

The Crash of United Flight 93 in Shanksville, Pennsylvania

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Introduction

The crash site of the fourth airplane hijacked during the terrorist attacks of September 11, 2001, was very different from the other three. Somerset County is a rural area of southwestern Pennsylvania known as a good place to ski and hunt. The fire departments are predominantly volunteer and the Emergency Medical Services a combination of paid and volunteer staff. Due to the scarcity of personnel, the different departments frequently assist one another on mutual aid calls. Likewise, the Pennsylvania State Police frequently provides law enforcement assistance and fire and rescue scenes, especially in connection with vehicular accidents on the state turnpike.

Although the events in Shanksville were unique in that they were part of the first terrorist attack on American soil, they were also similar to other emergency responses to natural and technological disasters, especially when considering the response from the perspective of the Integrated Emergency Management System (IEMS). The response to the crash site was multi-jurisdictional, multi-agency, and intergovernmental in character. Using this perspective, the researchers initially approached the events in Shanksville with the concept of building upon previous research opportunities in small communities, specifically the collapse of the Lonz Winery Balcony on Middle Bass Island and the explosion of the steam engine tractor in Medina, Ohio, both of which were mass casualty incidents occurring in small communities involving multiple jurisdictional local response as well as intergovernmental response. Other than the fact that the United Flight 93 crash was a multiple fatality rather than mass casualty incident, much of the response and even recovery activity were relevant to the questions at hand. Initial exploratory research from the first two case studies led to the development of the research questions to be examined in the response to the Flight 93 crash.

Research Questions

The initial research questions built upon findings from previous case studies.

- Question 1. To what extent was the response to a disaster in a small town/rural area involving responders from multiple emergency response jurisdictional entities enhanced by serious exercising of existing emergency response plans?
- Question 2. To what extent was the response to a disaster in a small town/rural area involving responders from multiple emergency response jurisdictional entities enhanced by personal knowledge of and trust in fellow emergency responders, especially those in charge?

These two items had emerged from each of the previous case studies and the research team wanted to continue investigation to see if there was enough evidence for theory development. Given the fact that this was a terrorist incident while the others, also classified as technological disasters, were accidents, there is an added element to the Shanksville disaster site control. Since the cause was terrorism, the crash site was a crime scene and the final jurisdiction of the scene rested with the Federal Bureau of Investigation (FBI). This led to the third question, designed to determine if the impact of the exercises and trust of fellow responders is mitigated by control of the site by external (i.e., federal/FBI) authorities.

Question 3. Did the presence of external control of the site (by the FBI) mitigate the impact of the exercises and trust of local responders?

A fourth question of the initial research emerged as the researchers observed the outpouring of volunteer assistance across America. This portion of the study focused more on the community response than the emergency response operations at the scene. It was based on the work of Quarantelli and Dynes (1976) dealing with behavior within a convergence crisis.

Question 4. To what degree did the behavior of volunteers conform to theoretical expectation according to the convergence theory of volunteers in a consensus crisis?

Together these questions focused the gathering and analysis of information relating to the crash of Flight 93 in rural southwestern Pennsylvania.

Methodology

Given that this project is an exploratory and interpretive, qualitative methods were used. Qualitative research has gained acceptance as a valuable policy analysis/development and management practice analysis tool. The qualitative research design facilitates the emergence of questions for further research as well as building foundations or providing support for theories during and after data collection (Jacob, 1988; Kruse, 1997). Thus, the approach is appropriate in attempting to identify the influence of prior professional interaction via training and exercise and the development and impact of trust in fellow responders in inter-organizational and multi-jurisdictional response to and recovery from a disaster. Especially appropriate was the emphasis on the importance of conducting research in a natural setting with a focus on understanding participants' perspectives (Lincoln and Guba, 1985; Wilson and Mosher, 1996). The interpretive or qualitative paradigm emphasized the local, individually based constructions of meaning that enabled greater understanding of the context of the emergency response (Kruse, 1997; Lincoln and Guba, 1994; Merriam, 1988).

One of the benefits of using qualitative methods in this project was that the qualitative interpretive approach moved the research from the objective to the perspective view. Individuals had perspective views of the disaster scene and Kruse recognized the need to understand the multiple views of the same phenomenon taken from different "lenses" relating to the position of the individual in order to understand a complicated and changing system or scene (Kruse, 1997). Thus, for example, on the site of a disaster due to terrorism, the FBI viewed it as a crime scene, medical responders viewed it as a mass casualty scene, law enforcement viewed it as a security challenge, business

viewed it as an economic challenge for continuity, waste management entities viewed it as a major debris challenge, and emergency management viewed it as a constantly changing puzzle that they were trying to put together and hold in place. Each of these views provided one piece of the whole reality of the situation. In order to understand emergency management at a disaster scene, one needed input from each of the perspectives—thus the need to conduct numerous in-depth interviews with the various responders to disaster sites.

Thus, the qualitative research paradigm was appropriate for the exploratory and interpretive nature of the research questions of this study. Merriam has stated that qualitative methods enable the researcher to “understand humans as they engage in action and interaction with the contexts of situations and settings” (1988, p. 29). Kruse also pointed out that most qualitative researchers prefer data that includes quotes from interviews, participant observations, and information that describes the research setting as well as the people in the setting, precisely the primary approach taken (1997).

The researchers used a three-part data collection method. Initially, the plan was to arrive at the scene fairly early, two to three days after the incident, and conduct interviews with key personnel if possible. Upon arrival Friday morning, however, the situation was such that the methodology was amended to practice primarily observation and hold informal conversations with response personnel on the scene rather than to conduct the planned focused interviews. Thus, the first methodological approach involved observation of the scene and of interaction between and among response personnel. Several pages of field notes were gathered and compared at a later date.

The second method of data collection was the focused interview technique. Due to the tense nature of the scene, the investigators returned to the area to interview response and recovery personnel on two separate occasions. In addition, they had the opportunity to speak with responders to Flight 93 at two different conferences on emergency management. Given that these responders also presented their experiences, this proved to be an additional source of information. The researchers conducted eight full-scale focused interviews, held 11 different identifiable informal conversation interviews, and heard six different formal presentations.

The focused interview technique has been in use for at least 50 years and involves the construction of an interview schedule that is used for each of the subjects in the study. The questions were carefully designed to elicit responses focusing on the research question. The primary question could be enhanced through the use of secondary “prompt” questions that aid in getting the subjects to talk and in keeping them on the topic at hand (Yin, 1984; Merriam, 1988). Keeping the conversation focused ensured that the researcher could gather a rich body of information on which to perform content analysis (Miles and Huberman, 1984; Yin, 1984). This approach had the advantage of permitting the investigator to direct the interview while allowing the

respondent freedom to answer in an open, unstructured fashion (Merton and Kendall, 1946). Interviews are best used to find out what kinds of things are happening rather than to “determine the frequency of predetermined things.” The personal contact between the researchers and the subject was the principal advantage of the interview as it also led to the following advantages:

- The researchers could re-contact the respondents as necessary.
- The higher response rate of this technique was important due to small sample size.
- Ambiguities, questions, or concerns of the respondent could be resolved.
- Interviews were more flexible and could employ more complex lines of questioning than is generally possible with surveys.
- The interviewer could ask sensitive questions during the interview when he/she sensed the respondent was at ease and more likely to answer.

The weakness of focused interviews identified by Nathan (1986)—that they are “inadequate to do without other supporting evidence” (p. 109)—was mitigated by the use of triangulation using secondary data from reports and newspapers. The strength of the use of focus interviews was that it was very good for building emerging understandings of relatively new phenomenon, which was the focus of the research questions.

The informal conversations occurred when it was not possible to schedule the interaction in advance and when it was not possible to take detailed notes or record the conversation at the time. In these instances, the researchers would make notes individually as soon as possible and then compare individual notes to compile a complete record of the information gathered. Generally these conversations provided background information, perceptions, and sometimes offered points of clarification. They were not as in-depth or detailed as the other verbal data sources, however.

The third method used was content analysis of newspaper coverage of the response and recovery operation. The particular benefit to this component of data collection was that, while national news sources were utilized, the primary source was local coverage of events, which contained more details than the national news stories. This was in part because of the competition with the events at the World Trade Center in New York City, but also because of the personal acquaintance of many local responders by the members of the local media. These stories were talking about local residents as well as about others who were there to lend a hand.

Thus, this study incorporated triangulation using a combination of secondary empirical data/information analysis and primary qualitative analysis utilizing the focused interview.

Background of Flight 93

On September 11, 2001, 44 passengers and seven crewmembers left Newark, New Jersey, aboard United Airlines Flight 93 bound for San Francisco. The aircraft, a Boeing 757, was scheduled to depart at 8:01 a.m., but was delayed 40 minutes. As the plane headed west, it was passed to the control tower at Cleveland, Ohio, for monitoring through the Midwest portion of its journey. When the controllers tried to contact the plane, asking the pilot to verify altitudes, they received no response. Minutes later the plane made a hairpin turn, heading towards Washington, D.C. The air controllers reported hearing a thickly accented voice saying, "This is your captain. There is a bomb on board. We are returning to the airport" (Breslau, 2001, pp. 3–4).

According to Major Lyle Szupinka of the Pennsylvania State Police, air traffic controllers in the Cleveland control tower taped conversations from the plane's open microphone in the cockpit. There was screaming and then a voice said, "Get out of here. We don't want to die." The traffic controllers saw the plane execute a U-turn, turn southeast, and begin to descend in altitude. There were sounds of a continuing struggle and then a heavily accented voice said, "Your pilot has chosen to die. We have a bomb. Please stay in your seats" (Szupinka, 2002). These two brief reports, with their minor differences, were illustrative of the many questions surrounding the details of the last moments of Flight 93.

Passengers made telephone calls to their families and then, knowing what had happened in New York City, the passengers decided to fight back. With the famous battle cry of "Let's roll!" passengers attacked the hijackers and in the ensuing struggle, the plane plunged to the ground at 10:08 a.m.. There were no survivors. United Flight 93 had ended, but the emergency response and recovery had just begun.

The content of telephone calls between passengers and loved ones painted a picture of tense moments, honor, and love of country and fellow humans. These calls became part of our nation's history. For the responders to the crash scene, however, it was another telephone call that first alerted them to the terrible tragedy that was about to take place and put in motion the emergency response to the crash site.

Initiation of Response

Dispatch operators at the Westmoreland County Emergency Operations Center received a 911 call at about 9:58 a.m.. Glenn Cramer, a 911 supervisor, was quoted as saying, "We got the call about 9:58 this morning from a male passenger stating that he was locked in the bathroom of Flight 93 traveling from Newark to San Francisco, and they were being hijacked. We confirmed that with him several times and we asked him to repeat what he

said. He was very distraught. He said he believed the plane was going down. He did hear some sort of an explosion and saw white smoke coming from the plane, but he didn't know where. And then we lost contact with him" (Silver, 2001, p. 2).

The report of the sound of a muffled explosion led to some of the speculation that there was a bomb or that the plane had been shot down. However, in cross-referencing other details that emerged, Hoover and Grant discovered references to the probable use of makeshift weapons in the passenger attack on the hijackers. Mentioned as a probable weapon was a portable fire extinguisher which, when discharged, emits an unusual explosive-type sound caused by the sudden release of the compressed nitrogen in the cylinder, followed by a discharge of dry chemical extinguishing agent that has the appearance of white smoke. Grant and Hoover believe that the caller locked in the restroom heard the sudden discharge of the fire extinguisher and that the white smoke he reported was in fact the chemical extinguishing agent (Hoover and Grant, 2002a).

The 911 dispatch center immediately contacted the Pennsylvania State Police Barracks at Greensburg to report the call. Meanwhile, the Federal Aviation Administration had contacted the Pennsylvania State Police and the Johnstown airport stating that there was a commercial carrier over Cambria County and the low altitude led them to believe that they were attempting a landing at Johnstown. State troopers were dispatched at once and were on their way to the airport when reports of the 911 call and of the crash were received. They were then redirected to the crash site (Szupinka, 2002).

Question 1: Impact of Emergency Response Plan Exercises

The emergency management preparedness and planning phase requires participation by multiple agencies and organizations and delineates intergovernmental relationships that are in existence and others that will be enacted in case of a declared disaster. Initial research concerning this planning phase indicates the need for cooperative participation by all responders (Waugh and Hy, 1995; Schneider, 1995). The role of exercises or drills in achieving this cooperation has been addressed somewhat, but specific research on their impact on disaster response is scarce.

Campbell (1999) and Payne (1999) point out that exercises have enhanced the response to a disaster and emergency, but provide little direct link between the exercise of the plan and the execution of the plan in terms of differences and performance. Auf der Hiede (1989) likewise points out the fundamental use of preparedness, including conducting exercises to test the plan, to enhance the actual response. Tierney et al. (2001) document the need for exercising as an integral part of the preparedness process and offer some examples on how this has improved the effectiveness of response. The

examples on how this has improved the effectiveness of response. The researchers at the scene of the Flight 93 crash wanted to understand how the plans and exercises themselves affected the response. Earlier research by the investigators identified how deviations from the plan and prior exercises caused problems at the scene and how activities performed in accordance with previously exercised protocol went smoothly. The investigators focused on whether the same was true with the response to the crash of Flight 93. This was the perceived unique aspect of the research. A good illustration of this phenomenon was the events surrounding the challenge of feeding the responders during the response and recovery phase.

The two agencies primarily responsible for mass feeding were the American Red Cross and the Salvation Army. Both agencies had participated in mass casualty drills and had plans in place for responding to a disaster. However, due to the extraordinary nature of the events surrounding the crash, each had to deviate from its protocol. In addition, the local fire department, which did not have mass feeding as a responsibility, attempted to assist in ways that did not conform with the response plan. As a result, several challenges emerged during the response and recovery.

The Salvation Army has its disaster services specialty response located in Pittsburgh. While this seems to be right next door, it must be remembered that they were also contending with as many as 20–50 planes being diverted to the Pittsburgh airport, with as many as 100 people per plane stranded there. Given that the airport was closed, which meant all of the food vendors were shut down, if the passengers were indeed stranded, it was going to be a major challenge to provide food and shelter. Thus, the initial response to the Shanksville crash scene came from local Salvation Army personnel from Somerset, Fayette, Westmoreland, and Cambria counties.

In the initial response, a volunteer for the Salvation Army, who was in fact the communications officer for disaster response, was working at AAA as a dispatcher. He received an activation call from the Pittsburgh office and his employer let him go immediately. He went to the Emergency Operations Center and served there for about 14 hours along with another officer who arrived a couple of hours later. Thus, the Salvation Army operation at the site was staffed by a combination of volunteers and disaster response specialists. Due to the nature of the activity, it was clarified that the disaster response specialists were in charge and that the procedures for disaster response services superseded other Army policies (Myers, 2001). An interesting contribution by the Salvation Army was the distribution of 300 bibles to recovery workers at the crash site. In addition, five worship services were conducted there.

The philosophy of coordinating rather than doing everything is held by support organizations such as the Salvation Army and Red Cross as well as emergency management. For example, after the first 36–48 hours of providing

food to the responders on site, the Salvation Army implemented the newly negotiated agreements with local providers, such as Camp Allegheny and three local commercial restaurants. These entities prepared the meals that were then distributed by the Salvation Army. Once these agreements, similar to those of the Red Cross, were in place, the two volunteer organizations coordinated the distribution so that neither organization was overwhelmed by the responsibility. Unfortunately, even with the agreement, there was some difficulty with duplication and mis-coordination.

The challenge in providing mass feeding in long-term disaster recovery operations is primarily one of quality. Getting food is seldom the difficulty because of the generous outpouring of support from individual citizens as well as local businesses. However, the challenge is to maintain the quality of the food to ensure that no one suffers illness due to consumption of contaminated food. Unfortunately, while individuals may prepare food properly, they do not have the facilities to store and transport the food under safe conditions, thus causing deterioration before it is consumed by the response and recovery personnel. The situation in Shanksville was compounded by the tremendous generosity of the local citizens in Shanksville and the members of the Shanksville Volunteer Fire Company. The statement of Fire Chief Terry Schaffer best illustrates the commitment of the Fire Company, "This may be a little town but it is big enough for whatever happens. Whoever and whatever needs us, we're there for them" (Schaffer, 2002). This philosophy led to an outpouring of donations of time and effort as well as food. For example, the local Boy Scouts used mounds of donated apples to make apple cider that could be more easily distributed and consumed. In fact, local generosity was so great, that after three or four days they were overwhelmed with so much product coming into the fire station that they actually had tractor trailer loads of "stuff" inside the station and their fire apparatus was outside. They worked with the Salvation Army to sort supplies and to donate what could not be readily used in feeding the recovery teams to the local food bank. The fire department continued to do some feeding throughout the recovery operations, primarily serving first the perimeter personnel and then staffing an open-table food operation at the Fire Station, which could be taken advantage of by anyone. Upon termination of on-site operations, Chief Schaeffer estimated that they still had food for 10 days (Myers, 2001; Schaefer, 2002).

Due to the fact that there were three agencies providing the same service to the scene, a coordination meeting was called by the Pennsylvania Emergency Management Agency to solidify communications and to identify coordinated feeding activities in order to eliminate duplication and simultaneously ensure comprehensive provision of quality meals to all on-site personnel on a consistent basis. This is illustrative of the key coordination and facilitation role of the emergency management personnel. This was

necessitated because of the deviation from the plans and exercises performed in the past that had very defined roles of support agency responsibilities.

The remote character of the crash site led to unique food preparation and distribution challenges. The Salvation Army established contracts with a private caterer and with Camp Allegheny to set up a week's menu at a time. The Eat 'n' Park restaurant chain was their primary caterer, utilizing both their local and Johnstown restaurants to keep either from being overtaxed. One of the more unique partners in meeting this challenge was Camp Allegheny, a Methodist Church Camp located approximately one mile from the site. According to Bob Myers of the Salvation Army, Camp Allegheny would clean all dirty meal containers and return them for the next meal as well as providing housing for Salvation Army personnel as needed (Myers, 2001). Camp Allegheny is one of only about 15 camps nationally with a completed Emergency Response Plan. The Somerset EMA had worked with the camp in writing the plan and the camp is part of the county response plan as well as an identified resource in case of disaster. Camp Allegheny housed from 12 to 25 personnel each night and helped transport meals and Red Cross workers to the site. Camp maintenance personnel made a run to the site each mealtime to provide assistance. They would carry ice in garbage bags along with soda and sandwiches as necessary to keep things cool. According to the Reverend Duane Slade, Camp Director, the primary reason that they were able to work well with response was that (1) they had the plan in place, (2) they reviewed the plan annually with their staff, and (3) they knew the emergency management personnel from Somerset County as well as other local responders on the scene (Slade, 2001).

In terms of the research questions, the mass feeding programs demonstrated that, indeed, those who had participated in this type of response before were better prepared and able to perform the required tasks. This is especially true due to the long-term nature of the operation. The fire department and community members were trying to assist and did the best they could. However, their primary role is not mass feeding and they were not able to maintain the quality and consistency necessary, especially in distribution. The extreme nature of the event required operations beyond the scope of past exercises and resulted in discrepancies that had to be resolved through negotiation.

Question 2: Personal Knowledge of and Trust in Fellow Emergency Responders

Hightower and Coutu (1996) noted that when organizations have interacted and coordinated with each other in prior situations, they have fewer problems interacting during a disaster response. Recognition of people's professional skills and abilities built trust, while drill exercises offered participants the

opportunity to demonstrate competencies (Hightower and Coutu, 1996). The reverse has been shown to hold true as well. Lack of information about the activities of other responders has resulted in failure to respond to some disaster demands and to duplication of effort (Caluse et al., 1996). Lindell and Whitney also referenced the impact of trust among planning committee members during the planning as well as response activities as being a major factor in the degree of success (1995).

Indeed, at the Shanksville crash site, the initial local responders had worked with each other frequently in the past, both during mass casualty drills and during actual emergency responses, although these were on a much smaller scale. The personal trust extended to agency trust. For example, given prior experience with individual Pennsylvania State Police Troopers, local fire and EMS personnel readily accepted all state troopers as competent and professional. Likewise, Salvation Army and Red Cross personnel accepted the adjacent county emergency managers that arrived to assist Somerset County emergency management.

Smooth operation and cooperation was secured initially with those organizations with whom the Salvation Army and Red Cross had responded in exercises and in smaller incidents in the past, such as the County Emergency Management Agency and local fire departments and EMS units. Additionally, the fact that the initial volunteers were from the area and knew many of the responders facilitated the early set-up of operations at the command site.

Question 3: External Site Control and its Impact on Local Responders

Background of Scene Control

The fact that the crash was due to a terrorist attack placed the scene under the direction of the FBI, whose primary duty was to collect and preserve evidence. The FBI worked closely with other federal agencies such as the National Transportation Safety Board; the Bureau of Alcohol, Tobacco, and Firearms; and even the Department of Health and Human Services. Agent Wells Morrison was assigned the task of establishing the on-site command post for the FBI, which brought in over 150 agents and support personnel from ten offices. The crash site of Flight 93 was different from the other terrorist incidents on September 11th in a couple of very important ways. It was by far the most productive in terms of collecting evidence from a crime scene, since there were not tons of structural debris to sift through looking for evidence. The aircraft slammed into the ground at a high rate of speed, causing severe fragmentation and scattering pieces of the plane and its contents that had evidentiary value across an open field, and through a section of trees and across a lake beyond. However, the site was quickly and fairly

easily containable. Evidence gathered at the scene was flown to headquarters in Washington, D.C., once a day for analysis. According to Morrison, the first significant piece of evidence was found the first night by a Pennsylvania State Police Trooper assigned to security, who found the wallet and passport of one of the hijackers (Morrison, 2002).

Impact on Interaction and Trust

The designation of the crash site as a federal crime scene made the response event somewhat unique for the local and state responders. The coordinated response and recovery activities among the various local and state agencies proceeded smoothly, according to the plans that were in place. The initial perception of the FBI by several of the local responders was that the local coordination was working well and the FBI was just doing its job without really working with the locals. Federal interagency cooperation appeared to be coordinated; however, there were initial rough spots between the federal and local responders.

An example of how trust had to be better learned on the scene when there was no prior experience with it is that while the FBI was very receptive and supportive of the services of the Salvation Army, they did not initially recognize the need to have a canteen deliver food to the personnel working at the recovery point of the crash site. Their concern was especially strong before the discovery of the flight recorder, which has high evidentiary value. Once the need and the benefit of hot food “and a smile” was explained in terms of human performance and reduction of errors at the scene, and they had the opportunity to observe and obtain feedback about the truth of this position, the FBI became even more supportive of the modes of providing service as well as of the service itself.

Throughout all these events, the Somerset County Emergency Management Director, Richard Lohr, with support from the Western Regional Office of the Pennsylvania Emergency Management Agency, particularly Thomas Hauger, and surrounding county EMAs, did his job facilitating, supporting, and coordinating resources and supplies. The EMA on scene was the clearinghouse to gather and distribute necessary resources. This facilitated quick access since suppliers had been identified in the response plans in advance. It also eliminated duplication as multiple requests for the same items were checked to see whether they were duplicates of one request sent in by different agencies or really individual needs. Donations management was an important issue during this recovery operation as many local and regional citizens and organizations wanted to do their part. The Somerset EMA managed the donations to maximize their utilization and eliminate waste. Initially the coordination role of the EMA was not appreciated by the FBI and other federal agencies. However, as the recovery operations continued, their

value and efficiency became clear. By coordinating resources, EMA took the burden off the federal personnel who could then focus on their tasks.

The Somerset EMA processed 205 resource requests during the recovery operation. It took the position of providing logistical support for the responding agencies on the scene and coordinating services among agencies to ensure there was no duplication or wasted resources. For example, at one point two requests for BFI recycling containers came to the EMA resource area within half an hour, one for 150 containers and one for 200 containers. EMA immediately went to work to secure the containers, but also tracked down the two requesting entities to determine whether they were duplicates or if the recovery operation really needed 350 containers at that time. Having resource requests centrally processed eliminated duplication and facilitated quick acquisition. Somerset EMA already had purchase agreements in place with numerous local suppliers. Therefore, they knew who had what products available from their comprehensive emergency response plan resource book and simply had to contact people who were already familiar with the EMA director personally to activate contracts and get resources in quickly.

Sometimes the need to coordinate with EMA was not clear. For example, one morning at about 10 a.m. a call came in from the decontamination area to report that no one had emptied the Port-a-Johns the night before. Director Lohr checked and determined, both from the company servicing the Port-a-Johns and from a supervisor on the night shift, that the Port-a-Johns had, in fact, been emptied the night before. The problem was that the FBI had increased the number of personnel at the recovery site by over 100, which severely taxed the capacity of portable toilets placed at the decontamination site. In order to meet the increased demand, EMA immediately negotiated increasing the number of Port-a-Johns.

Again, those local responders who knew the EMA personnel and had participated in local exercises were immediately receptive of their role and recognized the existing units. Had EMA been informed the day before the additional personnel were assigned, they would have simply increased the number of units on site. This illustrated the fact that, while agreeing in principle to the function of the EMA, some of the state and federal personnel were not willing to be proactively inclusive. However, their value became apparent rather quickly and trust began to build. By the end of the operation, when the FBI released the scene, they were extremely complimentary of the resource management and truly recognized the value of the system in place. In fact, the FBI stated that there was nothing they asked for that they didn't or couldn't get in triplicate and the National Transportation Safety Board later stated that this was one of the smoothest-run recovery operation scenes in which it had ever participated. Basically the IEMS plan of having the experts perform their areas of responsibility with central coordination and facilitation through the support of EMA worked at the scene of the crash of Flight 93.

While local responders had worked with federal agencies such as the Federal Emergency Management Agency, the National Transportation Safety Board, and the Small Business Administration in the past, they had not worked with federal law enforcement agencies such as the FBI and the Bureau of Alcohol, Tobacco, and Firearms. Likewise, while the FBI had worked with local and state law enforcement agencies, they were not accustomed to working with fire, EMS, emergency management, and non-profit organizations under these conditions. Thus, this became a learning situation.

Building Trust and Confidence on Scene

Perceptions presented during the first 36 hours changed significantly during follow-up interviews held with local responders six weeks later. Basically, as the FBI began to understand the various roles of the other response agencies and why they did things the way they did, their attitudes and positions shifted. This was a new role for the FBI and one that may reoccur with more frequency in the future. The FBI demonstrated the ability to learn new methods of intergovernmental operation and cooperation.

Likewise, the local agencies and response and recovery personnel gained an understanding of some of the reasons why the FBI approached recovery matters as it did. They understood the principle that this was a crime scene and that the major focus of the FBI was to recover evidence, but it was only as the operation proceeded that they began to understand more fully what that meant in terms of specific operation protocol and preferences. Thus, this was a learning situation in both directions. Supervisors of the local operations recognized the benefits and contributions made by the FBI, which enhanced the local response and recovery efforts. Examples of these included the completion of the memorandum of understanding with the Department of Health and Human Services, which enabled the deployment of the Disaster Mortuary Response Team (D-MORT) and the assumption of many of the expenditures associated with the recovery operation. This latter was extremely important since no federal disaster relief monies were available because this site never received a Presidential declaration of disaster. In this instance, the FBI demonstrated an understanding of the situation of the local jurisdictions and offered support that they otherwise would not have received.

Summary for Questions 1, 2, and 3

The exercise and training among the emergency responders before the September 11th disaster did make a difference in the response in Shanksville, Pennsylvania. Preparing for disaster did affect the response and recovery operations at the disaster scene. In answer to the second research question, working together and exercising response plans did build trust. There were stronger bonds of trust forged between and among responders who had

worked together before than among those who had not had the opportunity to work together. Thus, given that the presence of some of the federal agencies was not standard for natural hazard disasters, there was unfamiliarity and, therefore, discomfort associated with the initial coordination with these agencies. However, trust was built during the longer term of the response and recovery operations and was solidified among those who held it at the onset.

Question 4: Convergence of Volunteers in a Consensus Crisis

A fourth element of the research project examined volunteers and their behavior within the context of a “convergence crisis,” as outlined in the work of Quarantelli and Dynes (1976). Specifically, this question addresses the degree to which the Shanksville event matches the theoretical expectation according to the convergence theory of volunteers in a consensus crisis. Wenger developed a system of classifying events from an emergency to a crisis and then social crisis level depending upon the adequacy of the rules of existing societal rules and daily operating procedures (1978).

A review of research activities indicates that there have been relatively few systematic studies of many of the forms of emergent crowd behavior, particularly those associated with immediate post-impact disasters (Wenger and James, 1994, p. 230). Most research to date confirms the premise that convergence on the site is typically massive and widespread during the early post-impact stages (Barton, 1969; Dynes, 1970; Drabek, 1986; Drabek, 1996). However, there is still a need to conduct research on identifying the social and organizational drivers that are necessary to enhance interagency and multi-level, national, regional, state, and local cooperation and interaction. More importantly, there is a need for those involved in emergency management education and training to build a greater understanding of how volunteer emergency response personnel and non-voluntary disaster site personnel navigate the conflict and bureaucracy and find ways to cooperate with each other in the emergent post-impact disaster period.

It is important to note that, before September 11th, the Flight 93 plane crash, like many other plane crashes, would have been classified as an “emergency” from an organizational and community level (Wenger, 1978).

Indeed, the Shanksville area and surrounding agencies were in a better position to respond to a plane crash as a result of enhanced preparedness and response training after the 1994 crash of USAir Flight 427 in Hopewell Township just northwest of Pittsburgh (Lohr, 2001; Myers, 2001; and Hauger, 2001). However, given that the cause of the crash was criminal terrorist activity, the classification of the Flight 93 event quickly progressed from an “emergency” to a “crisis” as a result of the overwhelming convergence of

recovery and investigative personnel. This and the public perception of a national crisis served to classify this disaster as a “social crisis.”

A social crisis is identified when the nature of the event affects the social fabric of the entire nation. In the case of September 11th, the operation of the entire American society was affected, the regular ritual of routine activities of society stopped—schools were evacuated, workplaces were closed and evacuated across the country, the financial stock exchanges ceased trading for days, and national sports events were cancelled. Over the next two weeks, the overall mood of society turned away from the daily routine, people were glued to their television sets and television executives took the extraordinary step of suspending advertisements in deference to the national mood of mourning (Alexander, 1985).

Convergence

The concept of convergence has been discussed in both collective behavior and disaster texts since the 1950s (Fritz and Mathewson, 1957). Convergence refers to a mass movement of personnel and informational and material resources into a disaster site in the hours and days after the event. The characteristics, motives, and behaviors of volunteers in the emergent, post-impact period has long engaged the interest of disaster scholars (Fritz and Mathewson, 1957; Zurcher, 1968; Barton, 1969; Mileti et al., 1975; Dynes and Quarantelli, 1980; Adams, 1983; Wenger et al., 1980; Drabek et al., 1981, 1996; Holland, 1989; Stallings, 1989; Mileti and O’Brien, 1991; Perry et al., 1983; Hull and Wenger, 1992; Wenger and James, 1994). As a result of these many investigations, a number of typologies, schemas, and classification trees outlining the many different types of volunteers who have been observed converging on post-impact disaster sites have been well documented.

Quarantelli and Dynes (1976) have identified disaster settings as excellent examples of “consensus crisis reactions.” As outlined in their findings, the characteristics that distinguish a **consensus** event include an agreement among participants regarding the goals and objectives for the work that needs to be done and pertinent action steps. Observable characteristics include a decrease or leveling of social distinctions; an emphasis on the needs of the present timeline; the emergence of altruistic norms in both individuals and the community; the recognition of the presence of an external threat to the system; the expansion of the citizenship role and increased identification with the community; and the presence of immediate and non-immediate ambiguous problems leading to a cooperative action to solve issues created by the crisis (Dynes and Tierney, 1994, p. 32).

The next section examines the degree to which these characteristics of volunteer behavior in a consensus crisis, as outlined by Quarantelli and Dynes, are observable using preliminary data from the Shanksville study.

Who is a Volunteer?

Several types of volunteers converged on the disaster site. Many, if not most, of the volunteers present at Shanksville were activated using emergency response procedures. These volunteers did not arrive haphazardly or unannounced.

Up to 74 different agencies were involved in some way in the recovery efforts (O'Brien, 2001a, 2001b). Up to 1,118 people were working on the site during the first 13 days of the recovery/crime scene investigation. This number included federal, state, and local paid employees. This number also included paid volunteers, activated private citizens who become paid volunteers, unpaid volunteers, and volunteers involved in support functions who converged on the scene. Other volunteers may converge on a scene through their proximity to the event; these people may live next door to the site, may have been driving by at time of impact, or may possess local information that is required in the first few post-impact hours of response. For example, Shanksville community members traveled to the crash perimeter from the time of impact through the night to dawn, bringing food to the state troopers guarding the site. Community volunteers began the process of establishing a number of memorial tribute areas—gestures noted by grateful bereaved family members (Rock, 2001).

The activities that occurred during the response to Shanksville supported the various characteristics associated with convergence.

Broad Agreement on Goals and Objectives

As mentioned, personnel, material, and informational convergence were expected at the scene at Shanksville on September 11th. However, once the lack of survivors was confirmed, the goal for site management changed from one of rescue to recovery as it quickly became obvious that the Shanksville site had the potential to yield the most evidence regarding the perpetrators of the day's activities. The entire area was quickly designated a crime scene with federal and state oversight. Volunteers were activated in this instance on the basis of specialized technical skills, e.g., D-MORT and support workers such as the Red Cross, Salvation Army, and mental health professionals. Counselors were also activated to provide therapy for the emergency workers. By Friday, September 14, 2001, more than 400 volunteer personnel had gathered at the crash scene to assist with the recovery process. It was estimated that up to 150 D-MORT volunteers were activated and assigned tasks at different locations around the Shanksville area to assist with locating and identifying human remains within 48 hours of the impact.

It has been noted on more than one occasion that responses to disasters actually serve to create social order or organization as opposed to managing disorganization (Dynes, 1970.) Many of the emergency responders on

September 11th had also responded to the 1994 Hopewell Township jetliner crash. Time and effort had been dedicated in the intervening years to preparing a comprehensive intercommunity response team to respond to similar occurrences. Looking at the Shanksville event, there appeared to be a broad understanding of the tasks necessary to achieve the goals and objectives of the criminal investigation and the recovery effort within the local community. However, there were unavoidable conflicts in the coordination of tasks between jurisdictional and volunteer agencies, particularly when new working relationships had to be established between disparate groups with emergent roles, tasks, and objectives.

Despite some private observations to the contrary, the FBI credited the cooperation among a variety of state, federal, and local agencies as well as assistance from disaster relief volunteers and local businesses in accelerating the work at the site. As William Crowley, FBI special agent, commented, "Virtually anything we requested, we got in triplicate." The Somerset Coroner, Wallace Miller, also commented that "the joint effort brought a decent end to a horrible circumstance" (Gibb, 2001a).

Decrease in Social Distinctions

The perceived social impact of the event combined with an increased propensity towards altruistic activities was likely to result in a leveling of social distinctions during the emergency period and thereby to facilitate participation by broader segments of the community. Community volunteers in collaboration with the united disaster support group and the Red Cross worked quickly with every level of the community to produce a community memorial service in Somerset on September 14, 2001. The researchers who observed this ceremony noted that the entire community was united in an expression of grief for the family survivors and that there was also a need to express gratitude for saving their community from further loss of life. Community volunteers, irrespective of occupation or status, donated their time and resources to respond to multiple requests during this period. As School Superintendent Gary Singel said, "We thought we lived in a place that was almost untouchable" (Gibb, 2001b).

Emphasis on Present Orientation

The investigative and recovery tasks at the Shanksville site continued on a 24-hour basis. In fact, in the initial weeks, the focus on the work at hand was so intense that responders forgot what day it was. Several were surprised when the Salvation Army held a worship service and they realized it was Sunday morning. Each response agency worked hard to establish a realistic work schedule for its personnel, ensuring breaks and rest times that would keep them alert while on the job.

The Presence of Altruistic Norms

From the time that volunteers and paid personnel arrived at the disaster site, a message was quickly communicated that the site was to be secured and preserved mindful of the 44 lives that had been lost in the area. Response to the initial crash was a disappointment for many of the volunteer emergency response personnel. Keith Custer, a member of the Shanksville Volunteer Fire Company, said, “I thought we’d get there and there would be a big plane on fire and victims . . . but you get there and there are just little pieces. Now, I don’t want to see anything like that again, seeing that massive loss of life” (Gibb, 2001b).

With the assistance of experienced volunteers, the community resources worked to make sure that family members of the victims who traveled to the site were protected from public and media scrutiny in a local resort area. The community continually expressed a commitment to maintaining the privacy of the family members, and the sanctity of the crash site.

Everyone from school children to public officials identified the passengers as personal heroes and tried to contribute visible honors such as signs and ribbons as well as cards and notes of thanks to responders and families of victims. The donations of food and contributions toward the funding of a permanent memorial were examples of attempts of community members to give of themselves.

After the departure of the FBI and the return of control of the scene to the authority of the Somerset County Coroner, more than 300 volunteers responded to his request to conduct a final sweep of the crash site to secure remaining airplane fragments and human remains. These volunteers were primarily from the Southwestern Emergency Response Group 13, supported by 50 members of the State Funeral Directors Association (Miller, 2001).

Expansion of Citizen Role

Shanksville residents expressed their patriotism and collective grief in the days after the disaster. Judi Baeckel led a drive to erect a memorial to the victims in her front yard on Bridge Street because the residents wanted to make sure that Flight 93 was not forgotten in all the media focus on New York and Washington, D.C. (Schaeffer, 2002). Memorials, displays of American flags, and yellow roses were erected in and around the crash site and Somerset county. Community members traveled the crash perimeter from nightfall to dawn bringing food to the state troopers guarding the site. Community members began the process of establishing a number of memorial tribute areas—gestures noted by grateful bereaved family members. The Somerset community prepared an early public memorial service, held on the courthouse steps, for the families of the victims who arrived in the area hours after the crash.

Increased Identification with Community

This characteristic was best displayed by evidence of cooperative community action to solve problems created by the crisis and alteration of community priorities and values. This change in community perspective was expected to produce a heightened emphasis on mutual support and participation with a potential reduction in the normal workloads to permit people to participate in nontraditional emergent volunteer behavior (Marx and McAdam, 1994).

The residents of the small town of Shanksville (estimated population of 245) reported that, two weeks after the event, they felt more close-knit as a community with a greater sense of pride than before (O'Brien, 2001b). The Shanksville Fire Chief expressed his gratitude to the community and indicated that his group had received nothing but praise from the FBI and the Pennsylvania State Police on how the volunteers had handled themselves, not only as a fire company, but as a community.

From its perspective, the FBI might have felt a closer connection to the community at the end of its investigation, although the creation of a community bond would not have been in line with its larger criminal investigative mandate. According to the *Daily American*, the FBI estimated that up to 1,500 personnel, including its own staff and volunteers, had been deployed to the site by the time the job was completed 15 days later (O'Brien, 2001a). Originally a five-week timeline had been set, but the work was done in 13 days. The FBI credited the cooperation among state, federal, and local agencies, as well as assistance from disaster relief volunteers and local businesses, for the accelerated work at the site.

The Somerset County Coroner expressed his appreciation for the participation and contributions of D-MORT, and other groups such as emotional support specialists, security, x-ray technicians, photographers, fingerprinting, DNA expertise from the FBI, as well as assistance from local firefighters and emergency personnel.

To summarize, the Shanksville event fulfilled the criteria necessary to confirm the convergence crisis process as outlined by Quarantelli and Dynes.

Recommendations for Further Research

Further research should be conducted in the immediate post-disaster period in small communities with multi-jurisdictional response and recovery operations. This exploratory research has demonstrated a definite pattern of interaction and comfort level of working together among responders who have prepared for major disasters together and who have responded to more contained emergencies in cooperative efforts in the past. This familiarity of professional capability as well as understanding of what to expect leads to trust that responsibilities will be carried out. The nature of the inter-organizational

interaction and decision making appeared to have a pattern that develops during the course of the response and recovery process. Some of the pattern appeared to emerge as the response and recovery progressed, regardless of the length of time involved. Others appeared to be time dependent, emerging only after three or four days of recovery operations.

The initial patterns of interaction and decision making, both formal and informal, indicated the influence of previous preparedness activities such as planning, training, and exercising, and demonstrated different patterns between and among those who participated together in preparedness (and emergency response) activities and those who did not. These interactions need to be better documented and analyzed. More in-depth, on-scene research and analysis along with a larger scale systematic long-term interview plan, would facilitate clear documentation of the inter-organizational, multi-jurisdictional interactions and the associated influences of preparedness activities.

Learning and applying learning in emergency response improves response operations. The responders learned the importance of interagency communication through events such as the Port-a-Johns scenario. Agencies learned to listen to other agencies in their areas of expertise, such as the Salvation Army's explaining why hot meals were important. Future research addressing the mechanism, process, and speed of learning on disaster scenes would offer insight on how to speed up the learning process in order to improve response operations.

Policy Recommendations

The most obvious policy recommendation growing out of this research is to maintain if not increase the support for preparedness activities, especially those involving multi-jurisdictional and multi-agency participation and interaction. Another recommended policy shift would be to train agency and department supervisors and federal agency leaders and managers, who may be in charge of operations at a scene, in the practice of the IEMS and in the role of local emergency managers. Although the theory of the IEMS might have been understood, the familiarity with the operation of the system at the local level and roles and expertise of the various agencies did not appear to be clear to many participants. Exercises involving some of these individuals along with local emergency managers and small-town responders could prove beneficial.

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