Willingness to work during a terrorist attack: A case-study of first responders during the 9/11 World Trade Centre terrorist attacks

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Abstract

Background

Terrorist attacks are exceptional events that place first responders in high risk situations. When terrorist attacks occur, first responders will play an integral role in the response to, and management of, these events. Providing a core component of the ‘frontline’ response to terrorism, first responders will potentially be exposed to a variety of health and safety risks, including physical injury, death, exposure, infection, contamination, and psychological effects such as anxiety, post-traumatic stress, and depression.

Objectives

The objective of this research was to gain an understanding of risk perception and willingness to work during terrorist events. Specifically, this research aimed to investigate willingness to work among paramedics and emergency medical technicians (EMTs) who had responded to the 9/11 World Trade Centre (WTC) terrorist attacks.

Methods

Focus groups and interviews were conducted with New York based first responders to discuss their willingness to work and response to the 9/11 attacks.

Conclusions

First responders reported a number of primary risks that concerned them during their response to the 9/11 terrorist attacks. These were *injury and death*, and *potential contamination and exposure*. The key concerns reported by first responders with providing the frontline response to the attacks related primarily to *health and safety*, *communication issues*, the need for *accurate and timely information*, and the need for suitable *training and education*. First responders often reported a difficulty in finding a balance between *personal safety* and *duty of care*. Despite these risks and concerns, all study participants reported a willingness to work on the day. Willingness to work during subsequent terrorist and bioterrorist events in the future was influenced by the provision of better personal protective equipment (PPE), communication strategies, and the development of targeted and specialised training and education programmes.

Keywords: *disaster; 9/11; risk perception; terrorism; September 11th; willingness to work; World Trade Centre Terrorist Attack.*

Introduction

Recent international experience with the September 11th terrorist attacks in the United States (US), and the London Bombings in the United Kingdom (UK), illustrated how essential first responders are in both the immediate response to a terrorist attack, and the longer term management and transport of the injured and traumatised. Indeed, it has been suggested that local emergency health services, specifically prehospital services, will bear the immediate brunt of any major emergency or disaster, and will be called upon to play a significant role in the ongoing response to such an event.¹

A number of studies investigating the ability and willingness of emergency health care workers to respond to work during catastrophic disasters and terrorist related events have been conducted in New York following the September 11th terrorist attacks. These studies indicate that barriers to being willing and able to work during these events would include childcare and eldercare obligations, transportation issues, personal and family health concerns, and compensation issues.^{2,3}

Recent New York based studies report that EMTs are primarily concerned about personal and family safety when asked whether they would be willing to respond to terrorist events.⁴ Furthermore, EMTs are less willing to respond to large scale events if they perceive their emergency service to have inadequate or too little training and education, as well as the lack of necessary equipment to respond to large scale events.⁵

Given that a willing and able prehospital workforce will be a vital component of any successful response to a terrorist attack, an understanding of first responders' willingness to work, and barriers to willingness to work, during these events is needed. This study moves towards answering this question by investigating first responder's perception of risk and willingness to work during terrorist attacks using a sample of first responders who actively responded to duty during the WTC terrorist attacks of 9/11.

As the discussions that are reported here are based on the terrorist attacks on the WTC precinct in New York on September 11th, 2001, a brief background of the event is provided.

September 11th, 2001

On the 11th of September, 2001, the world watched as four hijacked commercial airliners were crashed into the WTC buildings in New York City, the Pentagon in Washington DC, and a rural field in Pennsylvania. The attacks results in the deaths of an estimated 3123 people⁶, 409 of whom were emergency service personnel.⁷

World Trade Centre Attacks

At 8.46am, the first aircraft, American Airlines flight 11 from Boston to Los Angeles (a Boeing 767) hit the North Tower of the WTC between the 93rd and 98th floors. At 9.03am, a second aircraft, United Airlines flight 175 (A Boeing 767) hit the South Tower of the WTC between the 78th and 84th floors. At 9.58am, 55 minutes after impact, the South Tower collapses. At 10.28am, approximately 2 hours after impact, the North Tower collapses. At the time of collapse, each tower had an unknown number of civilians and emergency personnel inside.

Methods

A total of 19 paramedics and EMTs participated in three focus groups and three interviews in Manhattan in May 2007 (16 attended focus groups and three were interviewed). The focus groups and interviews were 90 minutes in duration. All participants were males, aged 21-53. Nine were paramedics and ten were EMTs. Focus group participants were recruited using a combination of selective and snowball sampling techniques, and no identifying information was recorded for any participant. Informed consent was given by each study participant, and a plain language statement explaining the project was made available.

The three focus groups were held at three separate New York City ambulance stations, and the interviews were all held in the paramedic or EMT's home. Participants were employed by a number of different New York City Emergency Medical Service (EMS) providers, including Fire Department New York (FDNY) and various hospital affiliated services. All focus groups and interviews were conducted in a very casual manner to promote relaxed discussion and interaction among focus group participants and the facilitator. The facilitator had no previous experience with the events being discussed during the focus groups, and therefore had a greater level of objectivity when conducting the thematic analysis of the interview and focus group transcripts.

While the focus groups were guided by qualitative research guidelines⁸ the research team utilised a largely unscripted and unstructured format to ensure that study participants felt comfortable in discussing the distressing event without the confines of a strict schedule or topic list. The participants were invited to discuss their perception of the risks involved with their response to the WTC attacks on September 11th, 2001, and also to discuss their willingness to respond to the WTC attacks, and their willingness to work during future disasters, particularly future terrorist and bioterrorist events, in New York City.

Two of the focus group discussions and two of the interviews were audio-taped following consent from all participants. Participants for one focus group and for one of the interviews declined to be audio-taped. The audio-taped focus groups and interviews were transcribed and transcripts were reviewed for accuracy by the researcher. Comprehensive notes were taken during the focus group and interviews that were not audio-taped. Each transcript was reviewed by the research team and for accuracy and to identify key emergent themes. Focus group and interview transcripts were further compared to each other to investigate whether emerging themes were common across all focus groups and individual interviewees. Emergent themes were identified manually throughout the text of each transcript by the researcher who attended the focus groups and interviews, and reviewed by a second researcher who had not taken part in the original discussions. Due to the small number of focus groups and interviews, and manageable amount of data obtained from these discussions, no computer based package was utilised for coding or data management.

Results

Throughout the discussions of the events that unfolded on 9/11, a core list of concerns emerged that had influenced first responders' perception of risk and willingness to work (both initial willingness to work, and continued willingness to work as the event progressed). These themes included *health* and *safety* (with a focus on *injury* and *death*), *communication issues*, the need for *accurate and timely information*, and the need for suitable *training and education*. Study respondent's also reported a difficulty in finding a balance between their need to maintain *personal safety* while at the same time honouring their *duty of care*.

Information Concerns

Study respondents reported that they were not initially worried about the risk of injury or death, nor did they report concerns regarding health and safety. Rather, paramedics and EMTs were essentially concerned with getting accurate information as to what was occurring.

‘All we knew at that stage was that something had hit the WTC...’

‘At one stage we heard that it might have been a missile...’

‘When we were told it was a plane, my partner and I thought, that has to be a mistake...’

‘We were on our way downtown, but really had no idea what we were responding to at that stage...’

Information Overload

An initial information overload was reported by all of the study participants. This information overload was reported as soon as pictures of the first tower on fire were broadcast over multiple media outlets, and information started coming in from 911. An additional source of information in these early stages of the attack was coming from loved ones watching the event live on television networks across the country.

This information overload increased once the second plane hit the South Tower of the WTC, with live coverage of the plane crashing into the tower, and the events that took place from that moment on, broadcast live over every major news network around the world. This immediate availability of information, in addition to the broad spectrum of media sources, resulted in the immediate dissemination of information (often inaccurate) regarding the attacks, much of which filtered back to the emergency services personnel at the scene.

‘While the mobile phone systems were still working, we had guys getting calls from their wives and partners telling them what they could see on tv...they had better information than we did cause they were seeing it all live...’

‘There was just so much confusion and so much incorrect information everywhere...’

‘We were watching it all on the tv from our station uptown, we knew what was happening before 911 did...’

‘We were in our rig heading downtown when my wife called...she had more information than we did because she could see it on the tv...’

Safety

As the event unfolded, and the second plane hit the South Tower, many of the study participants reported being at the scene, or close enough to view the second plane hitting the Tower. All of the participants reported that at this stage, they were aware of what was happening, *‘by now we knew it was terrorists’*. Study participants reported a significant shift in risk perception following the second plane hitting the South Tower. Paramedics and EMTs were no longer as concerned about getting information as they were about safety.

‘When that second plane hit...there was debris flying out of both of the towers, everyone was trying to do their job, but you had to keep looking up to make sure you weren’t going to be hit with anything, a big piece of debris landed metres from me, and I knew I had to take cover...’

‘All of lower Manhattan shook, I couldn’t believe what I was seeing, I thought we were at war...there was debris falling all over downtown...’

‘Once that second plane went into the tower, we knew it was terrorism, this wasn’t some accident, and that just changed everything, I mean, I wanted to be there, I wanted to do my job, but I was thinking...is this just the start? Is there more to come? And I knew my wife would be watching on tv and would be worried about me...’

‘We were still trying to figure out exactly what we were dealing with. We had so much information coming in, but all I knew for sure was that I needed to help. I was ready to go in, but I never got a chance...’

‘There was debris...the size of cars...I mean, pieces of those planes were falling to the ground, I just told everyone to run...’

‘You just had to take cover...no one could do their job in that kind of environment...’

Within the next 50 minutes, hundreds of emergency personnel entered the two towers to assist in the evacuation of the buildings.

‘You gotta remember...there ain’t no way we thought those towers were coming down...we all just wanted to get in there and help. I didn’t make it in, thank God, cause I probably would never have made it back out...’

‘We had no idea how many people were in those buildings...’

‘We weren’t really thinking about safety at that stage, we just wanted to get in and help...’

Professional Responsibility

After the first tower came down, paramedics and EMTs reported a difficulty assessing the issue of safety versus professional responsibility.

‘We had this false sense of security regarding the stability of the towers from the 1993 bombing...but when we realised they were coming down, your need to be safe, and to stay alive, well that just over-rides your responsibility to serve...’

‘I wasn’t too concerned about safety at the start, I was sheltered from the debris where we were standing, but when the South Tower came down, I was getting myself out of there...you can’t help anyone if you are dead...’

‘We all just wanted to help people...but in the end...the only person you could help was yourself...I just had to run...I will never forget that...I dream about the people I left behind...’

Impact on Family

Furthermore, concerns for the safety of family began to develop. Both of these issues impacted on paramedics' and EMTs' willingness to remain near 'Ground Zero'.

'When that tower came down, it was like the world was ending... there was dust and debris and smoke everywhere, you couldn't see your hand in front of your face. All I wanted to do was get to a phone and call (my wife) but I couldn't even tell where I was. I feel bad, I left my rig and my partner behind, we had gotten separated when we ran after the tower came down, and I could see people around me that needed help, but all I could think of was ringing (my wife) and telling her I was ok...'

'When that tower came down, our whole incident command system was effected, communications were down, I mean, our comms and mobile phones, the whole lot, and we were worried that the North Tower would come down next, we just had to haul ass and get outta there...'

Of greatest concern to study participants was the inability to contact loved ones who may have been in the towers or in surrounding areas during the attacks. Unfortunately, some of these issues are difficult to address in disaster preparedness plans. With an unprecedented event like the 9/11 attacks, it will be difficult, if not impossible, to plan for suitable locations for command systems, furthermore, the utilisation of the Incident Command System may not be suitable in events which are not localised to time and place. However, issues of communicating with loved ones during disasters are amenable to intervention.

Communication

Communication was a major issue raised in the focus groups and interviews. Two primary communication concerns were raised. Firstly, official communications went down as soon as the towers fell. Secondly, mobile phone networks were down all over the city, making communication with family and loved ones near impossible.

'If I could have gotten a call through to my wife, I would have stayed longer, but I just had to let her know I was ok. So I managed to hitch a ride back uptown with a volunteer crew, and once I told her I was ok, I went back down to help with the recovery efforts...'

This lack of available communication channels impacted directly on paramedics and EMTs being able to do their job. They had no information coming in telling them where they would be safe to set up triage and treatment areas, they had no official information on estimates of injured or where the majority of the 'walking wounded' were evacuating too, and they could not contact their loved ones to ensure that they were ok, and to let them know of their safety and current location.

Training and Education

Issues of training and education were also raised. Specifically, training in high rise evacuations and response was a concern, as was inter-agency communication.

'No one knew what anyone else was doing...'

‘All of your protocols go out of the window and you rely on your training...’

‘I knew that I was able to help, I knew that I had the training to get in there and make a difference. I just wish we carried more PPE on the rigs, that would have been a big help...’

Mistrust of Employers

A feeling of mistrust in employers was reported, specifically, in terms of employers providing accurate, timely information on which paramedics and EMTs could make risk assessments.

‘You wouldn’t rely on them to give you the right information. You are better off waiting until you get there and see for yourself...’

‘The only person to have your best interests in mind is yourself...’

‘I think we pulled together well under the circumstances, but that was because all of the individual emergency service guys came together and we helped each other out, not because the services had any real plan or knew what was going on...’

Willingness to Work

Finally, paramedics and EMTs discussed their willingness to work during disasters in New York. All study participants reported being willing to respond when the WTC attacks occurred.

‘To be honest, the thought of not going, it never crossed my mind...’

‘I never even thought about not doing my job...’

‘I never thought twice about getting in my rig and heading towards the scene...’

Discussion often turned to the issue of being willing to work in future disasters in New York City. It was obvious that while the study participants perceived high levels of personal risk involved with disaster response, they generally acknowledged that this risk was ‘*part of their job*’. This risk perception did not appear to impact on subsequent willingness to work during future events.

‘Would I respond again... you bet...it’s my job...’

‘Am I willing to work during a disaster...well it wouldn’t be my favourite type of job to go to, but yes, I don’t think I would ever not work if I was needed...’

‘Protocols went out the window, there was a job to do, and we did the best we could, and we lost a lot of good guys in the process, but I reckon you could ask any NYC cop, fire-fighter, or medic if they would do it again, and they would all answer yes in a heart-beat...it was our city, our people, yeah it was dangerous, but it was our job and we did it, and we would do it again...’

However, during discussions of willingness to work, it was common for study participants to report that willingness to work during disasters would be influenced by the type of disaster they were being asked to respond to.

‘I have to admit, if I knew it was another 9/11, I would think twice about getting in the middle of it, but I would always be willing to play some sort of role in the response...’

‘If it was some sort of bioterrorist event, or nuclear thing for example, yeah...I would have to think twice about going...my wife wouldn’t want me to, that’s for sure...’

‘I think the next thing that will happen will involve chemicals or some sort of biological agent, and I just don’t think I would be prepared to go into that sort of situation, not with our current training and PPE anyway...’

Further Issues

Further issues that were raised by study participants included:

- An emotional involvement with the scene, with so many colleagues dead or missing... *‘It was difficult to go home knowing that so many guys were still missing, buried under all of that chaos...’*
- Problems with well intentioned ‘volunteer’ health care providers... *‘They were difficult to credential, had improper or non-existing PPE, and often became patients themselves...’*
- Difficult or non/existent communications with other emergency service agencies.... *‘We didn’t know what the FDNY knew, or the police...but I heard later that they were having enough problems communicating with their own guys, some of them probably never even heard the evacuation order given for the tower...’*
- Difficulty in managing such a large scene.... *‘It was just so huge, I mean, like nothing you could imagine, it was like all of downtown Manhattan had become the scene, and how do you manage that?...’*

Discussion

Reported willingness to work during the New York terrorist attacks identified that all paramedics and EMTs who took part in the study were willing to respond to the events that occurred on that day, and furthermore, were willing to respond to future disasters in their local region. However, it is of note that study participants reported willingness to respond to future disasters was influenced by the involvement of chemical, biological, and radiological (CBR) agents, and new infectious diseases. Reported willingness to work decreased as the number of potential ‘unknown risks’ increased, *‘I can see a building on fire, I can’t see a virus’*.

The duration of a disaster also impacted on perception of risk, level of concern, and willingness to work. Perception of risk and levels of concern increased the longer that a disaster situation lasted for, with fewer study participants reporting a willingness to work as an event progresses. This theme was particularly evident during discussions of the prolonged

search and rescue phase of the 9/11 response, when the scene of the disaster was becoming less stable, and recovery of survivors was less likely.

Emergency planners should take note of another recurring theme in the results from this case study – the impact of childcare, and eldercare obligations. The need for first responders to provide care and reassurance to family members needs to be recognised and addressed in emergency preparedness plans. The inability to fulfill these obligations may have a profound influence on willingness to report to work.

On a personal reflection, all of the study participants viewed their job as having a certain level of professional responsibility attached to it. While all of the participants reported concerns for personal health and safety *‘I am more worried about my health now, after responding to the event, now that we know what we were breathing in when we were down at Ground Zero’* all unequivocally stated that if an event similar to 9/11 happened again, they would all respond again, even knowing how many of their colleagues died while trying to save others. I felt that all of the participants were happy to discuss their experiences in responding to 9/11, and hoped that their involvement in the study would go some way to helping ambulance services worldwide better prepare for terrorist attacks and disasters.

The emotional and physical health toll on paramedics and EMTs was obvious, with a number reporting ongoing health and mental health problems related to their response to 9/11. All reported that their respective employers had been supportive in providing ongoing health and mental health care to 9/11 responders. Of the 19 paramedics and EMTs who took part in this study, 17 were still actively employed with emergency medical service (EMS) providers, albeit three had moved from the city to outer boroughs of Manhattan. Of note, three participants reported that their families attended ongoing counseling with them, and two reported that their family members had requested that they retire from active duty.

Conclusions

This case study demonstrates that while first responders are initially willing to respond to terrorist events, this willingness to work is directly influenced by risk perception. With an unprecedented event, such as the 9/11 terrorist attacks, this risk perception will be constantly evolving as the event itself evolves and changes. Therefore, while first responders may be willing to respond during the early response to a terrorist attack, this willingness to work may change as the event unfolds, particularly if there are a greater number of risks and hazards involved with ongoing scene management (specifically infection and contamination).

The primary risks involved in responding to terrorist events as reported by study respondents were *injury* and *death*, with concerns for *exposure to contamination* and *potential secondary devices* developing as the event progressed. The key concerns first responders reported related to *health* and *safety*, *communication issues*, *the need for accurate and timely information*, and the need for *suitable training and education*.

First responders often reported a difficulty in finding a balance between *safety* and *duty of care*, with see-sawing feelings of *‘It’s my job’*, and *‘It’s my responsibility’* and *‘I could get injured’*, *‘I could die here’*.

Of importance to emergency planners, study participants reported that their willingness to work during future terrorist and bioterrorist events would increase if they were provided with adequate *protective equipment* and *training*. Emergency planners should also take note of

another recurring theme in the results from these studies – the impact of *childcare, and eldercare obligations*.

These findings are important as they provide emergency planners with an insight into the key risks and concerns that need to be targeted in future disaster preparedness plans, and specifically, for targeted education and training programs in the future.

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