Communicating Risk During Public Health Crises

This topic summary provides insights from a literature review on how people develop their perception of risk to public health crisis and point to areas that officials should consider when developing ways to communicate risk. Findings are included from over 50 international studies published between 2016-2021.

The major findings from the literature review are presented below in seven categories: adoption of preventive measures, hazard experience, information, knowledge of hazard/risk, perception of preventive measures, risk perception, and trust in institutions.

Adoption of preventive measures, including: hand washing and sanitizing, social distancing, wearing a mask, avoiding crowds, avoiding public places, avoiding or reducing use of public transportation, physical contact avoidance, cleaning more often, and getting vaccines. Across public health outbreaks the most commonly adopted hygiene-related protective action was hand washing. Other actions were receiving the annual flu vaccine, social distancing, and wearing masks. The most common avoidance related protective actions were avoiding crowded places (COVID-19) and direct physical contact with infected persons (Ebola). Adherence to hygiene-related recommendations was higher than avoidance-related recommendations. Exposure to information about the hazard or risk increased adoption of protective actions. Belief in misinformation about the hazard or risk was associated with non-compliance with protective action recommendations. People were most likely to adopt the protective action when the recommendation came from authorities. Higher levels of risk perception increased adoption of protective actions. Positive attitudes towards the protective action also increased adoption.

Direct hazard experience has a positive correlation with increased levels of risk perception. The experience of hardships during public health outbreaks was
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commonly reported. Experiencing hazard-related hardships is negatively associated with trust in government.

Information, including: information source and channel, information seeking behavior, information sharing behavior, misinformation, and transparency of information. The most commonly utilized information channels during public health outbreaks were Internet, television, and social media. Favored information channels varied by age: younger individuals (ages 18-35) preferred the Internet and social media, individuals ages 36-60 preferred television, and those ages 61 and older preferred word of mouth and radio. The most common initial source of information was news media, either from an online website or television, at the start of a public health event. To seek out additional information, popular sources and channels included websites of major news organizations, official government websites, and television. The type of information people sought out included localized information about the risk (i.e., Zika case rates and impacts for travelers making decisions about future trips) and information about protective actions (i.e., different types of masks during COVID-19). Intention to share risk information positively predicted intentions to take protective action. Positive attitudes about the information also predicted information sharing; however, if individuals felt angry or anxious that also predicted information sharing via interpersonal channels. Belief in some misinformation, but not all, is associated with not complying with public health measures. People are more likely to trust an individual or organization sharing risk information if they perceive the information to be transparent.

Knowledge of hazard/risk, including: level of hazard knowledge, awareness of hazards, and knowledge of misinformation/false information. People with higher levels of hazard knowledge tend to have higher levels of risk perception and disaster preparedness. Hazard knowledge also has a positive effect on protective action behavior. Exposure to hazard information and prior hazard experience are each associated with increased levels of hazard knowledge. Even individuals with
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High overall knowledge of the current public health threat may still incorrectly identify a symptom and/or method of transmission. Disaster hazard awareness has been shown to positively impact risk perception and disaster preparedness. Notably, hazard awareness alone doesn’t facilitate undergoing preparedness or taking protective actions. During the start of a public health outbreak, it is common for the public to report low levels of hazard awareness. Knowledge of and belief in misinformation/false information is associated with low risk perception and feeling angry about the hazard/risk. Individuals who believe one false statement about the hazard/risk are prone to believe other false information. Belief in false statements is also associated with non-compliance with public health measures.

Perception of preventive measures, including: how individuals perceive all public health-related protective actions. Support for preventive measures varied. There was lower support for measures that required changes to cultural and religious practices, such as halting in-person religious meetings. Somewhat contradictory, individuals perceived lockdown to be effective to prevent outbreaks; however, they do not support it. Regardless of the outbreak, hand washing is perceived to be the most effective preventive measure. Perceived effectiveness of masks was higher in countries where the public regularly wears masks to protect against seasonal influenza or air pollution than those that do not. Proportion of individuals who engaged in all recommended preventive measures is higher among those with higher risk perceptions compared to those with lower risk perceptions.

Risk perception, including: emotional response, perceived susceptibility, perceived severity, perceived response efficacy, and perceived self-efficacy. Emotional response of any type was a significant predictor of information seeking about the hazard. Feeling angry significantly predicted information seeking and belief in rumors. The most commonly reported emotion was worry; however, even though respondents were worried about the hazard the majority still reported they felt confident they could protect themselves from the threat. Increased levels of
perceived susceptibility (e.g., perceived likelihood of contracting or dying from the hazard) was positively associated with taking protective actions. Higher levels of perceived severity had a positive association with seeking health risk information and intention to and actual adoption of preventive measures. Response efficacy (a person’s confidence that a protective action they take will be effective against a threat) motivated intention to prepare and adoption of preventive measures. Higher levels of self-efficacy (a person’s confidence in their ability to respond to a threat) indicated people were more likely to take protective actions. During public health outbreaks, individuals generally reported high levels of self-efficacy.

Trust in institutions, including: trust in government, trust in scientists, and trust in health professionals. Diminished trust in institutions can occur when people do not understand public health measures and see them as mandated, which can lead to an unwillingness to follow such measures. Higher trust in government positively influenced individuals’ use of protective measures. Individuals had higher trust in scientists than other entities to understand the outbreak and to have the capacity to find a treatment and/or vaccine. Individuals reported having higher trust in health professionals than the government to manage outbreaks. Trust in health professionals was influenced by individuals’ previous experience with the risk communicator or organization and the perceived credibility of the health professionals. As outbreaks progressed, there was often diminished trust in government authorities. Reasons for this included unreliable data, insufficient protective actions, and poor risk communication.

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