



FACTORS AFFECTING FIREFIGHTER DECLARATION OF MAJOR INCIDENTS

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BACKGROUND

A major incident is defined as “*an event or situation with a range of serious consequences which requires special arrangements to be implemented by one or more emergency responder agency*” (JESIP, 2020a). These complex and dynamic incidents are characterised by time pressure, risk, uncertainty, lack of, excessive, or incomplete information, competing goals, and accountability pressure (Waring et al., 2018, 2019, 2020). Within these challenging contexts, firefighters are responsible for making decisions and taking action in order to minimise threat to life, property, and environment, and to bring these incidents to a close as quickly as possible.

One decision with important resource implications is whether or not to declare a major incident. Making this declaration allows for the mobilisation of resources from outside of normal arrangements to deal with the incident at hand, whilst allowing for normal business continuity. This includes stepping up multi-agency tactical and strategic command groups to ensure a co-ordinated response (JESIP, 2020b). Early declaration allows earlier notification to partner agencies, which improves the efficiency of mobilisation (JESIP, 2020c). Delaying declaration can hinder the response, potentially extending and magnifying the scale of the damage and increasing the morbidity and mortality of victims (Smart & Maconochie, 2008), as high profile incidents such as Grenfell (Moore-Bick, 2019) and the Manchester Arena Attack (Kerslake, 2017) have shown.

According to Smart and Maconochie (2008), deciding whether or not to declare a major incident is subjective and can vary among firefighters on an incident-by-incident basis. However, there has been a lack of research specifically focusing on what factors affect this decision. Accordingly, little is known about what leads some responders to declare an incident as ‘major’ at an optimal point in time for standing up additional support to contain the incident and maintain business continuity, whilst others may delay or fail to make this decision, thereby running the risk of having insufficient resources in place to coordinate the response. It is also difficult to determine the extent to which existing policy, guidance and training is fit for purpose in equipping firefighters with the skills needed to make this decision within the complex environment that it needs to be made.

Nevertheless, research has started to focus on the broader issue of decision making in extreme environments such as major incidents. Findings highlight difficulties with making decisions at appropriate points in time, or at all, referred to as decision inertia (Alison et al., 2015). The combination of high uncertainty and accountability pressure, along with needing to select between ‘least-worst’ options, can result in oscillating back and forth between thinking about different options but for no gain (Power & Alison, 2017). Decision makers



may seek to delay making potentially irreversible decisions due to anxiety about the long-term personal, team and organisational consequences (Power & Alison, 2017; Waring et al., 2018). Ability to make decisions in extreme environments can also be hindered by limited experience, which affects ability to adapt to time demands, to judge the acceptability of delay, and identify what information cues and tasks are critical (Power & Alison, 2017; Waring et al., 2018). More experienced decision makers are able to draw on a larger bank of experiences to pattern match the current situation to a previous incident in order to predict what may happen and to quickly identify a workable solution (Klein, 1993).

Whilst these findings provide important insights into decision processes in extreme environments, the extent to which they are relevant to understanding what factors affect the decision to declare a major incident are unknown. Accordingly, at the request of Merseyside Fire and Rescue Service, the University of Liverpool conducted research between February and September 2020 to examine what factors affect the decision to declare a major incident and why. We have adopted a qualitative approach, drawing on the perspectives and experiences of firefighters to develop in-depth understanding of this issue.

METHOD

Using video calling software, interviews were conducted with 10 firefighters stationed across the Merseyside region. Firefighters were interviewed from across a range of ranks and roles, including Watch Managers, Station Managers, Group Managers, Area Managers and internal quality assurance assessors. Length of service ranged from 13 years to 28 years. This diversity in firefighter ranks, roles and length of service provides the opportunity to draw on a range of experiences in responding to major incidents to explore what factors affect this decision and why. Audio recordings of interviews were transcribed and analysed using Grounded Theory to identify similarities and differences in common themes that emerged across participants.

KEY FINDINGS

Firefighters identified five factors that affect the decision to declare a major incident: i) Experience; ii) Knowledge; iii) Environmental Pressures; iv) Accountability Pressure; and v) Risk Appetite.

- Experience and knowledge about responding to major incidents and local risks were identified as having the greatest direct impact on the decision to declare a major incident by increasing confidence and ability to interpret cues.
- Environmental pressures, such as the scale of the incident, limit cognitive capacity available for assessing the situation and whether or not do declare a major incident.
- Accountability acts as an additional pressure, creating anxiety about committing to a decision to declare a major incident.
- Individual differences in risk appetite affect how proactive firefighters are in responding to an incident, including willingness to declare a major incident.

EVIDENCE REVIEW

Analysis of 10 interviews conducted with serving firefighters identified five themes that contributed to the decision to declare a major incident. Direct quotes are provided in [blue](#) to support these themes.



1. Experience

Across firefighters, comments highlighted the importance of experience for increasing confidence, competence and efficiency when declaring a major incident. Both specific experience of declaring a major incident and broader experience of responding to all incidents was identified as favourable for improving ability to know when to declare a major incident. Many viewed experiences through “live” incidents as being the best mechanism through which to improve ability to identify when to declare a major incident. However, firefighters also acknowledged the value of training, including live exercises and computer-based simulations such as XVR and Fire Studio, for building knowledge, confidence, and ability to recognise and make sense of important cues that signify the need to declare a major incident. Feedback highlighted that given the cost and resource implications of delivering live exercises, computer-based simulations provided a lower cost alternative that could be delivered more frequently to develop experience. As part of training, it was important to provide focus on improving understanding of partner agencies’ needs in order to recognise that even where an incident may not require significant resource investment for MFRS, it may for other agencies. Firefighters suggested that computer-based stimulations should be encouraged and used more frequently to increase opportunities for firefighters to practice responding to incidents and familiarising themselves with the process of declaring a major incident and what happens as a result.

“I don’t think there’s any substitute for experience, I mean I’ve been knocking about for 25 years, so I’ve got a pretty good idea”

“Once you’ve done it a few times you can go into that intuitive decision making”.

“We all get a lot of kind of training but again experience and exposure under pins it all.”

2. Knowledge

Firefighters noted the importance of developing knowledge of the local area, the METHANE message and major incident mechanisms for improving ability to know when to declare a major incident. Firefighters described the “*professional responsibility*” of knowing specific risk information for buildings and infrastructures within their operational area, including lack of water pressure or hazardous and flammable materials. Such information was important for understanding how a situation may escalate and ability to foresee the need for additional resources to prevent and manage this. This local knowledge was important for improving confidence in ability to identify when to declare a major incident.

“Within your area, you need to be aware of, because it might be a smaller incident, but because of a known lack of water within that area, you know that you may have to declare a major incident”

In addition, firefighters commented on the importance of having a clear understanding of the information required to compose a METHANE message in order to convey an accurate picture of the incident. With major incidents occurring infrequently, senior officers or those involved in delivering training and policy were more confident in delivering messages using the METHANE structure and in committing to a major incident declaration than junior officers. However, across firefighters, there was a sense of pressure in ensuring that initial



METHANE message information was correct and detailed, which may feed into delays or anxieties about declaring a major incident.

“If you declare a major incident we need to understand what is going on and the mnemonic around METHANE needs to be very, very clear so everyone gets an understanding”

“That’s what I mean about wanting to get it right because when you do it, you need to have that information correct because so many other, so many other decisions are based on your initial, your initial part of it.”

Firefighters also commented on the importance of knowing the mechanisms that are put in place once a major incident is declared, including supportive structures such as the multi-agency tactical and strategic co-ordinating groups. Overall, the firefighters interviewed believed they had a good awareness of the support mechanisms that are stood up once a major incident is declared. However, they commented that reduced knowledge of these mechanisms and how they may assist in resolving an incident could result in a hesitancy to declare a major incident.

“unless you are dealing with other services day to day you don’t now what their capabilities.”

3. Environmental Pressure

Firefighters discussed the stressful nature of responding to a large scale, dynamic incident, and that this was cognitively demanding to deal with. For example, major incidents tend to involve a larger number of firefighters and other emergency responders on the incident ground, and create increased demands for sharing and receiving information, goal conflicts, and higher stakes. Regardless of experience, rank, or knowledge, these environmental pressures increased stress and decreased the level of cognitive capacity available to assess the changing situation and ability to stop to consider whether declaring a major incident would assist with achieving goals.

“You can give all the training you want but when you’re faced with that incident in front of you, that over load, stress factors and everything else it majorly effects your decision making, it effects me still to this day”

“having... time pressures on you, if I get this wrong it’s really sort of difficult, you’ve got a million other things to be thinking.”

4. Accountability Pressure

Firefighters across all ranks commented on the responsibility of providing a clear decision making rationale behind the decision to declare a major incident, and facing questions for their decision making, regardless of the outcome of the situation. Nearly all firefighters commented that they accepted being accountable for their decisions and would rather be accountable for an unwarranted declaration of a major incident, compared to declaring a major incident too late. However, there was a perception that junior firefighters might succumb to this pressure, waiting for a more senior firefighter to arrive to defer the decision to declare a major incident rather than take responsibility. Firefighters noted that this



anxiety was likely to be heightened by lack of knowledge regarding the mechanisms put in place once a major incident was declared, that these mechanisms could be stood down as well as up depending on how the situation progressed, and worry about the consequences for overestimating the need for additional resources.

“People maybe a little bit like well we got all this stuff out of the box and we didn’t really need to, it’s like yeah I understand that, but I’d sooner answer those challenges than you know, lose a building, or loads of people lose their lives and say, well this clearly should have been declared as a major incident, why didn’t you”

“No matter what you do someone is always going to ask you questions, so you’re going to be accountable for your decision”

5. Risk Appetite

Firefighters noted individual differences in the level of risk that each firefighter was willing to accept in order to meet their objectives, which they referred to as “risk appetite”. Firefighters commented on the impact of risk appetite for how an incident is approached. For example, firefighters willing to accept a greater level of risk may adopt a more proactive approach, which includes being more ready to declare a major incident. Comments indicated that, whilst individual differences exist, risk appetite could also be influenced by a number of organisational factors such as culture, norms, and training styles. Accordingly, firefighters believed that whilst risk appetite is inherent within individuals, it could be adapted through awareness and training.

“I think my risk appetite personally is more, I’m willing to accept a bit more risk and get stuck in and try and resolve incidents than some officers are and that all comes down to style of incident command and training”

RECOMMENDATIONS

Drawing on firefighters responses, the following recommendations are provided for improving firefighter confidence in and ability to identify when to declare a major incident.

- **Increase regular access to computer-based simulation training.** Providing more regular access to training that enables firefighters of all ranks and roles to practice responding to major incidents will increase familiarity with applying protocols and mechanisms. Regularly practicing responding to a wide variety of scenarios with timely feedback is also important for increasing ability to identify cues that signal the need to declare a major incident. Computer-based simulations provide a cost-effective mechanism for increasing regular practice.
- **Emphasise the mechanisms and benefits of declaring a major incident.** Training should clarify how to declare a major incident, the mechanisms that are stood up and the benefits of these for the fire and rescue service and partner agencies, and how mechanisms can be stood down. Better awareness of these issues is important for increasing confidence, willingness and ability to declare a major incident.
- **Encourage firefighters to practice METHANE messaging.** During training, firefighters should specifically focus on practicing METHANE messaging and receive timely feedback on this to help improve familiarity with the structure and confidence in ability to clearly communicate information using this structure.



CONCLUSION

Overall, firefighters noted that multiple factors contribute toward the decision of when to declare a major incident. Experience of responding to incidents and knowledge of local risks, the structure of METHANE messages, and of the mechanisms put in place are all important for improving confidence in ability to know when to declare a major incident. Both environmental and accountability pressures can hinder ability to declare a major incident, the former through limiting cognitive capacity to assess the situation, and the latter through creating anxiety about the consequences. Ensuring that all firefighters have a clear understanding of the criteria for declaring a major incident, how to declare, and the benefits of doing so, will help to increase confidence in making this difficult decision.

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