Title: Communication amid Dynamic Uncertainty and Fear during the Anthrax Attacks of 2001

Activities: Establish and maintain communication mechanisms between government officials and partners; Engage in ongoing dialogue with community; Establish public hotline or call center; Identify population's main information needs and best channels to reach; Monitor and manage rumors; Share information and key messages; Document and communicate the results of epidemiological investigation; Ongoing public risk communication; Develop and distribute risk communication messages through multiple channels

Stakeholders: National and subnational health authorities

Phases: Surveillance and preparedness; Detection; Early response; Intervention; Post-intervention and recovery

Years: 2001

Countries: United States

Agent: Bacillus anthracis

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Identification of the population at risk during the anthrax attacks of 2001 proved difficult and confusing to the public and experts alike due to the timing of the event, involvement of multiple stakeholders at different levels, and the relatively unknown and unfamiliar nature of the threat.

Bacillus anthracis is gram-positive, rod-shaped bacteria categorized as a Tier 1 biological agent due to the severe threat it poses to public health and safety. Its possession, use, or transfer is regulated by the Centers for Disease Control and Prevention Office of Public Health Preparedness and Response.[1] B. anthracis causes anthrax, a serious infectious disease that can be cutaneous, gastrointestinal, or injection. All types can spread throughout the body if untreated and cause severe illness and even death.[2]

On September 18, 2001, five letters containing anthrax spores were sent to the news media offices of ABC, CBS, NBC, and the New York Post in New York City, and to the National Enquirer at American Media, Inc. in Boca Raton, Florida. On October 9, two more letters were mailed to Democratic Senators Tom Daschle (SD) and Patrick Leahy (VT). Outbreaks of the disease were ultimately concentrated in 6 epicenters: Florida; New York; New Jersey;

[1] Centers for Disease Control and Prevention. The Threat. Anthrax. August 1, 2014. https://www.cdc.gov/anthrax/bioterrorism/threat.html.
[2] Centers for Disease Control and Prevention. Symptoms. Anthrax. July 23, 2014. https://www.cdc.gov/anthrax/basics/symptoms.html.

Washington, D.C. (Capitol Hill and the regional area including Maryland and Virginia); and Connecticut. At least 22 people developed anthrax infections. Of these infections, 11 contracted inhalational anthrax, known to be particularly dangerous. 5 people died.

Investigators were able to recover four envelopes containing powdered anthrax spores from the Trenton, New Jersey area, and reconstruct their paths through the mail to link them to nineteen of the cases. It remains unknown how three of the victims got infected. The Environmental Protection Agency confirmed that more than 60 sites (of which about one third were U.S. postal facilities) were contaminated with anthrax.

The nation in general was confused and scared, for many thought anthrax was contagious. Moreover, individuals most likely to have been exposed, postal workers and Senate staffers, were frustrated about the quality and timeliness of information provided.[3] Despite this chaotic and complex response to a bioterrorist threat, the problem itself was potentially preventable, for a prophylactic course of antibiotics was a known means of halting infection and preventing disease. As a result, health authorities at the federal, state, and local levels urgently wanted to identify and provide antibiotics to these individuals.

The Centers for Disease Control and Prevention (CDC) within the Department of Health and Human Services primarily coordinated the outbreak response. However, they had never responded to multiple outbreaks caused by intentional release of an infectious agent, and clinicians were unfamiliar with diagnosing and treating it. The CDC changed technical guidance for health providers and public health information for the public as the outbreak evolved, and found their normal mechanisms for communicating with health professionals to be insufficient for the anthrax response. Physicians struggled to reach local or federal public health officials due to overwhelmed phone lines of individuals concerned about their exposure risk. The providers and the public ended up relying heavily on the media for information. Health communication messages regarding population(s) at risk and necessary next steps evolved daily, reflected in the uncertainty conveyed by the lay media.[4]

These barriers to effective communication among the relevant entities resulted in delays in administering the anthrax vaccine, hoarding of antibiotics for many more than those actually at risk (also known as 'the worried well'), heightened fear in the public, and mistrust in and frustration with the federal government by public health professionals and clinical providers at the state and local levels.[5,6]

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[3] Chess C, Clarke L. Facilitation of risk communication during the anthrax attacks of 2001: the organizational backstory. *Am J Public Health*. 2007;97(9):1578‑1583. doi:10.2105/AJPH.2006.099267.

[4] Greene CM, Reefhuis J, Tan C, et al. Epidemiologic Investigations of Bioterrorism-Related Anthrax, New Jersey, 2001. *Emerging Infectious Diseases*. 2002;8(10):1048-1055. doi:10.3201/eid0810.020329.

[5] Bush LM, Perez MT. The anthrax attacks 10 years later. *Annals of Internal Medicine.* 2012;156.1:41-44. https://doi.org/10.7326/0003-4819-155-12-201112200-00373.

[6] Belongia EA, Kieke B, Lynfield R, et al. Demand for Prophylaxis after Bioterrorism-Related Anthrax Cases, 2001. *Emerging Infectious Diseases*. 2005;11(1):42-47. doi:10.3201/eid1101.040272.

During the fall of 2001, letters containing anthrax were sent to five news media offices and two senators. At least 22 individuals were infected, of whom 11 contracted inhalational anthrax. Five people died. At the time, communication regarding and with the population at-risk proved particularly challenging due to the complex nature of the crisis, the multiple stakeholders involved, and the overwhelming fear of terrorism in Americans post 9/11.