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# Postal Workers' Perspectives on Communication During the Anthrax Attack

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**In 2001, the nation experienced its first bioterrorism attack, in the form of anthrax sent through the U.S. Postal Service, and public health professionals were challenged to communicate with a critical audience, U.S. postal workers. Postal workers, the first cohort to receive public health messages during a bioterrorist crisis, offer a crucial viewpoint that can be used in the development of best practices in crisis and emergency risk communication. This article reports results of qualitative interviews and focus groups with 65 postal workers employed at three facilities: Trenton, New Jersey; New York City; and Washington, DC. The social context and changing messages were among the factors that damaged trust between postal workers and public health professionals. Lessons learned from this attack contribute to the growing body of knowledge available to guide communications experts and public health professionals charged with crisis and emergency risk communication with the public.**

In 2001, the nation experienced a bioterrorist attack, in the form of anthrax sent through the U.S. Postal Service (USPS). By November 2001, 22 anthrax cases, including 11 cases of inhalational anthrax, were confirmed, with most cases linked to letters mailed in Trenton, New Jersey.[1] Nine cases were postal employees, including six diagnosed with inhalational anthrax.[1] The Hart Senate Office Building, where anthrax was released from a letter to Senator Tom Daschle, closed October 17, 2001, and the following day the Trenton Postal Processing and Distribution Center, where two postal workers were diagnosed with inhalational anthrax, closed.[2,3] Between October 19 and October 21, four workers at the Brentwood Postal Processing and Distribution Center in the District of Columbia were hospitalized with inhalational anthrax; two of these workers—both African Americans—died. The building was closed on October 21.[4] Anthrax was found in the Morgan Central Postal Facility in New York City, but that facility remained open. Ultimately, 8,424 postal workers received a 60-day course of antibiotics.[5]

Recognizing the new communication challenges, the Centers for Disease Control and Prevention (CDC) developed a model for crisis and emergency risk communication (CERC), defined as:

> an effort by experts to provide information to allow an individual, stakeholder, or an entire community to make the best possible decisions about their well-being within nearly impossible time constraints and help people ultimately to accept the imperfect nature of choices during the crisis.[6(p6)]

Crisis and emergency risk communication reflects the challenges of such communication in key ways: (1) decisions must occur in a compressed time frame; (2) the decision may be irreversible; (3) the outcome may be uncertain; and (4) the information necessary for that decision may be incomplete or uncertain.[6(p6)]

Although there is an extensive body of literature on risk communication, including examinations of the relationship among trust, credibility, and risk perception, lit-

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tle of it focuses on an actual bioterrorism event. However, the growing literature on crisis and emergency risk communication concludes that trust is critical to its success.[6–11] Shore defines trust as "an unwritten agreement between two or more parties for each party to perform a set of agreed-upon activities, without fear of change from either party."[8(p13)]

The literature suggests that trust is comprised of caring and empathy, competence and expertise, dedication and commitment, and honesty and openness. Some authors also include fiduciary responsibility, absence of bias, predictability, and fairness.[7,12–14] Trust can diminish when there is disagreement among experts, lack of coordination among organizations, unwillingness to acknowledge risks, unwillingness to disclose information, perceived irresponsibility in managing risk, or insensitivity on the part of authorities to the public's need for dialogue and participation.[7]

Social trust in institutions may be especially important during unfamiliar events; in fact, Frewer asserts that "trust is likely to be particularly important under circumstances where people feel they have very little personal control over their personal exposure to potential hazards."[15(p393)] Credibility also may be particularly relevant to successful communication during a bioterrorist event. Trumbo and McComas found that the higher the credibility of the health department, the lower the perceived risk by the public.[16]

Several other studies have examined the anthrax attack, and two qualitative studies with postal workers from the Brentwood facility and congressional staff from Capitol Hill identified trust as a critical issue.[17,18] These studies found that postal workers reported getting much of their information from the media and from co-workers, and they saw the information they received as unclear and not timely. The researchers also found that inaccurate information and lack of consistent messages contributed to erosion of trust in public health agencies. Furthermore, perceived differences in treatment because of race and class damaged trust significantly, with African American postal workers more likely to believe they were being experimented on in ways similar to the Tuskegee syphilis study. While there was some recognition that public health agencies did not have much information on anthrax, participants also perceived a lack of expertise that hampered communication.[17,18]

The GAO study of the Wallingford (Connecticut) facility also revealed that lack of timely and understandable communication affected trust; in fact, a report from the Occupational Safety and Health Administration to the GAO stated, "Failure to effectively communicate issues, which can have an effect on a worker's health and safety, can lead to fear and mistrust."[19(p6)] In contrast, Mullin[20] argues that Mayor Giuliani's success with communication during the anthrax attack was based on his ability to demonstrate empathy and credibility with his team of expert department heads.

Two studies suggest that the early failure to identify postal workers as an at-risk audience created communication challenges during the attack.[17,21] A case study about communication in New Jersey describes the need for public health agencies to identify audiences who may not be obviously at risk. The study suggested that failure to triage audiences, thereby identifying audiences who perceived themselves to be at risk because of occupation or other characteristics, contributed to a lack of communication with postal workers at the Monmouth facility.[21] This study also found that the inability or unwillingness of agencies to address confusion and contradictions about nasal swabbing damaged communication efforts.

Clearly, there is much to learn about crisis and emergency risk communication. To date, the present study is the first with postal workers from the three major sites affected by the attack. This study examines the reactions of postal workers to the anthrax attack and provides lessons in crisis and emergency risk communication for future bioterrorist events.

## METHODS

This study used a qualitative case study design to explore the impact of the 2001 anthrax attack at the three postal facilities most seriously affected by this event: the Brentwood Postal Processing and Distribution Center, the Trenton Postal Processing and Distribution Center, and the Morgan Facility in New York. Given the case study format and our use of qualitative methods, our findings cannot be generalized in any statistical sense to the whole population of postal workers either during the 2001 attack or prospectively in terms of future bioterrorism events.

However, our purpose was quite different. We sought an in-depth examination of experiences of postal workers in order to develop our understanding of worker reactions to threats of bioterrorism and to the intervention of public health authorities. Our goal was to gain insight into the general problem of crisis and emergency risk communication, rather than to extrapolate study findings to the diverse population of postal workers.[22]

Our research project required that trust be developed between the research team and participants. Initial trust was established primarily through discussions with union leaders and worker organizations at each facility, allowing researchers to explain the purpose and plan of the study and giving postal workers an opportunity to raise concerns and questions. Following this process of relationship building, nine key informant interviews were

completed in the first 6 months of the study. Some key informants were identified from newspaper coverage, while others were recruited through "snowball" sampling with initial interviewees, who identified other postal workers who had played a significant leadership role during the crisis (see Table 1 for description of key participants).

Interviews with key informants employed an interview guide developed from risk communication literature and media coverage of the attack. Following best practices in qualitative research, new issues that were raised by early informants were incorporated into subsequent interviews. Discussion topics included the role of the key informant during the crisis, postal workers' experiences during the crisis, risk perceptions, how and where information was obtained, the perceived trustworthiness of sources, preferences for public health response, appropriate spokespeople, and the anthrax vaccine. The majority of the interviews were completed in person.

Interviews with key informants were followed by focus groups and individual interviews with rank-and-file workers. These combined methods allowed workers to select the interview format most comfortable for them, and researchers were able to explore key questions through workers' recounting personal experiences in individual interviews as well as through interactive discussions in focus groups. Discussion guides for both methods delved deeper into the major themes that emerged in key informant interviews.

One focus group was conducted in Washington, two in New York, and three in New Jersey. Focus groups were conducted by an experienced facilitator in settings identified by workers as being safe and neutral: a union office, a church, and a public library. The project coordinator conducted telephone interviews with 20 postal workers. Recruitment strategies included flyers posted in postal facilities and distributed by union representatives, advertisements in union newsletters and on union email listservs, word-of-mouth from co-workers, and personal invitations by union leaders. Although participants were self-selected from the total workforce at the facilities, most of the 65 participants (including key informants) are African American, they represent numerous nonmanagement craft positions, and they had considerable tenure within the USPS system (see Table 1).

All individual and focus group interviews were taped and transcribed. Two researchers reviewed the transcripts and developed basic categories or codes that described the key topics of discussion and issues of concern. In order to identify themes, each of these coded categories was then further examined, compared across types of interview (key informant, individual worker, focus group),

TABLE 1. KEY INFORMANT, INDIVIDUAL INTERVIEW, AND FOCUS GROUP PARTICIPANTS

| *Participants* | *Key informants* | *Individual interviews and focus groups* |
|---|---|---|
| *Craft* | | |
| Clerk | 3 | 33 |
| Maintenance | 2 | 3 |
| Mail Handler | 2 | 19 |
| Technician | 1 | 0 |
| Motor Vehicles | 1 | 1 |
| *Tenure with USPS* | | |
| Range | 15–35 years | 6–38 years |
| Mean | 23 years | 21 years |
| *Age* | | |
| Range | 40–63 years | 32–69 years |
| Mean | 53 years | 49 years |
| *Race* | | |
| African American | 7 | 38 |
| White | 2 | 13 |
| Hispanic | | 2 |
| African American–Hispanic | | 3 |
| *Gender* | | |
| Female | 0 | 28 |
| Male | 9 | 28 |

and discussed with a third researcher. Ideally, qualitative data analysis is continuous, occurs during the same time frame as data collection, and is iterative in nature. In this study, insights emerging from early stages of analysis were important for the refinement of questions and topics for subsequent interviews or focus groups and pointed the way toward overarching constructs that were further developed and refined through the analysis of the complete set of interviews.

Three themes are explored related to the problem of effective crisis and emergency risk communication:

- the necessity of adapting crisis and emergency risk communication strategies to the social and political context in which risk communication occurs;
- the problems of uncertainty, changing information, and mixed messages in rapidly changing situations such as a bioterrorist attack; and
- the essential qualities that characterize effective crisis and emergency risk communication—in particular, trust, credibility, caring, empathy, openness, and honesty—and possible means of demonstrating such qualities in a crisis.

## RESULTS

While investigations and interventions differed across sites, participants universally discussed the lack of adequate communication through all phases of the crisis. They reported that the early responses of public health professionals reflected the fact that they did not fully appreciate the social and political context in which this crisis occurred. Additional constraints placed by the National Response Plan and agency restrictions influenced public health professionals' response, which was interpreted negatively by workers, thus beginning a downward spiral that led many to a total distrust of the public health system. These early challenges will be discussed, leading to the larger discussion on the erosion of trust.

### *Understanding Communication in the Social and Political Context*

While many participants followed the investigation of the attack from its inception, a larger number became interested only after discovering that letters were the conduit for anthrax. This realization led to concern about their own risk. Participants reported that early communications from USPS assured them that there was little or no risk. They recalled being told that it was "highly unlikely" that they were at risk and that they had "more chance of being hit by a car."

However, the postal workers knew that letters processed through high-speed machines are prone to damage, so they began to question experts' assumptions and seek their own information. They reported that the preventive measures that had been suggested, such as hand washing and wearing gloves and protective masks, seemed inadequate. Participants noted the procedure for cleaning the mail processing machines, which entailed blowing the contents of the machine directly into the facility. Knowing that machines that processed contaminated letters had been cleaned by this method, workers suspected anthrax contamination throughout their worksite. One worker described it this way: "Wash your hands. This doesn't make any sense to me. We are at great risk here. We used to blow the machines out."

While many participants said they initially trusted the information received from health officials "who assured us not to worry, that things were fine," as events unfolded and reassuring statements proved inaccurate, confidence in professional advice waned. Participants reported that as they became increasingly aware of their risk, they also wanted assurance of their safety; with information from official sources in short supply, they pursued other sources.

Participants viewed the media as a reputable source of information. They continued to use multiple media, including newspapers, television, and the Internet, throughout the crisis. While at work, some participants reported learning more about their facility either directly from the media or through personal networks reporting on media coverage: "I had people calling me from all over the place giving me more information than we got at work." However, participants sought information from multiple sources to confirm facts and determine the credibility of the information. One worker described the process this way: "Listen to stuff and turn from channel to channel to see if they are all saying the same thing . . . that is a good thing. You have to draw your own conclusions."

Once the USPS acknowledged that the facilities had processed letters containing anthrax, the advice on risk reduction was more forthcoming but still seemed insufficient to participants. Word of mouth from peers and personal networks, used from the start to share messages, remained a trusted means of sharing information. Participants across sites described a process whereby "you called somebody, they called somebody, they called somebody."

Workers consulted their personal physicians to assist them in making health and safety decisions. To varying degrees, union locals took the initiative to provide information to their constituents. Although many participants used the Internet for information throughout the crisis, information on the Internet sometimes contradicted information received from official sources. For some, this stirred mistrust: "When I looked on the Internet, that's when I found out they lied to us all the way about an-

thrax." Participants without Internet access often received web-based information from co-workers or family members.

Communication during the attack was shaped by the context in which it occurred. A long-standing contentious relationship between USPS management and labor unions influenced the reaction of postal workers and created barriers for public health professionals who were attempting to build trusting relationships. Participants viewed health officials as partners with USPS management: "I'm still angered over the fact that they are in cahoots with the postal service. So did we trust them? No." For some participants, this association alone was a cause for distrust. For others, they understood that public health agencies, including CDC, had to work with the USPS, a quasi-government agency. However, they wanted to see some demonstration of CDC's commitment to protect the health of workers. Others suggested that the CDC needed to be independent of postal management: "I'd like to hear from them without any postal [management] people there." Another said, "Give the true impression that CDC is completely independent of the postal service in dealing with employees." Some felt the USPS dictated what the CDC was able to tell employees: "Even if management doesn't want them to tell us, they need to tell us."

Many participants reported no previous knowledge of the CDC, and, consequently, they had no understanding of CDC's role and authority in the crisis response. Although CDC's role was constrained by the multiagency involvement, many participants regarded CDC as being the highest authority. The comments in Figure 1 reflect participants' expectations. According to participants, their assumptions and unfulfilled expectations contributed to anger and declining trust in the CDC. The CDC received the majority, but not all, of the criticism. Local and state health departments also were criticized for their perceived lack of authentic concern and response.

### *Mixed Messages*

In the rapidly unfolding event, participants felt that it was difficult to make decisions about their health because "things were bouncing around so quickly." As the scientific investigations yielded new information, public health authorities communicated new messages in an attempt to keep workers and the public informed. Unfortunately, many participants interpreted changing messages as a lack of honesty and an attempt to hide information. As one worker summarized, "Maybe they were hiding something. They weren't really being as honest. They would give us a little, not the whole thing." This suspicion extended to those instances in which public health professionals and the USPS management provided different information: "Somebody had something to hide . . . we felt we weren't getting the truth." According to participants, these mixed messages were troubling, especially in the context of the frightening event. One participant stated:

> Today, they say it can't kill you. Then tomorrow, they say . . . you get enough in your system, then it can kill you but either way you are scared on the first day. You are still going to be scared on the second day. You just hope you don't die.

Many participants reported that contradictions between verbal reassurances and actual behavior made them angry. When teams dressed in protective clothing conducted environmental testing, participants responded, "When they brought in the CDC people or these guys in their little space suits, they were still continuously telling their employees, if you see the people in there with the spacesuits on, don't become alarmed. They are just testing." In response, one participant said, "My first thought was, if the building is so safe, why do those men need to dress that way when they let us work all day?" Another worker responded,

- "I think they should have stepped in, in the beginning, and forced the US Postal Service."
- "I think they should have had the authority to shut Brentwood down. I think CDC can quarantine areas, don't they?"
- "CDC should have had the same authority to go out there and seize the building."
- "They have the knowledge of knowing what anthrax was; the postal officials didn't. They could have said we want this building shut down."
- ". . . if the postal service kept telling us, we're getting our information from the CDC, then I think they should have stepped forward and been the front people on this. Been at the news conferences, been at our meetings, visited the post office, tried to talk to our doctors."
- "CDC has the authority and the power to regulate any agency where they are in violation of safety and health, and they have the power to bring in other agencies to make sure that the proper testing is done. They didn't do that."

FIGURE 1. POSTAL WORKERS' EXPECTATION OF PUBLIC HEALTH AUTHORITIES.

> I felt angry and betrayed because there was a point where we would be at work and you would see people or teams come in hazmat uniforms, and we worked and suspected the danger. What they should have done was evacuate the building and conduct the research. . . . You come in there in a hazmat uniform walking right by me and I am working. There is a problem there. I am doomed.

Participants clearly identified a crucial need for timely and accurate information. As one union leader reflected, "Employees need to know as much information as possible so that they can make informed decisions about their health." However, the timeliness of information on risk was problematic. One worker commented, "The information was going to save your life. When that information was needed, everybody was absent. These [anthrax] meetings didn't get in place until the disaster was like leveled out. I mean these meetings should have happened from day one. . . . "

Across the sites, participants agreed they were not kept well informed as events unfolded, resulting in confusion and much concern about personal safety. One worker commented, "I understand that sometimes they don't want to create hysteria, but you have to let the public know immediately what to look out for, symptoms. . . . " They wanted public health officials to intervene with sound information to allow workers to make decisions about their risk. As one participant stated, having information allowed him some autonomy: "I don't want you to put my situation in your hands. Tell me what I am dealing with. Let me make that decision and not you."

### *Credibility, Openness, Honesty, Empathy, Caring, and Trust*

#### *Credibility*

Trettin and Mushan define *credibility* as being believable, trustworthy, and reliable.[13(p411)] While participants wanted public health professionals to demonstrate knowledge about anthrax, they reported being frustrated because little information was available about manmade anthrax. Some participants described public health officials as "not very knowledgeable" and said, "They couldn't give any concrete answers on anything." A common refrain was: "I am asking you because you are the expert and you have no answers to give me." Participants expected public health professionals to be prepared: "But public health should know something about something before it happens." "Why didn't CDC have more information, because they have been studying this for over 20 years?"

The distinction between naturally occurring and new "weapon"-grade anthrax was not clear to all participants. However, others understood that much of what professionals knew was about naturally occurring anthrax, not a weaponized version, and, therefore, they were able to accept that public health professionals were learning as the crisis evolved:

> I've got to tell you in their defense, I'm not sure they could have done anything differently because of their own lack of knowledge. I would wager to say that they probably did the best they could do with what they had to work with.

In the midst of the crisis, public health agencies had to quickly field many staff. Participants perceived some of the public health professionals as being uninformed about anthrax. When public health responders were unaware of the published information postal workers had found during a search for information, participants described them as less than credible. For example, one participant offered: "I didn't feel like they were fully trained either, because I was discussing some stuff I had read in articles about anthrax, [and] they didn't even know anything about it." For many participants, the inability of public health professionals to answer questions fueled suspicion. Some participants assumed that federal agencies worked together and shared information, and many participants specifically stated their assumption that CDC had all the military's information on anthrax.

As evolving events led to new scientific findings, public health professionals issued new recommendations. How professionals managed the uncertainty affected participants' perception of credibility and competence. One participant lamented, "They would run out of the meeting and get on their cell phone and come back with different information." A less common recollection was: "It was new to them so as they got updated, they updated us, so that part I felt was trustworthy."

Critically important to participants was the way public health professionals handled the uncertainty. One worker said, "Even if you don't know information, you should let people know that you'll get back to them when you have info and follow through." However, many participants lamented the lack of follow-through: "When they came to these meetings with us, they could never really answer the questions. They would always say well, we'll get back to you on that, and they would never get back to us."

#### *Openness and Honesty*

Participants repeatedly stressed the need for honesty and openness. This was a common refrain: " . . . the first thing you have to do is be honest. . . . [W]hen a crisis comes, they think about being honest and tell the worker who might be affected that it can cause them bodily harm, can cost our lives. They rather cover up than be honest."

A common myth about communication is that full disclosure of information in a crisis will lead to public panic.

Participants rejected this assumption, suggesting that people react rationally when given proper information: "It's a lot easier to stop panic, stop me from panicking, when I'm informed than it is to stop me from panicking when I'm not informed because then I would be going on rumors. . . . " In fact, participants advocated that having more information increased their ability to make decisions for themselves: "They are underestimating citizens. If you be honest with people, people have a tendency to take risk as long as they know what they are dealing with and what can happen to them if they deal with it."

*Caring and Empathy*

Many participants did not perceive public health professionals as caring, concerned, or empathetic. One worker said, "I felt that there was nothing or nobody that was concerned about me." Others lamented that public health professionals were taking information from them and collecting "data" without inquiring about their concerns and well-being: "So, if there was more communication with us from them, from all the different agencies, we would have felt better. We would have felt more like we were being looked after—that someone gave a damn." Many described their need for empathy and reported that this lack of concern contributed to diminished trust in professionals.

Many felt that the lack of a caring response was related to the USPS's valuing economic interests over human life. One worker elaborated: "It seemed like they [USPS] were worried more about moving the mail, making money, than finding out if the building was safe for the workers." Consequently, that may have increased participants' need for public health professionals to demonstrate commitment to them: "We wanted to know that your dedication is to the public."

*Trust*

Numerous factors affected the extent to which participants trusted public health professionals. Some postal workers linked a lack of caring and subsequent lack of trust to race and class. Numerous postal workers at the Brentwood facility identified race as a factor in the differences in treatment of postal workers and Congressional staff: "We felt . . . that the people at the Capitol were important but the black people over there at Brentwood, which is 99.9% black, didn't matter." Workers in New York echoed the sentiment. However, many workers across all three sites felt a sense of second-class citizenship regardless of race: " . . . we felt like second hand . . . you know, compared to the people at the Capitol."

As new discoveries led to changing statements and recommendations, participants described declining trust in public health professionals. Early reassurances also contributed to later distrust as the information was proven to be incorrect. One worker characterized this sentiment:

> The information they gave us did not back the information that was given to us after they closed the building. Because they are saying it's safe and now they've closed the building. If you closed it on Friday, was it safe on Wednesday and Thursday, or did you just not react in time? Trust is going down in that way.

In contrast, some participants, particularly in New York, acknowledged that they did trust public health professionals, but they also confirmed the information about anthrax with other sources, whether from the Internet or the media. Others felt they had to trust what public health professionals were telling them, "because I had nothing else to go on and I would rather be safe than sorry." The need to build new relationships during the crisis was an impediment to trust. One person reflected, "Trust is built on past experiences, so it is hard to trust someone when you don't know them."

Some participants suggested that lack of communication contributed to rumors and conspiracy theories. Some thought that the attack was a test of the government's capacity to respond to a new terrorist threat. Others believed that the attack was an attempt by the USPS to downsize the postal workforce and facilities. One worker described it this way: "I mean they [USPS] want to close our place down. They want to farm some of the mail out."

For many, trust in public health authorities is eroded to the point of disrepair. This was a common sentiment: "If we had somebody just admit that there were mistakes made, then we may be able to open up to trust. But until somebody takes accountability, we trust nobody."

## DISCUSSION

The challenges of risk communication during the anthrax attack included a rapidly evolving, complex situation that occurred across multiple sites. This study expands on previous studies[17,18,21] to provide an in-depth understanding and rich insights from participants in three postal facilities who experienced the crisis and offers guidance for crisis and emergency risk communication.

Multiple factors diminished the credibility of public health professionals and diminished trust. The partnership between public health agencies and USPS management negatively influenced the ability of public health professionals to be seen as trustworthy sources. Early attempts to reassure, offer risk comparisons, and minimize risk backfired. The perceptions that public health professionals were not knowledgeable and, even more damning in the eyes of postal workers, not empathetic and caring were devastating to the success of the communication efforts. Additionally, this study confirmed findings from Stein and colleagues,[17] who found that early messages

about use of gloves and masks were, in fact, harmful as the workers understood the inadequacy of such protective measures.

A major lesson is that early communication with affected audiences is critical. It is possible that, had public health professionals conducted a communication triage as suggested by Chess and colleagues, postal workers would have been identified earlier as a potential audience.[21] In the future, public health professionals must be able to do a rapid assessment of the social and political environment in which any audience experiences a threat.

First steps in a rapid assessment would include a series of critical questions asked of the first contacts the professional meets: Who are priority audiences? Do they have any special needs, or language or literacy issues that must be considered? What channels are appropriate?

Public health professionals also must reach out to any audience quickly, starting with informal interviews to ask: Are there any unique environmental factors that may create differential risks? Who are leaders and partners that the audiences trust? What key issues should public health professionals know? How can we best work with you? Reaching out to partners such as unions or other organizations is another critical early step. While the initial communication during a crisis may not wait, all further communications can be improved by the assessment. Such an assessment can contribute to triaging according to differential risk at the worksite.

This study also confirms earlier findings that workers perceived that their race and occupational class explained the difference in their treatment compared to congressional staff.[17,18] Developing trust is critical to the willingness of any audience to work with public health professionals during a crisis. Therefore, it is essential that professionals understand the social and historical context in which many minority postal workers will receive communication. This requires that professionals increase their own confidence in directly addressing distrust and historical issues such as the Tuskegee syphilis study.

The challenges of any terrorist event will include significant uncertainty and changing information. Like the participants in the Blanchard et al. study,[18] participants in this study reported that public health professionals did not consistently explain why information changed or return to workers with new information, which harmed the communication efforts. In the future, participants recommended that public health professionals acknowledge when their information is incomplete, explain what they will do to find the answers, and then, most important, return to them to report the new information. This recommendation is consistent with Chess et al.'s[21] recommendation that public health agencies make the explanation of contradictions and mistakes a communication priority.

Although public health agencies created materials specifically for postal workers, the finding that participants gathered most of their information from the mass media and colleagues was consistent with other studies.[18,21] This suggests they often did not receive messages that addressed their specific concerns or in the time frame in which they needed them. In the future, while public health professionals should specifically ask the media, including smaller local media, to publish key information pertinent to postal workers (or other key audiences), it is critical that public health agencies develop multiple means of communicating about the specific risks postal workers face, including disseminating written materials through unions and routinely conducting meetings with workers on all three shifts to answer their questions during a crisis. Participants also reported that they would access a website and hotline that includes messages for postal workers. They suggested disseminating information about the website and hotline through the media, national and local unions, and USPS management.

There are other lessons from the anthrax attack. For CDC and local and state public health agencies, it is necessary to continually educate the public about the role, responsibilities, and limitations of their agencies in the context of a terrorist attack. Many participants reported that they want to know how agencies have changed their communication practices to be more responsive.

Postal workers emphasized that having professionals demonstrate empathy, concern, and caring throughout the crisis, including acknowledging fear, anger, and other emotions of postal workers, is absolutely necessary. They offered these specific suggestions: be available on the scene early; have a location apart from USPS management's supervision; continue to be visible and present, including visits to the three shifts of the workday; hold small group discussions; listen to people's concerns; and have two-way conversations in which postal workers can ask questions. One postal worker asked for this: "Talk to me and ask me how I am doing and not just in the context of collecting information." Another postal worker described the quality he believes is important in the interaction with professionals: "It is important to speak and think from 'the heart.' " This focus on caring and empathy is a new finding that did not emerge in the other studies.

The closing of several postal facilities around Washington, DC, in March 2005 because of an anthrax scare and the discovery of ricin in postal facilities in late 2003 and early 2004 indicate that postal workers will remain vulnerable to bioterrorist activity. In crisis and emergency risk communication, we know that information will always be incomplete and rapidly changing. However, a primary lesson is that if public health professionals build trusting relationships with postal workers, union locals, and others, if they show concern and empathy by being available directly to workers, and if they earn credibility by being

knowledgeable, the likelihood that postal workers can accept the incomplete and imperfect nature of the evolving information is higher. It is essential for public health professionals to make amends now, to start to repair damaged trust, and to develop mechanisms to reach postal workers with timely, relevant, and credible crisis and emergency risk messages. Sorenson states it simply when he says that " . . . it will take more than just good communication to shape public response to a bioterrorist event. It will also be crucial to have public trust and confidence." [9(p231)]

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