introduction of the team support worker concept in EOC settings prompted some reflections and rich discussions among the exercise participants. The results indicate that training to increase awareness of psychosocial issues in the EOC and introducing strategies for response can have an impact on the behaviours of EOC personnel, so that they respond proactively to psychosocial cues in a simulated environment. The level of response to psychosocial concerns appears to be heavily dependent on the amount of stress in the EOC, and the familiarity and experience of EOC personnel in using psychosocial interventions. Following the presentation of a training video in the test phase, participants acted in accordance with the training points presented. However, as the number of stressors increased over the course of the simulation, these behavioural changes were not sustained.

Implications

An attunement to psychosocial issues that can arise in an operational EOC and an awareness of the resources and strategies to address these issues, particularly when stress levels increase, is essential in addressing any negative psychosocial impact of disaster response work. Given that participants in the test phase appeared to forget the training points presented, or failed to treat them as priorities, memory cues are required to solidify the new training. Participants suggested that posters be developed to highlight the key training points, and that they should be hung in the EOC alongside the other posters to make this new training an accepted part of the culture and the "new normal" for addressing psychosocial concerns. As stated, "You need those reminders or else when a stressful event comes, you may not be thinking about it. Having regular training would help (C3EP01)."

Recommendations from the SMEs and participant focus groups support the need to appoint someone in the EOC as a team support worker. This specific role ensures that psychosocial concerns are addressed as they arise and individuals are taking care of themselves throughout the response period, such as taking breaks, having access to nutritious food, and opportunities to receive support and practical assistance if feeling stressed. In an interview with the research team, one SME described his experience of receiving psychosocial support in an EOC during the response period following a major earthquake:

I personally asked for having psychological support on-scene in the EOC on a 24-7 basis. And this actually, probably saved my life. I had heavy numbness in both arms, at once. I realized I couldn't hold my pen in a meeting I was chairing. And she [support worker] was also very careful in noticing that detail. So that nobody else noticed I put my hands on my lap, understanding that I needed to do something after the meeting. And this is when she came to me, telling me that I needed medical assistance – medical attention immediately. (M. Doré, Ph.D., CEM, in Justice Institute of British Columbia 2013)

Additionally, a team support worker in the EOC can provide support to EOC personnel in working through difficult and stressful operational decisions that are no-win situations, such as decisions that may pertain to life-or-death circumstances and psychosocial issues for citizens of the communities served during the disaster response period (Brown et al. 2015). Reflective listening and open-ended questions from the team support worker can potentially assist decision-makers to move through the difficult process. In a study exploring the decision-making process in EOCs (Javor et al. 2014), findings indicate that decisions related to deploying psychosocial resources were delayed or never made, possibly due to uncertainty on resources available and how to deploy them, or a lack of awareness regarding the psychosocial impact of disasters. The specialized skills and knowledge of psychosocial care of a team support worker may help to identify appropriate actions to address psychosocial concerns in the community and relieve some of that decision-making stress for EOC personnel.

Although the availability of clinical support is advised (SAMHSA 2005), this may not always be possible, such as in a rural community where mental health professionals may not be present in a full-time capacity. The person assigned to the role of team support worker need not be a psychologist; however, knowledge of resources to connect individuals with clinical support is needed, and formal training in areas such as psychological first aid, crisis intervention, basic counselling skills, and motivational interviewing is required. A knowledge of stress reactions in disaster response work and factors for effective collaboration in multi-agency settings is also required (Brown et al. 2015; Curnin et al. 2015; Faraj and Xiao 2006).

For a smaller community that has fewer people in its EOC, ensuring that someone performs the key support function is critical, regardless of that person's defined daily role. At the most basic level, a team support worker should ensure that basic necessities such as providing adequate nourishment, furniture, and washroom facilities are available to EOC staff. In addition to having the role of a team support worker included in the EOC, it was noted by one participant that, "All EOC staff need to be trained to make sure they look on their neighbour [in the EOC], make sure they're okay and taking breaks (C3EP06)."

There is no single right way to provide psychosocial support in the EOC

Participants clearly expressed that sincerity is required as the foundation for any psychosocial intervention in the EOC. This point is consistent with the elements of good crisis leadership as outlined by Blythe (2008), along with a) the expression of caring, b) a vision for resolving the crisis, and c) effective communication in order to get the correct information and

share it openly with all stakeholders. Acknowledging the work performed by EOC personnel and expressing gratitude to team members is not only considered to be good manners, it is also reported to be an effective strategy in mitigating the negative impact of disaster response on emergency management workers (Mitchell 2011).

Rather than having a step-by-step manual of techniques to use, it is essential to train EOC personnel on the main principles of providing psychosocial support so that they become familiar and comfortable with the information. In doing so, leaders can address psychosocial concerns in their own style, and in a manner that best suits their particular team, based on the circumstances they face, and integrate a team support worker to provide psychosocial support when necessary. For example, in reference to applying basic psychosocial principles, policy could be put in place to inform EOC members about the range of agencies they can use such as a peer counsellor or Disaster Psychosocial Services workers. Leadership in creating joint training opportunities that include a team support worker and EOC personnel is also crucial for building trust and credibility by increasing role clarity, and demonstrating the skills and benefit of psychosocial support during the disaster response period, resulting in enhanced openness and collaboration (Brown et al. 2015; Curnin et al. 2015; Kronenberg et al. 2008; Paton 2014; Waugh and Streib 2006). This study explored the quality of interactions among EOC personnel in vivo, how these relationships can be enhanced among individuals from different agencies, and the obstacles to openness and collaboration in the EOC. The findings did not reveal a lack of desire on the part of participants to support one another; rather, the importance of having cues to remind them of how to offer support to others in the EOC that may have different experiences and work backgrounds. Participant actions in the test phase and their reflections demonstrate an eagerness to continue to build working relationships in an EOC for operational effectiveness.

Given the nature of emergency services and disaster response, and the inability to avoid acute psychosocial stressors, “primary prevention efforts may thus be better directed at chronic stressors associated with the job and broader work environment” (Tuckey and Hayward 2011, p.17). The psychosocial training video designed through the course of this study can be used in formal EOC training as personnel first enter the field of emergency management. Presentation of this information promotes a preventive approach to dealing with stress in disaster response work.

Limitations and Future Research

To maximize the benefits of the research and training opportunities within this study, efforts were made to enhance the realism of the simulation exercise and elicit genuine responses from participants. Incremental changes were made between the two phases, including how psychosocial injects were delivered. In addition to the presentation of the training video prior to the test phase, these changes may have also impacted the participants’ behaviours in response to psychosocial concerns.

A wealth of information was generated from both the individual and focus group interviews; however, although not apparent, it is possible that the participants were not as candid in the group interview setting as they were in the one-on-one interviews. Thus,

individual perspectives on the training points, the impact of the training video and the final exercise may not be as fully stated as possible. Future research may need to triangulate these results with quantitative surveys to capture any data that was not previously captured. Although the number of participants and geographic area were limited in this study, the richness of the data in exploring the impact of introducing psychosocial support in an operational EOC is significant. Senior EOC personnel changed their behavioural responses and engaged proactively in practising the training points. Based on the review of the literature, there is a universality to the common psychosocial stressors within an EOC.

Analysis of the data in both phases of this study was challenging, as the researchers relied on visual observations of behaviours and contextual information - such as the timing of specific events in the simulation - when participants' actions in response to psychosocial injects were not verbalized. In some cases, clarification was sought in the interview following the exercise; however, much of the non-verbal data could only be described and thus, researchers were cautious about interpretation. Future research could include a more in-depth follow-up phase with individual participants to explore their non-verbal responses to psychosocial cues. Lastly, because the importance of the EOC Director and team support workers cannot be understated as direct conduits to addressing the psychosocial concerns in the EOC, future studies should explore the various leadership styles of EOC directors and the methodologies used by team support workers to determine the approaches that are most beneficial to reducing psychosocial issues.

Several participants expressed an interest in learning how the other pods performed during the exercise, and how their own pod performed in relation to decision making and responses to injects. The design of the study did not include a process for providing such feedback, as the focus was on observing responses to psychosocial injects, and not evaluating the emergency operations tasks and procedures in general. Additionally, many of the researchers did not have expertise in the Incident Command System and the roles of each member within an EOC. Having a feedback component on the general functioning of the simulated EOC would be an added bonus to participants for engaging in the study, and future research could incorporate this element.

The training video and exercise materials for the Winter Blues exercise are available on the online collaboratory – a digital library that acts as a resource for training and research. It is available barrier free. The research team encourages those who choose to access and use this training exercise to share their experiences for the project researchers. Future research could include a follow-up study using semi-structured interviews with teams who have used this training package.

Conclusion

There is a need for dedicated psychosocial support in an operational EOC and training for all EOC personnel in recognizing and acting on psychosocial concerns during disasters. When EOC leaders understand potential threats to the physical and psychological safety of EOC personnel well ahead of time, they can plan and ensure appropriate resources are in place to mitigate the impact of stressors and increase the resiliency of their team (Reissman and Howard 2008). The EOC Director and a team support worker can create a sense of predictability in the

environment by educating personnel on what they can expect to witness throughout the operational period, how to respond to incidents, and strategies for coping with the psychosocial effects of the events (Burke and Paton 2006). In doing so, it is believed that stress levels would likely decrease among EOC workers, while feelings of competence in their roles would increase.

While “just in time” training is important when provided to personnel immediately prior to their engagement in emergency operations tasks, it is inadequate. This is particularly the case for non-first responder personnel, given that they will encounter trauma and circumstances not typically characteristic of their day-to-day work (Pearson and Weinstock 2011). Quick reference tools or ‘just in time’ training which are more commonly created as cell phone apps are not the ideal solution. Rather, these tools should be used to enhance the cultural establishment of these protocols throughout one’s career. As stated, “Get [in] at a grass roots level. Start this really early on in training in Emergency Management. Especially people who are just considering a career in it and are working on their certificates. Make this a big piece of how they learn. (C1EP03).”

The current study takes a preventive approach to enhancing the psychosocial well-being of emergency management personnel. Offering a multiagency training exercise aimed at increasing awareness of psychosocial concerns and intervention strategies well in advance of any operational response can help to lessen the negative impact of disaster situations on response personnel (Curnin et al. 2015; Paton 2014). The research team hopes that psychosocial training will increase in frequency throughout emergency operations training programs, so that it becomes part of a new culture in which both physical and psychological safety is taken into account and prioritized for EOC personnel, frontline responders, and the communities they serve.

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