



Review

Differing community responses to similar public health threats: A cross-disciplinary systematic literature review

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HIGHLIGHTS

- We undertake a systemic review of community response to environmental health threats
- Differences were observed between neighbouring communities' reaction to similar threats.
- Humans response to environmental threats is poorly evidenced.
- Man-made threats created more distress than natural disasters.
- Community resilience should be supported through social networks.

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ABSTRACT

Background: The way in which different communities respond to similar threats to their health can vary, from outrage to indifference and public health agencies are often taken by surprise leading to potential loss of public confidence. The objective of this systematic literature review was to seek to better understand the community-level drivers that might explain the variability in response.

Methods: A vigorous systematic cross-disciplinary literature review was undertaken searching thirteen bibliographic databases and a variety of grey sources were screened. The social amplification of risk framework and the risk perception management theoretical models were used to assess evidence and data were synthesised by Narrative review.

Findings: Sixteen studies meeting the agreed inclusion criteria described eleven different threats ranging from: infectious disease outbreaks to environmental disasters to cancer clusters, affecting two or more communities were identified from medical, psychological, social science and environmental science literature. There was wide heterogeneity between the type and quality of the studies. There was a general absence of theoretical underpinning community responses. Most studies did not report sufficient data to allow an appropriate amount of validity. Very low response rates in particular were common. Potential explanatory drivers suggested included, prior experience and visibility of threat, sociodemographic characteristics, volume and type of media coverage, government reaction and availability of social support.

Conclusions: This review confirmed that there are significant differences. Further work is needed to develop theoretical models that apply to the community level and do not assume that a community's response is simply the aggregate of individual level responses.

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1. Introduction

Much of the population morbidity resulting from disasters and public health emergencies such as acts of terrorism (Page et al., 2008) (Perlman et al., 2011), chemical fires (Hoek et al., 2007), flooding (Paranjothy et al., 2011) or oil tanker spills (Gallacher et al., 2007) is attributable to psychological distress which in turn has been shown to cause anxiety, depression and post-traumatic stress disorder (Galea et al., 2005) and somatisation to physical symptoms (Keskinen-Rosenqvist et al., 2011; Lipowski, 1987). Though there is a significant body of research on the psychological response of individuals there appears to be little research that has reported data related to how communities respond to public health emergencies (Norris et al., 2008; Patterson et al., 2010; Perry and Lindell, 1978; Robert et al., 2012) even though, it is a common experience in public health that the way in which different communities respond to a threat is unpredictable, and can vary considerably. For example, in the MMR vaccine safety media scare some communities in the UK had a much greater drop in uptake of vaccine than others (McIntyre and Leask, 2008). During the UK Foot and Mouth epidemic only two of the six communities in places designated for mass burial sites appeared to have had significant health worries (Bush et al., 2005). When communities do react with high levels of fear and outrage it tends to take public health authorities by surprise, and this itself can undermine public trust in authorities (Greenberg and Babcock-Dunning, 2011). A better understanding of the drivers of a community's perception of risk and its response to emergencies and scares is therefore of considerable importance to public health authorities, both in terms of building resilience in the face of increasing economic and environmental uncertainty, and in terms of preparing for and responding appropriately to incidents (Bach et al., 2011; Callaghan and Colton, 2008; McGhee, 2006).

In order to develop appropriate public health strategies to increase community resilience and reduce the psycho-social impact of incidents we sought evidence of community level drivers that would explain why there are differences between communities in the way they respond to threats. Recent research suggests that resilience is a function of adaptation within social systems (Poortinga, 2011) and resilient communities are those with well-developed networks and strong social relations as well as norms of trust and reciprocity (Shirani, 2011). In this paper, we report a cross-disciplinary systematic literature review of research papers that provided data to enable us to compare how

different communities responded to the same or a similar threat. We considered that the topic could have been researched by several disciplines under a variety of headings such as resilience/vulnerability, risk perception, outrage, psychological coping, sustainability, social capital and social cohesion, human ecology and community identity, and that a specific cross disciplinary methodology would be needed to identify and synthesise data from such a wide range of academic disciplines and we have developed a novel search filter to identify appropriate literature.

2. Objectives

To synthesise the available evidence relating to the health-related psychosocial response of two or more communities experiencing the same public health threat. In addition, the study did not examine specific intervention, but focused on the mediators of psychological response acting at the individual, community and institutional levels.

3. Methods

The review team comprised six members, all with varying specialities and experiences in relation to public health and systematic review methodology. After developing a protocol (see supporting information), we undertook a comprehensive multi-disciplinary review. The funders of the review played no part in its design or conduct.

3.1. Study eligibility criteria

Eligible studies were those that reported data on two or more distinct geographically defined communities to the same or similar health threat. We defined “community” as a population above the individual and household level. The threat could be an actual or a potential event e.g. flood, earthquake, or a scare which could be media or community generated. Studies could be included from any time period. Due to complexity of the search process the search was limited to English language articles only.

3.2. Search methods

The search filter was designed and validated for the SCOPUS database covering scientific, technical, medical and social sciences fields.

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