

Evidence-based public health practices: challenges for health needs assessments in disasters

Media coverage and the outpouring of public generosity in response to disasters often pressure institutions or organisations to act immediately without clear evidence. While it is critical to respond quickly to save lives and prevent suffering, obtaining valid information on which to make evidence-based, appropriate, and relevant relief decisions is just as important. Developed countries have better technology and equipment to assist with post-disaster data collection, with satellite surveillance providing information on population density, crop growth, and even troop movement in conflict areas.¹ On the other hand, in low-income societies technology is not as accessible. Instead, post-disaster health needs assessments are based on quick, on-site manual surveys, which provide simple descriptions of the population profile and the health consequences of disaster/displacement.²⁻⁷

In theory, three types of information need to be collected during health needs assessments: the health status of the population, the factors contributing to health, and the performance of the health service.³ However, most health 'needs' assessments are actually health 'risk' assessments, which focus on minimising potential health risks or hazards (such as possible disease outbreaks) instead of supporting ongoing chronic medical/health needs which have been present prior to the disaster. In practice, many health interventions are based on normative needs determined by relief workers, rather than on the unmet needs of the most vulnerable. The challenges posed by field information collection will deter intervention planners from conducting in-depth assessments. Such field challenges include situational, technical, and methodology limitations as well as political constraints.

Situational field challenges

Situational factors such as logistics, security, and time constraints may prompt agencies to intervene in areas where good logistic support is available. During the 2005 Kashmir earthquake in Pakistan, most relief agencies focused their relief intervention around the Jeelum Valley near Muzzafarrabad (Fig 1). Yet few would venture 8000 feet up the mountains to the Neelum Valley, where helicopters were the only mode of transport available, and workers needed to battle subzero temperatures and severe weather conditions which rendered much of their electronic medical equipment non-functional (Fig 2). Situations like this require not only determination, but also logistic capacity and field experience in an organisation to work efficiently. In addition, the safety of relief workers may be jeopardised, either by secondary disasters such as landslides (Fig 3) or by violence in areas of armed conflict. Political



Fig 1. Internally displaced persons camp in Muzzafarrabad, February 2006, illustrating susceptibility to floods and poor hygienic conditions



Fig 2. Helicopter pad, Neelum Valley, February 2006, illustrating the difficulties with access to remote areas in disasters

instability and access limitation caused by conflict will impede a comprehensive assessment, thereby the health needs of the most vulnerable—the old, physically disabled, rural, and orphaned—remain undetected and unaddressed.

Poorly coordinated assessments and responses may also result in negative repercussions. Post-disaster 'assessment waves' concentrated in logistic-friendly locations will also lead to asymmetric relief responses. For example, while working in a relief camp with a population of 2000 just 1 week after the tsunami in Sri Lanka, a Médecins



Fig 3. Epicentre of the 2005 Kashmir earthquake, Pakistan, October 2005, illustrating risk of further landslides and flooding as a result of the river being blocked
Source: Government Forestry Service, Pakistan

Sans Frontières doctor reported witnessing 21 medical teams each carrying out their own assessment at the site on the same day. Aside from causing interviewee fatigue and resentment from the recipient community, these uncoordinated interventions without clear health needs assessments may even lead to unintended therapeutic dangers, such as vaccinations of the same people by different medical teams, or in the extreme, repeated administration of vitamin A to toxic levels.⁸ In recent years, advocates and relief agencies have prompted the development of a sector-based cluster system to promote better coordination and efficiency of relief efforts. Yet, as most relief and humanitarian actors operate independently, with their own funding and work principles, a truly effective system is yet to be seen.

Tool and methodology limitations

Redmond⁴ has pointed out that health needs after disasters vary according to the different stages of the relief operation. Relief workers conducting a simple and subjective health reconnaissance immediately after a disaster may produce information and make assumptions/conclusions which are not applicable to later stages of the disaster. For example, an earthquake will typically lead to secondary disasters such as landslides and floods, yet their health effects are often overlooked.

In addition, unreliable population data, highly mobile populations, poor security, difficult access, and extreme terrain will render direct, accurate collection of health statistics improbable. Proxy measures are often used instead. In countries like Iraq, South Sudan, and Somalia, 'availability of health facilities' and 'presence/absence of health services' were two key indicators used to measure health needs.³ Although these indicators may capture access to health services, they do not provide information

that truly reflects the health problems or related needs of the population.

Another problem with indicators is that most health needs assessments only focus on acute health problems.⁹ The elderly, disabled, and other vulnerable groups may have other active chronic health needs such as diabetes and hypertension, most of which are often ignored. In Pakistan, despite the fact that older people comprised 25% of health utilisation, none of their chronic health conditions were managed because these needs were not captured or targeted during the initial relief assessment.¹⁰ In the aftermath of hurricane Katrina, older people living in nursing homes had the highest mortality rates.¹¹ Japan's Hanshin earthquake also led to the highest post-disaster suicide rates in the world among the older age-group.¹² In all these cases the elderly suffered most because their needs were not adequately detected and addressed.

Factors that affect health outcomes are multidimensional. Yet many health needs assessments only focus on simple measures such as mortality and neglect other relevant health determinants that contribute to morbidity. Ill health may be caused by the lack of basic necessities for healthy living such as water and sanitation, adequate nutrition, environmental factors (such as pollution), housing, and security. Relief operation recommendations drawn from single sector assessments will be inadequate to address all aspects of underlying health needs. It is also important to identify the capacity and performance of the local health service. Access to drugs and trained personnel will affect the health of population. Overly simplistic health indicators (mortality rates and malnutrition) do not provide sufficient information on which to base all possible solutions to address real needs.

Political pressure and priority

Political reality and pressure to act immediately will encourage organisations to work in areas of high media visibility and good logistic support. But in implementing relief programmes, organisations must also take into account local capacity and sustainability of the programmes. Unloading a full plane load of donations and equipment may win a spot in the nightly news, but it is nonetheless useless if the instructions are provided in a foreign language to a local population which is almost 100% illiterate.

Fundamentally, effective relief intervention post-disasters can save lives and may even answer the population's unmet pre-disaster needs in resource-deficit settings. Good rapid health assessments require detailed planning and should be conducted by experienced people to minimise potential mistakes. They need to make challenging decisions on site, face unheard problems with unpredictable outcomes. A badly conducted health needs assessment can result in not only wastage of resources, but also resentment and misunderstanding in

the local population and creation of the false impression that vital needs have been addressed.

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