RISK COMMUNICATION PLANNING FOR DYNAMIC SITUATONS: THE AFTERMATH OF A PLAGUE BIOATTACK

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Abstract

Developing and testing communications for the multiplicity of contingencies, ecosystems, and audiences that could be affected by bioterrorism is simply not justified. However, not preparing could result in giving inaccurate or incomplete risk-reduction instructions, squandering opportunities to limit health impacts, and undermining the public's confidence in the communicator. We demonstrate a risk communication planning technique for systematically exploring complex and information-rich bioterrorism scenarios, identifying risk management situations requiring risk communication, and identifying the relevant subject matter. Using this tool, the people responsible for "on-the-fly" communications in evolving situations, can check their messages for completeness, explanatory power (causality), as well as accuracy. The method relies on the construction and annotation of an influence diagram of the bioterrorism scenario. Our case study, chosen for its complexity, is the zoonotic aspect of a large-scale aerosol release of plague bacteria in urban environments. The risks to people would vary regionally, reflecting different ecosystems; seasonally, reflecting animal activity patterns, flea abundance, human activity patterns, and bacterial and flea sensitivity to environmental conditions; and also by neighborhood, as different parts cities typically have different kinds and levels of rodent infestation. Furthermore, the risk of contracting flea-borne plague is heterogeneously distributed according to socioeconomic status, occupation, age, and pet ownership. When composing advice for the affected subpopulations, the influence diagram provides a quick visual check that the necessary causal factors are covered, while the annotation provides a summary of both academic and secular knowledge useful for mitigating the specific risks.