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Evidence-based decision-making in humanitarian assistance

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In brief

• Data limitations in humanitarian crises have led to an increasing number of initiatives to improve information and decision-making in humanitarian assistance. These initiatives are, however, beset with fundamental problems, including the definitions of key terms, conceptual ambiguity, a lack of standardisation in methods of data collection and an absence of systematic attempts to strengthen the capacity of field organisations to collect and analyse data.

• This paper presents an overview of evidence-based decision-making in technical sectors of humanitarian assistance. The goal of the paper is to provide a common understanding of key concepts in evidence-based decision-making in order to stimulate a discussion of evidence within the humanitarian community.

• The paper highlights key concepts in evidence-based practices, examines recommendations from recent published humanitarian reviews, and presents options to strengthen evidence-based decision-making in the design, implementation and evaluation of humanitarian assistance.

• The paper concludes that evidence-based decision-making often requires no additional scientific data *per se*, but rather an understanding of well-established technical best practices in conjunction with financial resources and political will.

About HPN

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Contents

Chapter 1
Introduction

The humanitarian community uses many approaches to evidence. Representative initiatives are presented in Table 1. The many different data gatherers, managers, users and donors have prompted recent efforts to inventory and critique these varied approaches. In October 2007, the UN Office for the Coordination of Humanitarian Affairs (OCHA) began a two-year multisectoral study into the Assessment and Classification of Emergencies (ACE). The terms of reference for the study identified 17 global initiatives relevant to emergency assessment and analysis.[1] In the terms of reference of the study, OCHA expressed concern that common definitions of basic terms of the trade were not well-established in the humanitarian community, noting that ambiguity surrounded terms such as 'humanitarian crisis/ emergency', 'vulnerable group' and 'affected population', not to mention 'evidence' and 'evidence-based': 'the lack of standardized and universally accepted definitions and indictors', it was argued, 'leads to inconsistency in humanitarian action with similar levels of vulnerability in different settings triggering different levels of response'.

Table 1: Managing humanitarian information: selected initiatives

Initiative	Initiator/sponsor	Application/goal
Complex Emergencies Database (CE-DAT), Emergencies Database (EM-DAT)	Center for Research on the Epidemiology of Disasters, with funding from US Dept. of State for CE-DAT, and IFRC, WHO, ECHO et al. for EM-DAT	Store, analyse and disseminate quantitative and qualitative information on complex emergencies (CE-DAT) and non-conflict disasters (EM-DAT), largely from field sources
Cluster Specific Assessment tools – Health and Watsan	Multi-agency associated with Health and Watsan clusters	Assess peri-disaster health and nutrition sectors
Early Recovery Local Level Needs Assessment	Cluster Working Group on Early Recovery	Develop assessment tool for early recovery or identify existing tools appropriate for the task
EmergencyInfo	DevInfo	Provide decision support system within 72 hours of emergency
Famine Early Warning System (FEWS)	USAID	Analyse humanitarian emergencies focusing on food insecurity, risk and vulnerability
Food Insecurity and Vulnerability Information and Mapping Systems (FIVIMS)	Interagency Working Group comprised of three UN agencies	Improve data capture, analysis and use in countries with food insecurity and nutritional crises
Global Information and Early Warning Systems (GIEWS)	FAO	Analyse humanitarian emergencies focusing on food insecurity, risk and vulnerability
Health and Nutrition Tracking Service (HNTS)	WHO	Track health and nutrition indicators as well as assessments and surveys in high-risk areas
ICRC Tracking Strategy	ICRC	Assess effect of conflict in pastoralist areas on animal herd numbers, feed supply, etc.
IDP Assessment	Norwegian Refugee Council, OCHA	Assess IDP situations and IDP needs
Integrated Food Security and Humanitarian Phase Classification (IPC)	FAO	Develop global classification system building upon work of FAO's Food Security Analysis Unit (FSAU) in Somalia
Immediate Rapid Assessment (IRA)	Multi-agency associated with Nutrition Cluster	Assess peri-disaster food security and potentially other sectors
Integrated Rapid Livelihoods Assessment Guidelines (IRLAG)	FAO	Assess livelihoods in context of natural disasters focusing on baseline with follow-up within days of a disaster
Livestock Emergency Guidelines (LEGS)	Tufts, USAID	Develop management guidelines for livestock in emergency settings

Continued

Table 1: *Continued*

Initiative	Initiator/sponsor	Application/goal
Needs Analysis Framework (NAF)	OCHA	Help UN country teams link needs assessments to programme planning and resource mobilisation in their catchment areas
Nutritional Information Project for the Horn of Africa (NIPHORN II)	UNICEF	Improve nutritional surveys in the Horn of Africa
Post-Conflict Needs Assessments (PCNAs) or Joint Needs Assessments (JNAs)	World Bank	Identify needs and produce a recovery plan for countries emerging from conflict
Post-Disaster Needs Assessment Cluster Tools (PDNAs)	World Bank	Apply PCNAs to the natural disaster context
Protection Needs Assessment Framework	UNHCR, Protection Cluster Working Group	Develop needs assessment framework for protection
Strengthening Emergency Needs Assessment Capacity (SENAC)	Multiple donors	Improve WFP's emergency needs assessment capacity
Standardized Monitoring and Assessment of Relief and Transitions (SMART)	USAID, US Dept. of State PRM, CIDA	Develop a standardised methodology to measure population mortality, nutritional status and food security
Vulnerability and Mapping (VAM)/ Emergency Needs Assessment	WFP	Collect and analyse primary data on food insecurity and population vulnerability generally at country level

Source: OCHA, 'Terms of Reference for Humanitarian Needs: Building Blocks Toward a Common Approach to Needs Assessment and Classification', unpublished, October 2007; N. Mock and R. Garfield, 'Health Tracking for Improved Humanitarian Performance', *Prehospital Disast Med* 2007;22(5):377–383.

In September 2006, Dartmouth Medical School and Harvard University co-sponsored a multi-agency conference to examine humanitarian health issues among 51 organisations including 24 operational NGOs. A workgroup on health tracking for improved humanitarian performance identified 11 initiatives to manage humanitarian information grouped around five overlapping major themes: standardising indicators and data collection methods, early warning systems and primary data collection, integrated frameworks for data collection and analysis, national-regional analyses and distributive databases for maps and other datasets.[2] The workgroup expressed concern about the lack of standardisation in methods of data collection, the lack of systematic attempts to strengthen field organisations' capacity to collect and analyse the data needed for humanitarian actions and the virtual absence of primary data collection programmes for systematically tracking health and nutrition.

An HPG discussion paper published in December 2006 on overcoming obstacles to improved collective donor performance mentioned evidence just twice:[3]

> *For instance, where access to populations in need is restricted by local opposition,* ***evidence*** *shows that, when coordinated diplomatic pressure is applied and access is jointly prioritized by the international community, restrictions ease more readily than when the international community is divided by national interest.*
>
> *In any situation of significant humanitarian concern, donors should be prepared to fund or reimburse the costs of agencies' assessments if they are supported by robust* ***evidence*** *(including incorporating beneficiary views), can be read independently of any related funding proposal and are shared with the system as a whole.*

This paper presents an overview of evidence-based decision-making in technical sectors of humanitarian assistance. Evidence is defined here as data on which a judgment or conclusion may be based. The goal of the paper is to provide the reader with a common understanding of key concepts in evidence-based decision-making in order to stimulate a discussion of evidence within the humanitarian community.

The paper examines the origin of evidence-based decision-making in medical care, its extension into public health and ultimately its diffusion throughout humanitarian assistance. The paper highlights key concepts in evidence-based practices, examines recommendations from recent published humanitarian reviews, and presents options to strengthen evidence-based decision-making in the design, implementation and evaluation of humanitarian assistance. It concludes that, while new evidence can inform humanitarian action and improve humanitarian outcomes, evidence-based decision-making often requires no additional scientific data *per se*, but rather an understanding of well-established technical best practices in conjunction with financial resources and political will. Humanitarian assistance has many influences – technical, administrative, political and economic. This paper examines technical issues. Insofar as the impact of disasters and relief is ultimately measured in the morbidity and mortality of human beings, the health sector is used where possible to illustrate issues of concern. Costs presented are in US dollars.

Chapter 2
Evidence-based medicine

Origins of the science

Evidence-based medicine (EBM) was first defined in the biomedical literature in 1992, by medical practitioners at McMaster University in Ontario, Canada.[4] The concept was based on advances in clinical research – clinical trials, clinical epidemiology and meta-analysis – which demonstrated the limits of individual expertise. EBM was presented as a 'paradigm shift' in medical practice. Previously, the knowledge used to guide clinical practice had been based on a set of assumptions: that unsystematic observations from clinical experience were a valid way of building and maintaining one's knowledge about clinical care; that the study of basic principles and mechanisms of disease was a sufficient guide to clinical practice; and that traditional medical training and common sense were sufficient to evaluate new tests and treatments. All of these assumptions were found flawed. The new goal was to track down the best external evidence with which to answer clinical questions. Evidence-based medicine stimulated the rethinking of a host of professional activities: research studies and the submission requirements for research articles, new journals, reviews of evidence in existing textbooks, new practice guidelines and the education of health professionals.

From its inception in the early 1990s, evidence-based medicine has influenced the entire biomedical enterprise, particularly the domains of biomedical research, medical education and clinical practice. An extensive bibliography has emerged, including a classic series of articles (some examples are given in the Bibliography). The current definition of evidence-based medicine is:

> *The conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients. The practice of evidence-based medicine requires the integration of individual clinical expertise with the best available external clinical evidence from systematic research and our patient's unique values and circumstances.*[5]

The practice of EBM encompasses four cardinal components:

- External evidence from systematic research: valid and clinically relevant findings from patient-centred clinical research.
- Individual clinical expertise: the experience and skills needed to rapidly identify a patient's health state, make a diagnosis, evaluate the risks and benefits of interventions and assess a patient's personal expectations as regards their care.
- Patient values.
- Patient circumstances.

PICO questions

Defining a problem was seen as a critical starting point in evidence-based thinking. Precise problem definition was fundamental to the choice of appropriate investigation methods and the retrieval of relevant published research. A well-defined question has four components:[6]

1. The patient or problem being addressed.
2. The intervention being considered.
3. The comparison or alternative intervention being considered.
4. The clinical outcomes sought.

Questions framed in this way, known as PICO questions, are eminently testable. It is this testability which leads to the accumulation of authoritative evidence for decision-making. Scholars found that most of their questions in clinical work arose from a limited number of areas:

- Clinical evidence: how to gather clinical findings properly and interpret them soundly.
- Diagnosis: how to select and interpret diagnostic tests.
- Prognosis: how to anticipate the patient's likely course.
- Therapy: how to select treatments that do more good than harm.
- Prevention: how to screen for and reduce the risk of disease.
- Education: how to teach yourself, the patient and the patient's family about what is needed.

Criteria for selecting studies

Key criteria to determine the quality of different types of studies have been developed. These are summarised in Table 2.

Hierarchy of evidence

In EBM, evidence is organised according to a hierarchy of evidence strength. The National Health Service Research and Development Centre for Evidence-Based Medicine, based in Oxford, has developed a hierarchy of evidence strength based upon the method of data acquisition:[7]

1a Systematic review of randomised controlled trials.
1b Individual randomised control trial.
1c All-or-none studies (where all patients died before the therapy was begun, but now some survive, or where some patients died before the therapy, but now all survive).
2a Systematic review of cohort studies.
2b Individual cohort study or low-quality randomised controlled trial.
2c 'Outcomes' research.
3a Systematic review of case-control studies.
3b Individual case-control study.

Table 2: Key criteria for selecting scientific studies

Diagnosis	• Was there an independent, blind comparison with a reference standard? • Did the patient sample include an appropriate spectrum of the sort of patients to whom the diagnostic test will be applied in clinical practice?
Therapy	• Was the assignment of patients to treatments randomised? • Were all of the patients who entered the trial properly accounted for at its conclusion?
Harm	• Were there clearly identified comparison groups, which were similar with respect to important determinants of outcome (other than the one of interest)? • Were outcomes and exposures measured in the same way in the groups being compared?
Practice guidelines	• Were the options and outcomes clearly specified? • Did the guideline use an explicit process to identify, select and combine evidence?
Economic analysis	• Were two or more clearly described alternatives compared? • Were the expected consequences of each alternative based on valid evidence?

Source: Adapted from G. H. Guyatt and D. Rennie, 'Users' Guides to the Medical Literature', *JAMA* 1993; 270:2096–2097.

4 Case series and poor-quality cohort and case-control studies.
5 Expert opinion.

The evidence base in medicine is clearly not restricted to randomised trials and meta-analyses. However, the randomised trial, and the systematic review of such trials, are the 'gold standard' for certain studies, for example on the effectiveness of therapies. Different professional organisations have developed their own schemes for grading evidence from different study types, as well as rules for downgrading flawed evidence.

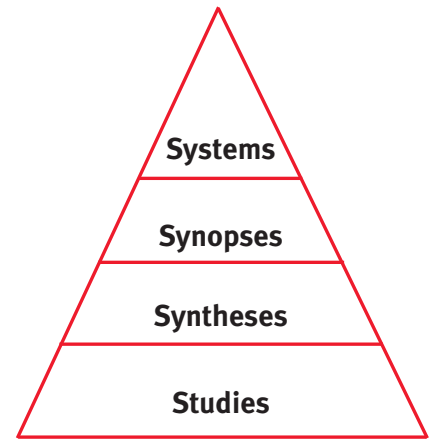
In evidence-based medicine, the most subjective and least authoritative level of evidence remains 'the expert'. The expert has an explicit role in evidence-based decision-making, particularly in understanding patient values and circumstances and determining the relevance of external evidence to the patient at hand. Nonetheless, in assessing external evidence from systematic research, evidence-based medicine affirms the ascendancy of evidence-based judgments over personal ones. However, while EBM provides a methodology for assessing the weight of evidence, and penalising flaws in that evidence, it does not provide a method for reconciling differences of opinion between different experts.

Sources of evidence and strategies for obtaining it

As evidence has accumulated, dedicated repositories and refined search strategies have improved access to it. Hierarchal approaches to evidence-based information sources in the biomedical sciences are current best practice.[8] One such hierarchal approach is characterised as '4S': computerised decision support systems, evidence-based journal abstracts (synopses), evidence-based reviews (syntheses) and original published articles (studies).[9] Rank order in search priority, as well as notional magnitude of the search task, are illustrated in Figure 1. Investigators are encouraged to begin with the highest-level resource available.

Figure 1

'4S' hierarchy of organised evidence



Source: S. E. Strauss et al., *Evidence-based Medicine*, Third Edition (Edinburgh: Elsevier Churchill Livingstone, 2005).

Systems: evidence-based computerised decision support systems which link a patient's diagnosis and special circumstances to relevant research evidence about a clinical problem. The goal is to ensure that cumulative research evidence is at hand. Current systems are limited in clinical scope and in the adequacy of research integration. Internet-based 'aggregators' providing commercial access to evidence-based information serve as current proxies for truly integrated systems. Examples: *Clinical Evidence*, *Evidence Based Medicine Reviews*, *UpToDate*.

Synopses: abstracts of original research with commentary, typically all on one page. The title may concisely state the effectiveness of an intervention, either positive or negative. In circumstances where the decision-maker is familiar with the intervention and alternatives, the title may provide enough information to enable the decision-maker to proceed. Examples: *ACP Journal Club*, *Evidence Based Medicine*, *Database of Abstracts of Reviews of Evidence (DARE)*.

Syntheses: systematic reviews of a contentious clinical health issue based on explicit scientific review of relevant studies as well as systematic compilation of the evidence. The review is considered a current, comprehensive and authoritative assessment of the effects of a health intervention. Examples: *Cochrane Reviews*, *Clinical Evidence*, *CDC Guide to Community Preventive Services*.

Studies: original research from full-text biomedical publishers. Studies offer the most current evidence insofar as systems, synopses and syntheses follow the publication of original articles by at least six months. The most relevant yields from evidence-based search engines come from electronic journals or databases which filter out biomedical publications that do not meet appropriate evidence standards. Examples of electronic journals: *Evidence-based Healthcare*, *Evidence-based Healthcare and Public Health*, *Evidence-Based Medicine, Evidence-Based Health Policy and Management*. Examples of databases: MEDLINE, CINAHL, EMBASE.

Overall, the key concepts in evidence-based medicine include PICO questions, key criteria for the selection of individual studies, the hierarchy of evidence, and the hierarchy of search strategies.

Chapter 3
Evidence-based public health

Over the course of the twentieth century, the average lifespan of people in Western developed countries increased by over 20 years, and in the US by over 30 years. Twenty-five years of that gain have been attributed to improvements in public health.[10] To highlight these achievements, in 1999 the US Centers for Disease Control and Prevention identified ten great twentieth-century advances in public health in the United States. These are listed (in no particular order) in Table 3.[11]

Table 3: Ten great public health achievements: United States, 1900–1999

Vaccination
Motor-vehicle safety
Safer workplaces
Control of infectious diseases
Decline in deaths from coronary heart disease and strokes
Safer and healthier foods
Healthier mothers and babies
Family planning
Fluoridation of drinking water
Recognition of tobacco use as a health hazard

Source: US Centers for Disease Control and Prevention.

All of these achievements are considered extraordinarily successful, and all of them preceded the evidence-based movement *per se*: the first systematic review of research relevant to public health was not published until 2001.[12]

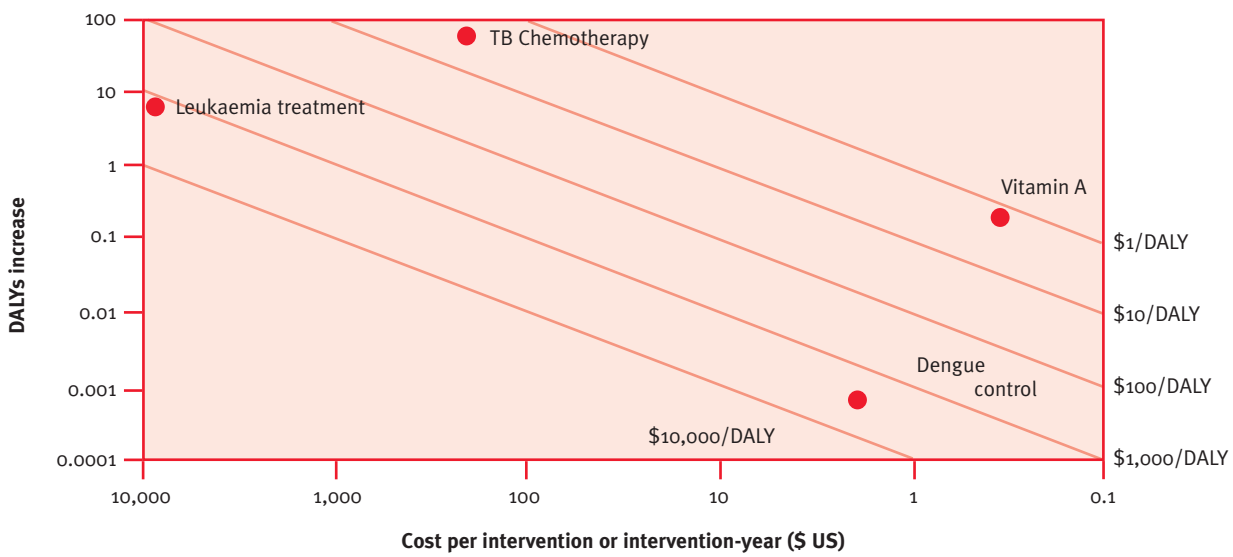
Cost-effectiveness in public health took a dramatic leap forward with the advent of an accepted metric for measuring it, namely cost per disability-adjusted life year (DALY) averted. This metric and associated methodologies enabled comparisons of interventions undertaken to improve health in developing countries. Figure 2 shows the number of DALYs increased by a particular public health intervention versus the costs of that intervention.

In Figure 2, the diagonal lines refer to differences in costs per DALY. Overall, the most cost-effective part of the graph is the upper right corner. In that corner, small investments yield large benefits in DALYs averted. By these measures, Vitamin A, for example, is clearly shown to be cheap and cost-effective, and hence has become exalted in the international health community.

Since the World Bank first published these findings, in 1993, researchers have acquired extensive data on the cost-effectiveness of other public health interventions. Catalogues ranking evidence-based interventions by cost-effectiveness include those in the Disease Control Priorities Project (DCP2) undertaken by the US National Institutes of Health, the World Health Organisation and the World Bank.[13] Highly cost-effective interventions are listed in Table 4 (page 10). Researchers acknowledge that a population-based intervention in a low-prevalence area is usually less cost-effective than the same intervention in a high-prevalence area; that cost-effectiveness data do not vary with the scale of the intervention; and that

Figure 2

Benefits and costs of selected health interventions



Source: World Bank, *World Development Report: Investing in Health* (New York: Oxford University Press, 1993).

Table 4: Cost-effective interventions for high-burden diseases in low- and middle-income countries

1. Diarrhoeal disease: hygiene promotion
2. Emergency care: training volunteer paramedics with lay first-responders
3. Malaria: intermittent preventive treatment in pregnancy with drugs other than sulfadoxine-pyrimethamine
4. Tuberculosis, diphtheria-pertussis-tetanus, polio, measles: traditional Expanded Program on Immunisation (EPI)
5. Malaria: insecticide-treated bed nets
6. Myocardial infarction: acute management with aspirin and beta blocker
7. Malaria: residual household spraying
8. Malaria: intermittent preventive treatment in pregnancy with sulfadoxine-pyrimethamine
9. Tobacco addiction: taxation causing 33% price increase
10. HIV/AIDS: peer and education programmes for high-risk groups
11. Childhood illness: integrated management of childhood illness
12. Underweight child (0–4 years): child survival programme with nutrition
13. Diarrhoeal disease: water sector regulation with advocacy where clean water supply is limited
14. HIV/AIDS: voluntary counselling and testing

Source: R. Laxminarayan, A. J. Mills and J. G Breman et al., 'Advancement of Global Health: Key Messages from the Disease Control Priorities Project', Lancet 2006;367:1193–208.

cost-effectiveness is only one consideration in resource allocation, along with epidemiological, medical, political, ethical, cultural and budgetary factors. Nonetheless, DCP2 underscores the belief that existing cost-effective interventions merit adoption on a global scale.

Evidence-based strategies have also been developed for complex emergencies. These strategies bundle together cost-effective health interventions that remain practical under field conditions. In the Democratic Republic of Congo (DRC), a strategy for interventions emerged from a series of meetings in 2001, starting with an Informal Donor Contact Group in Geneva and culminating in a Multi-agency Consultation in Nairobi. The Nairobi consultation included meetings of health officials from four rebel-controlled areas of the DRC. The strategy boils down to a minimum package of key health services for seven main causes of death.[14] Public health policies relying on these strategies are considered to be informed by the highest possible quality of available evidence, and are eminently evidence-based.

Challenges with data

Public health interventions may be seen as successful individual health interventions applied on a wide scale. Nevertheless, much of the evidence for successful public health interventions relies upon data-gathering tools for population-based research that are different to those used in individual clinical care. In public health, and particularly for populations in crisis, three major data-gathering tools predominate: rapid health assessments, population-based surveys and disease surveillance. The methodological problems limiting the utility of these data-gathering tools include:

- Rapid health assessments are complicated by many different templates and indicators.[15]
- Field surveys are complicated by non-compliance with appropriate practices in survey methodology.[16] Interpreting epidemiological reports, particularly mortality reports, remains daunting for non-epidemiologists, notwithstanding the availability of primers and checklists to help with the task.[17]
- Disease surveillance is complicated by incomplete coverage of sentinel sites, as well as delays in data processing and the release of information to guide field action.[18]

Unfortunately, the strength of evidence obtained by these tools is not easily measured by the grading scales of evidence-based medicine. Several recurring technical issues further complicate the debate on evidence in public health.[19] These include:

- The non-feasibility of randomised clinical trials to examine the impact of many public health interventions, such as disaster risk reduction, regulation/legislation for injury prevention through passive restraints, disease prevention through quarantine and tax inducements to modify risky behaviour.
- Differences between country data provided by established national health authorities and (generally) sub-national data obtained by ad hoc research prompted by reactive and grant-driven factors.
- Independence of evidence used to monitor critical health issues, particularly in settings where substantial resources flow from external sources (i.e. outside countries) to the beneficiaries at hand.

Overall, evidence can be applied in public health for many purposes, including strategic decision-making, programme implementation, monitoring and evaluation. All have different requirements for strength of evidence as well as different time-frames for decision-making. Given the challenges of integrating data from multiple sources, and collected by different

methods, public health experts have defined best available evidence as the use of all available sources to provide relevant inputs for decision-making.[20] In this context, the best available evidence places a premium on validity, reliability, comparability, inter-agency consultation, and data audit.

Evidence-based versus best available evidence

Evidence-based decision-making as defined in evidence-based medicine relies upon strength of evidence established by the method of data acquisition. **Best available evidence** as defined in evidence-based public health refers to the broad input from all available sources without restriction by hierarchy or grade.

This distinction is important. It may be illustrated with the example of a rumour. A rumour of disease, such as measles, may be entirely sufficient to trigger a disease outbreak investigation. Rumour investigation is a well-recognised component of information management in communicable disease control.[21] The best available evidence at an early point in the investigation may be only the rumour. While the science of outbreak investigation is 'evidence-driven', the outbreak investigation falls out of the spectrum of field activities that may be characterised as 'evidence-based' in the jargon of evidence-based medicine. That does not mean that the investigation is not warranted. It simply means that the type of evidence informing the action does not rank favourably in a hierarchy of external evidence.

Humanitarian actors need to be aware of the different nuances of the term 'evidence-based', particularly where it is used to (de)legitimise actions and expenditures. Where individuals are unwilling or unable to engage in technical debates on their merits, there remain nonetheless opportunities to enhance the integrity of technical processes which produce evidence. These opportunities include strengthening the independence of groups which produce evidence, fostering transparency in the evidence-production process through data audit trails, and insisting on and paying for competent, external peer review.

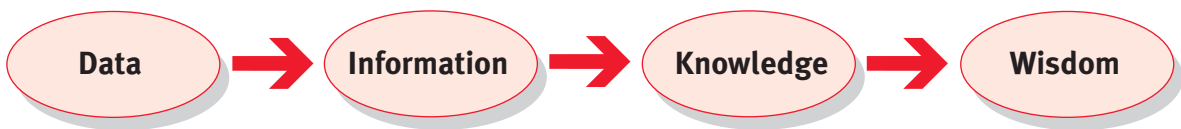
How data are used

Humanitarian actors also need to be aware of the different nuances of terms which refer to data application. In an ideal world, data interpreted in context become information. Information enhanced with understanding of how to proceed becomes knowledge. Knowledge informed by when to use it becomes wisdom. This spectrum is encompassed by the acronym DIKW (Figure 3).

In the real world, humanitarian actors confront recurring obstacles and gaps in the uses of data: data overload, information poverty and knowledge management systems that do not confer wisdom. While there may not be enough time to do something right the first time, there seems to be enough time to do it wrong over and over again, with the resulting plethora of contradictory site visits, surveys and subsequent statistical anarchy.[22]

Figure 3

DIKW



Chapter 4
Applying evidence-based science to humanitarian assistance

Generic issues

Important questions in humanitarian assistance are not easily testable by evidence-based science. Examples include:

- Is the area secure?
- What do the beneficiaries need?
- How are the beneficiaries doing?
- Why is this programme faring so poorly?

Such questions are not easily presented in PICO format, and thus do not easily lend themselves to the sort of evidence-based study prized in 'evidence-based' systems.

Data-gathering in humanitarian assistance is hampered by logistical limitations. Particularly in conflict situations, but also in acute relief situations, organised studies are difficult to conduct. Security issues may preclude the extensive field presence required for survey-based epidemiological methods. Longitudinal studies may incur extensive loss of participants in follow-up. The basis on which relief actors determine who is vulnerable, in order to identify needs and prioritise the allocation of resources, is currently part of OCHA's working definition of 'evidence-based'. The *modus operandi* of humanitarian assistance continues to place a premium on cooperation, coordination, consensus, communication and assessment (C4A).[23] As a consequence, expert opinion retains a prominent place in humanitarian assistance. There is much overlap in the roles of experts in evidence-based medicine and in humanitarian assistance. They both serve to link external evidence with the needs of beneficiaries. However, evidence-based medicine affirms the ascendancy of evidence-based judgments over personal judgments regardless of how eminence-based they may be. By contrast, humanitarian assistance continues to rely heavily on eminence-based decisions. This tendency was recognised in the Humanitarian Response Review of 2005:

> *the international humanitarian coordination system works by goodwill and consensus and depends too often on the authority and skills of HCs [humanitarian coordinators]. While its role has to be maintained and reinforced, there is also a need to make progress in designing a more explicit model where sector operational accountability will be clearly identified at the level of a designated organization, following standards to be agreed upon. Responsibilities to be covered under such a model are: (a) planning and strategy development, (b) standard-setting, (c) implementation and monitoring, (d) advocacy.*[24]

Selected issues from a case report as well as cross-cutting functions in the field are considered below.

Field issues from a case report

Many of the challenges of dealing with 'evidence' are illustrated in field reports from disaster settings. The Darfur Humanitarian Profiles are a rich source of examples. One issue from October 2004 yields the following extracts.[25]

1. The section on the conflict-affected population contains the following paragraph:

> *The Humanitarian Profile includes in its estimate of conflict affected people almost exclusively those assessed by international humanitarian agencies and their implementing partners, mostly through WFP food registration. On rare occasions it includes also OCHA estimates based on credible sources other than those mentioned above. The figures in this Profile are thus closely aligned with those of WFP ... Similar to WFP, 99% of the estimated conflict affected population presented here is either in the IDP or host community category, residing mainly in urban or camp settlements. Efforts to further improve and streamline registration procedures are currently being undertaken, are of critical importance, and may in turn result in revised figures based on improved registration figures.*

Comment: WFP based its population estimates on vulnerability assessment and monitoring (VAM) activities for the beneficiary populations. There are no estimates of the size of the population *not included* in WFP food registrations. WFP explicitly stated that it had not estimated the IDP population in the Nyala peri-urban area because it had not 'validated' its methodology for that setting. Hence, a population obviously present in South Darfur was not included in the beneficiary population estimates. The net effect is that service coverage rates in the Nyala area are falsely elevated.

2. The nutrition section contains findings from an NGO nutrition survey revealing that 23.6% of children under five in Kalma camp were malnourished, and 3.3% of them were severely malnourished.

Comment: The nutrition survey was irrelevant to the management decision to set up a therapeutic feeding centre (TFC) in the camp. The TFC was a going concern when the survey was undertaken. The logic was put forward that the survey established a baseline for the camp against which follow-up survey results could be measured. While this may make sense in isolation, for the camp inhabitants the nutrition survey was one of three near-concurrent surveys imposed on them by relief agencies (the two others originated with WHO seeking to determine beneficiary population sizes for bed net distribution and a cholera vaccination campaign). A follow-up nutritional survey to

demonstrate an impact on the camp would thus have become the fourth camp survey to be conducted.

3. The health section reports that two indictors were used to measure primary health care coverage: access to primary health care facilities and availability of basic drugs.

Comment: The report provides two metrics on gaps in service availability, but this tells us little about the adequacy of the primary care services rendered. For example, the NGO charged with camp management at Kalma in South Darfur failed to organise measles immunisation for newly arrived IDPs. Measles immunisation of IDPs in low-coverage areas is one of the most cost-effective interventions in the biomedical arsenal. Measles immunisation has been regarded as the most urgent relief consideration following initial assessment.[26] Failure to immunise against measles in at-risk populations is a cardinal violation of best practice in refugee/IDP health care.

4. The water and sanitation section contains the following assertion:

> *The outbreak of acute Jaundice/Hepatitis E in late August until mid-September reflected this [Watsan coverage] gap as did the WHO mortality survey released in September which indicated that diarrhea was the main cause of death between 15 June and 15 August. Hepatitis E cases have however decreased in most camps due to the rapid and effective response from agencies.*

Comment: This assertion implies causation between agency response and decline in Hepatitis E cases. However, there are not enough data to demonstrate *causation*. In fact, the Hepatitis epidemic was tracked in July 2004 from two refugee camps in Chad to an IDP camp in West Darfur.[27] The epidemic swept through the other Darfur states and peaked in late August–early September. The decrease in cases noted by the time of this report is most consistent with a predictable decline in cases in the epidemic curve of a transmissible fecal-oral pathogen: the vulnerable population in the catchment area was exposed, some of the non-immune became infected and some of the infected became clinically ill. Association is not causation and the agencies' response probably had little to do with it.

5. The section on Humanitarian Needs and Gaps presents data on the percentage of the population assisted in tabular and S-bar graphic formats.

Comment: The data on assistance do not quantify the adequacy of that assistance, specifically whether Sphere minimum standards were met. Use of percentage assisted as a measure of relief success constitutes an insidious erosion of the principle of minimum standards and should be condemned. Until progress towards minimum standards is quantitatively addressed, it is impossible to calculate the magnitude of *unmet* need.

The impression is inescapable that technical problems with 'evidence' in humanitarian assistance stem from a wide range of underlying issues. These include:

- Lack of agency expertise.
- Coordination problems between agencies.
- Inappropriate proxy indicators.
- Inappropriate scientific inference.
- Erosion of the concept of minimum standards.

Additional evidence is not required to fix many of these underlying problems. Existing knowledge is entirely adequate to address many of them. The solutions, in these cases, require compliance with well-established best practices. An extensive review of needs assessment found that most of those interviewed for the study felt that knowledge and evidence were not the main limiting factors to appropriate humanitarian response.[28] Rather, the main limiting factor was the lack of political and organisational will to act on that knowledge, and to deploy the necessary resources to tackle problems using the best available solutions.

Having said that, there are specific cross-cutting issues in humanitarian assistance for which enhanced evidence may improve the process and potentially the outcomes. Selected cross-cutting issues are examined below.

Cross-cutting issues

Needs assessment

The scientific literature on needs assessment in humanitarian assistance is extensive, encompassing hundreds of field reports, scores of hazard-specific guidance documents, dozens of agency-specific manuals and multiple overarching reviews of the discipline. Major themes are summarised below.

- Needs assessments often play only a marginal role in the decision-making of agencies and donors. Their added value is negligible.[29, 30] Agencies routinely violate their own calls for field-validated needs assessments as a precursor to intervention.
- Needs assessments are too slow to drive initial humanitarian response.[31]
- Needs assessments are often conducted by operational agencies in order to substantiate a request for funds. Hence, they are often seen as the 'front-end' of a process which culminates in project design and donor solicitation. Consequently, there are inherent questions of supply-driven responses, and distortion of the scale of the threat and the importance of the proposed intervention.[32]
- The mutual tendency of agencies and donors to address crises with little reference to evidence erodes trust in the system.[33]
- The humanitarian aid system has to date faced comparatively little pressure to demonstrate that its interventions are evidence-based, even in the more limited sense of being based on known facts about the scale and nature of the problem being tackled.

In this context, OCHA has identified at least 17 global initiatives relevant to emergency assessment and analysis. In particular, the current interest in needs assessment by technical workgroups of the Inter-Agency Standing Committee (IASC) is long overdue. Standardised assessment tools and evidence-based methods that inform the response process remain the Holy Grail of the assessment community.

Recommendations in this area have been put forward by the Humanitarian Policy Group, the Tsunami Evaluation Coalition and Irish Aid.[34] Selected opportunities for enhancing evidence and expertise in needs assessment follow below.

1. Country background assessment is a precursor to disaster needs assessment data. In the health sector, for example, a country's pre-disaster health infrastructure, medical logistics mechanisms and disease surveillance system must be understood by those undertaking a post-disaster needs assessment. This informs the 'before-disaster' picture, against which the post-disaster picture is compared. However, gathering this background country data often becomes an additional burden in acute disaster settings. Among members of the response community, there is too much duplication and too much variation in practice. The humanitarian community must insist that concise, well-organised background country data are available from responsible stakeholders, whether compiled at international, regional or country level. The locus of control is not important. What is important is providing state-of-the-art background data to responders when a disaster strikes.

2. Defining the mission is fundamental. In disasters, doing the most good for the most people remains paramount, with the emphasis on the most vulnerable. Success is the ability to graduate from humanitarian aid to marginal self-sufficiency. Unfortunately, mission creep in disaster relief may in due course mean a departure from doing the most good for the most people to attempting the needful for all. Mission creep has many drivers, including advocacy groups that focus exclusively on the needs of client populations at the expense of broad public health needs. Decision-makers can help ensure that disaster relief focuses on the big picture: restoring marginal self-sufficiency to the population at large. The implications for information management are obvious. Information is imbued with context and detail. Field data on beneficiaries may focus on a village of 250 people or a displaced population of 250,000. Needs assessors can insist that data acquisition, particularly early on in the relief operation, remains focused on the information requirements of life-saving interventions which do the most good for the most people.

3. While well-established donor-funded mechanisms exist for competent inter-agency needs assessment, assessments verified by host governments are in fact routinely pre-empted by humanitarian actors in their haste to intervene. This haste takes several legendary forms; in the health sector, one example is the emergence of the field/floating hospital, whereby donors mobilise a field hospital based upon a request from an organisation the donor chooses to recognise. After the Sumatra earthquake of 2001, for example, the International Federation of Red Cross and Red Crescent Societies appealed for millions of dollars, ostensibly in support of the Indonesian Red Cross. A European donor to the IFRC provided a field hospital, which arrived before the UN mission had completed its assessment. However, the pre-existing hospital had remained functional, the imported hospital was unnecessary and the donation was inappropriate.

4. Minimum essential data sets (MEDS) in rapid epidemiological assessment must strike a balance between conciseness and completeness of understanding.[35] It takes discipline to develop and adhere to MEDS. Multi-agency participation, shifting priorities, a lack of assessment experience and entropy all tend to enlarge the data domains accumulated over time. Donors can help enhance the utility of needs assessments by insisting that their grantees comply with existing instruments and pool their findings within the relevant cluster. OCHA, as a purveyor of secondary source information, is in a position to exhort but not to enforce compliance with best practice.

5. Information is as important as other resources. Situation reports commonly detail emerging needs for additional material, financial and human resources. It is less common for them to articulate a need for additional information as part of their list of resource requirements. Even after initial needs assessment, information priorities can be anticipated. Data-gathering and analysis should be planned endeavours, not improvised. Donors can ask to see that planning. More importantly, a donor can serve as a just-in-time provider of financial, logistical or telecommunications resources to enable prompt assessments.

6. Data-gathering and consequent humanitarian interventions are invasive procedures with unintended consequences. Good intentions do not excuse bad outcomes. Unnecessary data-gathering must be rejected in favour of a systematic approach to information management which best serves the entire community. Typically, an NGO will attend a sector coordination meeting and announce that it will undertake or has undertaken some survey which it offers to share. Differences between survey populations, data sources, methods and confidence intervals often hinder useful aggregation of yet another survey with the existing body of knowledge. The opportunity cost and notional transparency may not be worth the putative added value. Often, the survey is relevant only to the organisation that performed it. Agencies need to be sceptical of survey science as a source of information, especially

early on in a sudden-onset disaster. Once a survey is undertaken, some form of tracking service, such as the Health and Nutrition Tracking Service of the WHO, may potentially help with peer review, context interpretation and archiving.

7. Data have metadata. Data obtained by all parties involved are ideally accompanied by details on sources and methods, and the reliability of what is obtained.

Coordination

The scientific literature on the coordination of international humanitarian assistance is meagre. Overall, there is much that is anecdotal, but little evidence-based science to inform coordination efforts. Within the identified literature, several major themes emerge, which are summarised below.[36]

- Coordination is neither a recognised principle of the Red Cross/Red Crescent and NGO Code of Conduct nor an obligation recognised in the Sphere Standards.
- The effectiveness and impact of coordination are difficult to quantify.
- Benchmarks for collective action have yet to be developed.
- OCHA lacks the authority to direct relief efforts.
- Improved efforts are needed to coordinate with affected communities.
- Coordination requiring additional controls is not likely to come from the international aid community.

The consequences of poor coordination are easily understood. One of the most insidious is the tendency for early solutions to become permanent. When these solutions do not adequately encompass such things as protection issues, age- and gender-associated health risks and equitable access to resources, the consequences are troubling. Cluster leads are responsible for inter-agency coordination at critical junctures relevant to field practitioners and their beneficiaries. Selected opportunities relating to evidence and expertise follow below.

1. Transition milestones

Coordination processes attempt to shepherd the affected population from relief to development. This relief-to-development spectrum, while often characterised as a continuum, may be more productively seen as involving incremental milestones. In rough chronological order, these could include:

a. All major affected jurisdictions are geographically assessed.
b. All major affected jurisdictions have an identified host country governmental decision-maker on site (or accessible).
c. All major affected jurisdictions have host country sector-specific administrative leads on site (or accessible), with the resources they need to resume their work.
d. All major affected jurisdictions have explicit partnerships between indigenous/international NGOs and local service providers in a given technical sector.

Box 1

Failed coordination in the health sector in Aceh Jaya, Indonesia, after the 2004 tsunami

One example of failed coordination concerns the health sector in Aceh Jaya, Indonesia, after the 2004 tsunami. The WHO medical coordinator on site was unable to sufficiently resource the local health authorities to resume their work (step e). The director of the district health office lived and worked out of a tent with his staff long after the relief community began working from container offices and living in imported compounds complete with air-conditioning, portable toilets, reticulated water supplies and hot meals. The district health officials, while competent and creative, were inadequately resourced to address the health issues of their district, much less produce routine written reports. Put differently, the UN technical lead agency for health, while fully engaged with the national and provincial health authorities, failed to restore the marginal self-sufficiency of district health authorities for months after the disaster.

e. Host country sector-specific administrative leads are discharging their routine duties with the production of routine reports.
f. Host country sector-specific administrative leads are producing routine reports as well as progressively handling the coordination functions of the relief effort.

Reaching these milestones is a function of good coordination. Indeed, a major goal of coordination is to enable marginal self-sufficiency among local authorities. Inadequate coordination can impair if not arrest recovery. An example from the 2004 tsunami is given in Box 1.

Interveners can foster inter-agency coordination by recognising these milestones and treating them as performance benchmarks.

2. Tools

The written work products of cluster coordinators remain variable. Much more progress could be made in standardising these work products in clear, concise and consistent ways. Certain sectors, like health, have very stylised formats for data presentation which conform to international best practice. However, for most sectors, and for the relief effort as a whole, periodic situation reports are typical information tools. Sector coordinators writing such reports have a three-fold opportunity:

a. The leadership opportunity to quickly demonstrate an ability to organise cross-cutting information relevant to numerous stakeholders in the disaster response.
b. The strategic opportunity to shape a common understanding of disaster relief priorities.

c. The tactical opportunity to quickly orient fellow sector participants among organisations newly arriving in the field.

UNHCR is developing one-page displays of time-trend information across various sectors in refugee relief. Donors can foster inter-agency coordination by helping with the development and dissemination of concise coordination tools. To this end, there is much to be learned from pioneers in the visual display of quantitative information.[37]

Donors are also in a position to hold accountable those responsible for producing coordination tools. OCHA is often criticised for failures in coordination and in broader information management. However, OCHA commonly does a masterful job at managing secondary source information; it can only be as timely and authoritative as the information supplied to it by technical sectors allows. Donors need to be much more precise in their expectations of sector/cluster leads and in their analysis of the information they produce. However, donors also need to understand that a competent coordination mechanism does not guarantee good outcomes. Indeed, it may be exemplary in the setting of poor outcomes such as excess mortality. Excess mortality is but one kind of evidence that the coordination process has not yet achieved important goals.

3. Professionalisation

With a vulnerable population at hand, complex technical issues in the field, formidable consequences of error, increasing intervener accountability and extensive media scrutiny, field operations require multi-disciplinary expertise. Expert opinion is most needed at interfaces of traditional technical disciplines, such as epidemiology and nutrition, shelter and livelihoods, environmental health and clinical care. Highly evolved evidence-based technical disciplines require explicit qualifications from their technical leaders. Technical disciplines commonly have hallmark qualifications obtained through apprenticeship training programmes, criterion-referenced examinations, and ongoing peer review. However, humanitarian assistance is striking for its near absence of qualifications. Even within the health sector, there are no explicit standards for the education, training or evaluation of health personnel who respond to disasters.[38] Expatriate health care providers working in disasters are often not considered qualified to render an informed opinion in the leading clinical and public health institutions of their home countries.

Professionalism in humanitarian assistance, evidenced by specialist training qualifications and extensive experience among its practitioners, will help foster the proper use of evidence and the provision of proper services to beneficiaries. This is especially important for cluster leads. Indeed, future cluster leaders in humanitarian assistance will probably be selected for these attributes. This concept will not be popular either with the people who lack such qualifications or with the organisations that routinely employ them. However, international technical organisations have long called for the professionalisation of disaster personnel.

Evaluation

The scientific literature on the evaluation of humanitarian assistance is extensive. Approaches include the scientific (relying on quantitative measures), the deductive (relying on anthropological and socio-economic methods) and the participatory (relying on the views of programme beneficiaries).[39] The World Bank defines impact evaluation as the systematic identification of the effects – positive or negative, intended or not – on individual households, institutions and the environment caused by a given development activity.[40]

Several major themes in the evaluation literature are summarised below.

- Appropriate tools and methods exist that can provide reliable analysis of the impact of humanitarian aid.[41] Measures of effectiveness are well-defined in the humanitarian assistance literature; they constitute operationally quantifiable management tools that provide a means for measuring the effectiveness, outcome and performance of disaster management.[42]
- Many donors, including USAID, DFID, AusAID, ECHO, CIDA and DANIDA, have adopted results-based management approaches. Extensive analysis of these approaches has revealed numerous concerns, including simplistic assumptions of cause and effect, the reinforcement of tendencies to apply established approaches at the expense of innovative ones and the neglect of important dimensions of assistance, such as protection. Nonetheless, the movement towards the evaluation of impact is well-established and growing.
- Evaluation experts have begun to apply the tools of classic evidence-based disciplines, such as randomisation, to issues of development.[43]

The World Bank describes four types of impact evaluation, summarised in Table 5.[44]

The World Bank considers study types 3 and 4 as rigorous (i.e. best able to estimate the magnitude of an intervention's impact, establish a causal relationship between the intervention and the impact and distinguish that causality from confounders). There are numerous methodological challenges involved in rigorous studies, including the choice of comparison (control) group and the elimination of bias. Moreover, these methods are expensive, typically costing $200,000–$900,000 per study. With its budget of $23,000,000 a year, the World Bank Operations Evaluation Department reports that it has conducted 23 rigorous impact evaluations since 1980, and estimates that it can undertake one per year.

The many obstacles and few incentives to good evaluation create what some investigators have called an 'evaluation gap'.[45] The limited corpus of rigorous studies is notable in fields as diverse as teacher training, student retention,

Table 5: Four models of impact evaluation

Model	Design	Example	Time and cost
1. Rapid assessment post-impact	Variable reliance on case studies, participatory methods and key informant interview	Community-managed water supply	1–2 months to a year, $25,000 upwards
2. Post-project comparison of beneficiaries and control group	Data collected after project completed; sample surveys and multivariate analysis used to statistically control for differences in the two groups	Micro-credit programmes	Time and cost half to a third of Model 1
3. Quasi-experimental design with comparisons before and after the project	Interventional and control groups without randomisation, studied as above	Housing programmes	As per Model 1
4. Randomised pre- and post-intervention evaluation	Intervention and control groups randomised, then studied by questionnaires or other standardised instruments	Water supply and sanitation, housing programmes	1–5 years $50,000–$1,000,000

health finance, microfinance programmes and public health messaging. However, the cost of an evaluation is most properly gauged not against the programme under study but against the value of the knowledge it yields. Ultimately, ignorance is more expensive than impact evaluation.

Humanitarian assistance post-disaster seems particularly difficult to evaluate with rigour. The compelling urgency to provide assistance, the difficulty in establishing a post-disaster and pre-intervention baseline and the technical and ethical challenges of choosing a disaster-affected control group all limit such studies. Overall, it appears that study types 1 and 2 will remain most appropriate in humanitarian assistance. Nonetheless, the paucity of detailed studies is striking, and existing studies provide a rich source of insight. The Tsunami Evaluation Coalition, for example, has identified 21 practical ways of reorienting humanitarian practice in light of its findings.[46]

Chapter 5
Conclusions and recommendations

One pioneer in evidence-based decision-making cautions: 'When beliefs conflict with evidence, beliefs tend to win'.[47] Experience shows that the proper use of evidence may not prevail in decision-making in humanitarian action. Evidence-based decision-making encompasses external evidence, expertise and beneficiaries' values and circumstances. Different professional disciplines will place a different premium on each of these components. Taken together, evidence-based decision-making may still not ensure good outcomes. An evidence-based consultant can help you go wrong with confidence. However, evidence informs the process. Evidence will help us understand the risks, benefits and consequences of our humanitarian choices. Evidence is most likely to correctly explain our successes and failures. Conceptual clarity precedes action. The leadership opportunities are precisely in catalysing the process within the humanitarian community.

Implementing agencies

Implementing agencies, and host country counterparts, work in challenging contexts. The field context may involve complicated issues surrounding the root causes of a disaster, operational security, the transparency of data and action, the politicisation of relief and, ultimately, the appropriateness of the intervention. Operational constraints may be formidable, and available local solutions may appear to ignore if not undermine the core principles of an agency. Withdrawal from the field, particularly in complex emergencies, is sometimes selected as the only feasible option.

Implementing agencies, at their best, provide technical competence linked to human, material and financial resources in an evidence-based, context-appropriate manner. In the health sector, implementing agencies commonly vest decision-making authority in a medical coordinator. The medical coordinator ideally possesses the technical competence to render an informed opinion, the administrative authority to mobilise resources and the organisational responsibility for outcomes. Scant literature exists on the uses of evidence by these decision-makers. Nonetheless, basic principles of evidence-based decision-making reveal leadership opportunities for these key individuals and the organisations which support them.

Recommendations for implementing agencies

1. Acknowledge the main objective of humanitarian assistance: doing the most good for the most people to enable a return to marginal self-sufficiency. In disaster relief operations, this often means saving lives and alleviating human suffering.
2. Compile and share country background data organised according to a common international standard.
3. Limit commodity-driven donations for specific humanitarian sectors pending multi-party evidence-based needs assessments.
4. Insist on the development of and adherence to standardised minimum essential data sets in initial rapid assessment.
5. Call for information priorities in assessment reports along with intervention priorities.
6. Resist calls for survey scientists early on in a disaster relief operation.
7. Understand the milestones of relief in humanitarian assistance. Define these milestones and insist that sector/cluster leads report on them. Verify that micro-planning exists to achieve these milestones, without micro-managing them.
8. Foster the design and development of concise sector/cluster-specific tools for inter-agency coordination. Be aware of common errors in the visual display of quantitative information.
9. Insist on NGO participation in sector coordination activities.
10. Recognise when a sector-specific coordination process is progressively (not) working:
    a. All major affected jurisdictions are geographically assessed.
    b. All major affected jurisdictions have an identified host country governmental decision-maker on site (or accessible).
    c. All major affected jurisdictions have host country sector-specific administrative leads on site (or accessible) and resourced to resume their work.
    d. All major affected jurisdictions have explicit partnerships between indigenous/international NGOs and local service providers in a given technical sector.
    e. Host country sector-specific administrative leads are discharging their routine duties with the production of routine reports.
    f. Host country sector-specific administrative leads are producing their routine reports as well as progressively handling the coordination functions of the relief effort.
11. Distinguish between informational meetings and decision-making meetings in the coordination process. Minimise the former and maximise the latter.
12. Distinguish between process reporting and outcome reporting. Do not accept process indicators as measures of effectiveness, and insist that progress towards minimum standards is quantitatively reported.
13. Begin to define disaster malpractice. Start by recognising outright departures from accepted practices associated with bad outcomes. Be willing to name and shame repeat offenders.

Donors

Donor lessons learned in international aid activities have been meticulously recorded for over a generation. In July 1980, USAID funded the Water and Sanitation for Health

(WASH) Project. WASH functioned as a network providing information, technology transfer, technical assistance and training in support of USAID's efforts worldwide. WASH ultimately worked on some 800 activities in 85 countries. At the close of the project, WASH produced a comprehensive analysis of its experience.[48] This was remarkable at the time for its explicit discussion of best practices in technical assistance, including the discrete roles of different stakeholders – government (central and local), donor agencies, NGOs, local beneficiaries and the private sector.

The advent of evidence-based decision-making allows new opportunities for donors to fulfil their unique roles in humanitarian assistance. For example, donors have unique opportunities to monitor field programmes. Programme monitoring can identify problems which would otherwise escape attention until detected by an evaluation. Monitoring can also help to verify progress towards meeting minimum standards. Heretofore, some donors have been willing to fund field projects without monitoring, much less evaluation. Only donors can stop such practices. Donors can also develop grants guidelines which stipulate a budget line for monitoring and evaluation of their projects. Should local circumstances preclude evaluation of a given project, M&E funds could be pooled to provide for an efficient, coordinated review of projects within a sector or jurisdiction.

Monitoring is not evaluation. Deficiencies in evaluation, characterised as an 'evaluation gap', have led to numerous proposals for improvement.[49] Core proposals are:

1. Establish quality standards for rigorous evaluations.
2. Administer a review process for evaluation designs and studies.
3. Identify priority topics.
4. Provide grants for impact evaluation design.

Donors can play a decisive role in 3 and 4: identifying priority topics as well as providing grants for design of impact evaluation. This is analogous to the role donors played in the Standardised Monitoring and Assessment of Relief and Transitions (SMART) Initiative.[50] Donor leadership paved the way for ground-breaking technical standards in nutrition surveys, mortality surveys and food security assessments. Evaluation holds the same potential.

Donors have fiduciary as well as technical responsibilities, which call for a wide range of indicators and metrics. A detailed discussion is beyond the scope of this paper. However, metrics of particular relevance to donors – namely cost-effectiveness – merit further consideration. CIDA is sponsoring a US NGO working in community-based health programming which reports its impacts in terms of deaths averted (i.e. lives saved).[51] Such a metric may enrich health sector analysis, especially when triangulated with mortality surveys and vital events (births and deaths) registration. In the future, if validated through field application, the metric could enable benchmarking and the comparison of projects across jurisdictions and over time.

Overall, different donors may have different institutional preferences for the activities they undertake. Nonetheless, basic principles of evidence-based decision-making reveal generic leadership opportunities for donors regardless of the types of activities they choose to fund. Selected opportunities are listed below.

Recommendations for donors

1. Define the levels of evidence expected of grantees necessary to justify project proposals.
2. Detail the 'good citizenship' expected of grantees with regard to uses of information and evidence.
   a. Participate in rapid epidemiological assessments (REA).
   b. Georeference key locations where possible.
   c. Coordinate surveys with sector leads.
   d. Share REA and survey findings with sector colleagues and host country counterparts.
3. Mandate the reporting of sentinel events, including deaths and incidents of sexual and gender-based violence, as security conditions permit. Require explicit justification for the selective withholding of such information if deemed harmful to data gatherers or programme beneficiaries in complex emergencies. In general, link adequacy of reporting to continued programme funding.
4. Stipulate in grants guidelines the hiring of key programme staff (e.g. sector coordinators), with appropriate specialist qualifications.
5. Employ technically competent field officers who understand sector-specific best practices from extensive international field experience. Deploy them to the field as donor representatives with spending authority to assist the process of sector/cluster coordination. This is not the same as hiring donor representatives with geographic (rather than technical) areas of responsibility, whose scope of work is largely administrative, with a focus on reviewing grants, making site visits and writing reports.
6. As part of monitoring and evaluation, undertake site visits of the donor's choosing in conjunction with cluster/sector leads.
7. Identify priority topics in programme evaluation and provide seed money for impact evaluation design.
8. Support operations research, particularly in the domain of cost-effectiveness indicators and metrics in humanitarian assistance.
9. Identify, study and disseminate information on programmatic success stories in the field.
10. Identify, study and disseminate information on programmatic failures in the field.
11. Encourage the incorporation of evidence-based theory into existing knowledge of sector-specific best practices in technical assistance.
12. Envision the donor role as just-in-time guarantor of resources for evidence-based decision-making. This specifically includes critical information gaps requiring evidence or expertise.
13. Embrace evidence-based decision-making as an ongoing theme of Good Humanitarian Donorship.

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