

Executive Summary

Background:

The need for a stronger scientific evidence base for responses to humanitarian crises has been identified by various public health actors. To this end, the UK Department for International Development (DFID) and the Wellcome Trust commissioned a study to review the evidence base of public health interventions in humanitarian crises. The overall aim of the review is to provide a rigorous assessment of the current quality and depth of the evidence-base that informs humanitarian public health programming globally. The review therefore assesses the quantity and quality of intervention studies, rather than measuring the actual effectiveness of the intervention itself.

The review addresses evidence on interventions in humanitarian crises (including early recovery and forced displacement) for health topics of: communicable disease control; water, sanitation and hygiene (WASH); nutrition; sexual and reproductive health (SRH), including gender-based violence (GBV); mental health and psychosocial support; non-communicable disease (NCD); injury and physical rehabilitation; health services, and health systems. In addition, contextual factors influencing the delivery of health-related interventions are included in the review, consisting of: access to health services, health assessment methods, coordination, accountability, health worker security, and urbanisation.

For a selected number of health topics, additional in-depth reviews were conducted to record data on the actual effectiveness of public health interventions. The selected health topics were: communicable diseases of malaria, polio, and neglected tropical diseases; WASH; SRH; and NCDs. These topics were selected because no systematic review had previously extracted data on intervention effectiveness and they were considered key health topics of public health importance. The remaining health topics in the overall review (nutrition, various other communicable diseases, mental health and psychosocial support, injury and rehabilitation) had been previously reviewed (examples of these are listed in Table 4)

Methods:

The following two main methods were adopted:

- (i) A series of systematic literature reviews on evidence of humanitarian interventions related to the health topics and on the influence of contextual factors on the interventions. The review on evidence of interventions for the different health topics included quantitative evidence from published and grey literature. The review on the contextual factors included quantitative and qualitative evidence from published literature. Standard systematic review methodologies were used.
- (ii) Qualitative individual interviews with expert practitioners, policy makers and academics were conducted to identify critical weaknesses and gaps in the evidence base for humanitarian public health actions (including related to the contextual factors) and to recommend priority areas for further research. A series of more general consultations with humanitarian health experts took place through meetings in London, Geneva, Paris, and New York.

Results:

An overview of the main results is firstly presented, followed by the results of the individual health topics and contextual factors.

Overview:

- Research on the effectiveness of health interventions in humanitarian crises has significantly increased during the last decade, with 79% of the 696 studies selected in the systematic review published between 2000 and 2013. However, considering the diversity of humanitarian crises, contexts and health care needs, the volume of evidence available remains too limited – particularly for health topics of GBV, NCDs, and WASH.
- 65% of the studies reviewed in-depth were rated moderate to high quality, with the quality of research improving over the last decade.
- Interventions for some health topics require further evidence on their actual effectiveness (e.g. GBV and mental and psychosocial health) whereas other topics require evidence on the most effective way of delivering the health intervention (e.g. injury & rehabilitation, WASH, NCDs, SRH). For nutrition and communicable disease control, more evidence is needed on both the effectiveness of certain interventions, as well as on the most effective ways of delivering interventions.
- Common themes identified in all the research on health topics and contextual factors include:
 - Systems and delivery: more evidence is needed on the effectiveness and feasibility of inter-sectoral interventions, scaling-up, task-shifting, and supporting health system resilience.
 - Research methods: robust assessment methods need to be developed and validated; greater use should be made of certain research designs (particularly experimental/quasi-experimental for cost-effectiveness) and baseline and routine data; and high quality mixed methods studies.
 - Context: greater evidence is required on: dispersed, urban and rural populations; ensuring continuity of care – particularly for chronic conditions and NCDs; measuring and addressing health care needs in middle-income settings (particularly NCDs).

Communicable disease control:

One hundred and fifty one studies on communicable disease control interventions met the inclusion criteria and were reviewed in depth. Eighty-eight were graded as high quality. The following highlights the research needs identified from the systematic review and expert interviews:

- Research should be conducted to help standardise medical protocols and quality standards to direct interventions, and indicators to measure their impact.
- Specific evidence gaps exist around many issues related to communicable diseases: disease themselves (e.g. pertussis, hepatitis A and E, and measles), methods to measure them (e.g. Lot Quality Assurance Sampling (LQAS)), and standard measurements such as mortality (e.g. age and gender specific).
- Increasing urbanisation, and movement of people to coastal areas, means that more research is needed on populations living in these areas.
- More attention needs to be given to regional analysis amongst these populations, especially due to issues related to migration and importation of disease.
- More anthropological/sociological research is needed for communicable disease interventions (e.g. acceptability, uptake).
- Research could help validate syndromic diagnoses (e.g. diarrhoea) with laboratory confirmed outcomes for communicable disease interventions.

Water, Sanitation and Hygiene (WASH):

Only six studies on WASH interventions met the inclusion criteria. Of these 6, 5 were of high quality. Research needs identified from the systematic review and expert interviews include:

- While evidence exists on the effectiveness of WASH interventions in relation to water quality or other WASH indicators, there remain significant gaps in knowledge with regards to the impact of WASH in interventions in relation to health outcomes in humanitarian crises.
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- More research expertise is needed to guide operational organisations on how WASH interventions can be linked to health outcomes, including on the use of different study designs.
- A review of Sphere indicators for the WASH sector is needed.
- More research is needed on behaviour change (e.g. acceptability of interventions, barriers to uptake).
- The evidence base on specific WASH interventions for health outcomes (e.g. hepatitis E, cholera) needs to be strengthened.
- Economic and anthropological research is needed. What level of success is acceptable to communities, governments, etc in relation to health effects seen as well as money spent?

Nutrition:

Seventy-seven studies on nutrition interventions met the inclusion criteria, and 18 were of high quality.

Research needs identified from the systematic review and expert interviews include:

- A better understanding of the aetiology of malnutrition and famines in different contexts.
- Evidence on the impact of contextual factors on famine and malnutrition (e.g. anthropological studies on the power of women in society).
- Evidence on how best to intervene in low Global Acute Malnutrition (GAM) prevalence settings and/or in middle income countries.
- Need to test different monitoring tools, techniques and new technologies to measure progress and impact of nutrition programmes, including better use of routine data and monitoring and evaluation data.
- More evidence on cost-effectiveness of nutrition interventions.
- More evidence required on the impact of Infant and Young Child Feeding interventions (IYCF).
- Research focus on infants, people with disabilities and elderly.
- Alternatives to Blanket Supplementary Feeding programmes (BSFP) (i.e. Cash transfer vs. Ready to Use Food (RUF) distribution; food security intervention vs. RUF).
- More research required on long term effects of interventions (i.e. long-term effects of blanket distribution of lipid based supplement).
- Further research required on stunting.
- Evidence required on the most effective way of delivering nutritional programmes - community health workers or health facilities?
- Long-term effect of RUF on anthropometric status, cognitive development, risk of relapse etc.

Sexual and reproductive health (SRH), including gender-based violence (GBV):

Fifteen studies on SRH (including GBV) interventions met the final inclusion criteria; only three were of high quality.

Research needs identified from the systematic review and expert interviews include the need for more evidence on:

- SRH interventions with particular populations' groups (e.g. people with disabilities, men, adolescents)
 - Different models of scaling up services (e.g. facility- or community-based care, task-shifting, greater involvement of community members).
 - Effectiveness and feasibility of new technologies.
 - Availability and use of SRH commodities in emergencies.
 - Behaviour, knowledge, attitude and barriers to long acting reversible contraception; and implications regarding availability of long-term care.
 - Provision of safe abortion services, and delivery services (particularly caesarean sections).
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- More information is needed overall on the spectrum and context of GBV.
- Effectiveness and operational constraints of GBV targeted interventions (e.g. safe spaces, cash-transfers, livelihoods programmes).
- Appropriateness and use of GBV guidelines.
- New methodological approaches to overcome contextual and logistical constraints to GBV research.

Mental health and psychosocial support:

Sixty two studies of mental health and psychosocial support interventions met the inclusion criteria.

The systematic review and expert interviews identified that more evidence is needed on:

- Effectiveness and feasibility of scaling-up low intensity and low cost psychological interventions.
- Effectiveness of psychosocial interventions.
- Effectiveness of group-based interventions as well as interventions for individuals.
- Effectiveness of interventions using parents, natural support systems, and schools.
- The use of inter-sectoral approaches (e.g. nutrition, protection, education).
- Using a modular transdiagnostic approach to treating mental disorders, including multiple disorders.
- Feasibility of e-mental health interventions.
- Effectiveness and feasibility of training interventions.
- Effectiveness of treating severe mental disorders, drug and harmful alcohol use, and functioning.
- Evidence from randomised control trials (RCTs) and also other study designs (including quasi-experimental) and the use of routine clinical outcome data. Studies should include mixed methods to improve acceptability and appropriateness of interventions and research.
- Feasibility of interventions, particularly economic feasibility and cost-effectiveness of interventions.
- Evidence on children, adolescents, older populations and survivors of sexual and intimate partner violence.
- The harmful effects of mental health and psychosocial support interventions.
- The quality of research needs to improve in order to ensure valid and reliable results.

Non-Communicable Diseases (NCDs)

Eight studies on NCD interventions met the inclusion criteria. The systematic review and expert interviews identified the need for:

- More evidence on interventions for a range of leading NCDs, particularly addressing longer-term outcomes, and in a greater range of country settings.
 - Interventions featuring disease-management protocols and/or cohort monitoring (particularly use of electronic patient records) demonstrated the strongest evidence of effectiveness.
 - Development and testing of standards and guidelines for the delivery of NCD care in crisis settings.
 - Studies on the feasibility and cost of NCD interventions, particularly over the longer-term.
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Injury and Rehabilitation:

Forty seven studies on injury and rehabilitation interventions met the inclusion criteria and were reviewed in-depth, and only two were of a high quality. The research needs identified from the systematic review and expert interviews include:

- Greater quantity and quality of evidence on the effectiveness and cost-effectiveness of rehabilitative interventions, particularly rehabilitative interventions and over the longer-term – including measuring long-term health outcomes, functionality, and quality of life.
- Better understanding of the mechanisms that enable a continuum of care as programmes transition from the crisis to the development phase.
- Development of appropriate quality standards and measurements of service performance.
- More evidence following natural disasters.
- More evidence on rehabilitation interventions in camp contexts.
- More studies that evaluate rehabilitation interventions in the preparedness phase, and the subsequent impact they have on health outcomes.

Health Service Delivery

Thirty-two studies on health service delivery met the inclusion criteria but only four papers measured health outcomes and these were of a low quality. The research needs identified from the systematic review and expert interviews include:

- Improving the quantity and quality of the evidence base on health service interventions, particularly longitudinal studies of longer-term health service interventions and related health outcomes.
- Different service delivery models of health care.
- Content, delivery and health outcomes of different service delivery packages of care.
- Longitudinal study designs.
- Lack of consensus over the guidelines to be used, or evaluated, for health service delivery. Further studies looking specifically at this issue would enable practical suggestions for service delivery in crisis situations.

Health Systems

Fifty-six studies on health systems met the inclusion criteria. The research needs identified from the systematic review and expert interviews include:

- Measuring the impact crises can have on local health systems.
 - Effectiveness of different models of delivering health interventions during humanitarian crises: vertical versus integrated humanitarian interventions, facility-based versus community-based interventions, comprehensive package versus single interventions.
 - The resilience of health systems to absorb crises and on their capacities to continue the delivery of services (e.g. non communicable diseases) after the departure of humanitarian actors.
 - The impact of preparedness on a humanitarian crisis, and whether stronger and better prepared health systems have improved health outcomes following a humanitarian crisis.
 - Specific areas health systems, particularly the influence of health financing and access to essential medicines in a humanitarian crisis.
 - How interventions for sub-sectors health could take the opportunities that humanitarian crises offer to strengthen the systems.
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Access to healthcare

Sixty-four studies on access to healthcare met the inclusion criteria. The research needs identified from the systematic review and expert interviews include:

- Evidence on the impact of physical, economic and political accessibility of health workers on public health interventions during crises.
- The influence of access on the impact of public health interventions.
- Development of standardised methods or indicators to measure the different aspects of both end-user and health worker access to healthcare.
- Impact of access to healthcare on health interventions during natural disasters and in the acute phase of crises.
- Real-time mapping of access to healthcare of end-users.
- Optimising healthcare access in crisis areas outside government control for both end-users and healthcare workers.
- Health disparities arising from access inequities between resident and transiting populations within a crisis location.
- Role of mobile phones and other digital technologies in improving health access for end-users.
- Mechanisms and policies which safeguard or improve access to healthcare during humanitarian crises.

Accountability to end-users

Thirty studies on accountability to end-users and health met the inclusion criteria. The research needs identified from the systematic review and expert interviews include:

- Influence of accountability on the impact of public health interventions is needed.
- Development of standardised methods or indicators to measure the different aspects of accountability in health interventions is required.
- High quality comparative studies to inform how accountability influences health interventions and outcomes.
- Role and methods of informed consent of end-users in crisis settings, to the perception of end-users regarding humanitarian healthcare delivery, and to the validation of assumptions concerning end-users.
- Impact of the asymmetry of power between end-users and humanitarian agencies on public health interventions.
- Populations needing increased research focus include IDP and refugee populations, adolescents, the disabled, the elderly, those with chronic disease, and the LGBT community.
- Mechanisms and policies which safeguard or improve accountability to end-users during humanitarian crises.
- Development of ethical guidelines for humanitarian research and programmatic development should be intensified.

Health Assessment Methods

Eighty-three studies on health assessment methods met the inclusion criteria. The research needs identified from the systematic review and expert interviews include:

- Development, comparison, testing and validation of health assessment methods.
 - Evidence-based consensus-building on the standardised health assessment methods that agencies will agree to use for recognised health topics.
 - Impact of different health assessment methodologies on the effectiveness of public health interventions during humanitarian crises.
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- Humanitarian system's 'fitness-for-purpose' for addressing health needs within any crisis situation.
- Identification of appropriate indicators with which to measure humanitarian contextual factors in relation to health outcomes.
- Long-term impact assessment methodologies of the contextual factors in relation to health outcomes (e.g. coordination of communicable diseases and WASH in relation to cholera).
- Mechanisms and policies that safeguard or improve health assessment methods during humanitarian crises.

Coordination

Twenty-five studies on coordination and health met the inclusion criteria. The research needs identified from the systematic review and expert interviews include:

- The influence of coordination on public health interventions during humanitarian crises, including cost-benefit analysis.
- Non UN/OHCA-centric mechanisms of coordination, including those of local/domestic and non-cluster agencies.
- High quality comparative studies to inform how coordination influences public health interventions, including the role of different levels and aspects of coordination.
- Health impact of clusters as a coordination mechanism.
- Impact of integrated UN missions on healthcare delivery.
- How international actors coordinate with local government.
- Evaluation of the advantages and disadvantages for health of pooled funding within the UN structure.
- Role of generating competitive market forces between agencies in improving coordination and healthcare delivery efficiency.
- Mechanisms and policies which safeguard or improve coordination during humanitarian crises.

Security of healthcare workers

Only 16 studies on healthcare worker and health security met the inclusion criteria. The research needs identified from the systematic review and expert interviews include:

- Higher quantity and quality of evidence on the security of healthcare workers in the humanitarian sector.
 - How healthcare worker security influences the effectiveness of public health interventions in humanitarian crises.
 - High quality comparative studies to inform how security influences health interventions and outcomes.
 - Increased risks posed by integrated UN missions.
 - The impact of using foreign over local healthcare workers.
 - Identification of risk factors associated with security threats to healthcare workers.
 - Impact of asymmetry of power on the effectiveness of health interventions within a conflict setting on security.
 - Impact of healthcare worker security on public health interventions during natural disasters and in the acute phase and early recovery phases of crises.
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Urbanisation

Twenty-seven studies on urbanisation and healthcare met the inclusion criteria. The research needs identified from the systematic review and expert interviews include:

- More comparative studies between rural, camp and urbanised environments to help adjust health interventions to be more effective for urban environments.
 - More research on the influence of the following aspects on public health interventions: opportunities for disaster preparedness and coordination; role of civil engineering and urban planning in disaster prevention and mitigation; use of social media and other forms of mass communication; control of infectious disease outbreaks, public health interventions.
 - Efficient methods of identification and targeted health interventions of IDP and refugee populations within non-camp urban settings.
 - Management of chronic disease in crisis-affected urban populations.
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