

UHC2030 Technical Working Group on UHC in Fragile Settings

No.1

**Guidance document to assess
a healthcare arena under stress**

June 2019

June 2019

Enrico Pavignani and Sandro Colombo

The paper has been commissioned by the UHC2030 secretariat on behalf of the UHC2030 Technical Working Group on Universal Health Coverage in Fragile Settings and the UHC2030 Technical Working Group on Health Systems Assessments.

Contents

Acronyms And Abbreviations	4
Foreword	5
1 How To Use This Guidance	8
2 Introduction	13
Summary Of The Hsas' Review.....	16
The Rationale And Objectives Of The Guidance.....	19
A Note On The Concept Of Fragile State.....	21
3 Goals, Uses, Roles And Expectations Of Stakeholders In The Hsa	23
4 Conceptual And Methodological Considerations	28
Clarifying Key Issues.....	32
5 Preparatory Work And Practical Arrangements	41
6 Aspects To Be Considered	48
A. The Context.....	49
B. Health Status, Needs And Healthcare Demand.....	61
C. Health Financing And Expenditure.....	69
D. Human Resources For Health (Hrh).....	76
E. Healthcare Networks.....	82
F. Pharmaceuticals.....	88
7 Cross-Cutting Domains	93
A. Health Governance.....	94
B. Health Information And Knowledge Management.....	102
C. Healthcare Provision.....	108
8 Organising And Synthesising The Collected Information	123
9 "Validating" The Findings	126
10 The Necessary Follow-Up	128
11 Some Conclusions And Recommendations	132
Annex 1: Recommended Reading	134
Annex 2: A Glossary Of Concepts And Definitions	140
Annex 3: Review Of Hsas	148
Annex 4: Grid For The Review And Synthesis Of Health System Assessments	154
Annex 5: Selected Qualitative Methods, Relevant To A Hsa: A Short Description	156
Annex 6: On The Use Of Health Outcome Indicators In Health System Assessments	158
Annex 7: Some Aphorisms (On The Limitations Of Human Knowledge)	162
Annex 8: Considerations On Carrying Out A Remote Hsa	164
Annex 9: How To Formulate And Negotiate Tor For A Hsa	167
References	169
Box 1: Recovery And Peacebuilding Assessments	22
Box 2: Beware Of Theories Unsupported By Facts	29
Box 3: The Politics Of Population Data	53
Box 4: Comparing Mortality Rates: A Tip	62
Box 5: How Findings Morph Into Targets	78
Box 6: Hybrid Governance Configurations	95
Box 7: Making Sense Of Massaged Data	124
Case Study 1: The Liberia Situational Analysis 2011: Solid Product Of An Elaborate Process	17
Case Study 2: The Darfur Health And Nutrition Recovery Strategy 2012-3	46
Case Study 3: South Sudan: Many Hsas About Nothing?	59
Case Study 4: The Health Component Of The Somali Joint Needs Assessment 2005-7	131

Acronyms and Abbreviations

ACAPS	Assessment Capacities Project
ALNAP	Active Learning Network for Accountability and Performance in Humanitarian Action
BB	(WHO) Building Blocks
CGD	Center for Global Development
CHW	Community Health Workers
CMR	Crude Mortality Rate
D-JAM	Darfur Joint Assessment Mission
DHS	Demographic and Health Survey
EPHS	Essential Package of Health Services
FTS	Financial Tracking Service
GDP	Gross Domestic Product
HG	Health Governance
HeRAMS	Health Resources Availability Monitoring System
HESPER	The Humanitarian Emergency Settings Perceived Needs Scale
HH	Household
HRH	Human Resources for Health
HS	Health System
HSA	Health System Analysis / Assessment
HSS	Health System Strengthening
IASC	Inter-Agency Standing Committee
ICG	International Crisis Group
ICRC	International Committee of the Red Cross
IDP	Internally Displaced Persons
IFRC	International Federation of Red Cross and Red Crescent Societies
IOM	International Organization for Migration
IRIN	formerly Integrated Regional Information Networks
M&E	Monitoring and Evaluation
MHU	Mobile Health Units
MICS	Multiple Indicator Cluster Survey
MoH	Ministry of Health
MSF	Médecins Sans Frontières
NCD	Non-Communicable Diseases
NHA	National Health Accounts
ODI	Overseas Development Institute
PRISM	Performance Routine Information System Management
SARA	Service Availability and Readiness Assessment
UNHCR	United Nations High Commissioner for Refugees
WFP	World Food Programme
WHO	World Health Organization

Foreword

The guidance document for health system assessment (HSA) in fragile, conflict-affected and vulnerable settings (FCV) is a joint initiative by the UHC2030 Technical Working Group on Universal Health Coverage (UHC) in Fragile Settings, the UHC2030 Technical Working Group on Health Systems Assessments and the Global Health Cluster and WHO Task Team for Essential Packages of Health Services in Humanitarian contexts. The document was commissioned by UHC2030.

The World Bank Group estimates that over 1.6 billion people or 22% of the world's population currently live in fragile, conflict-affected or violent contexts. These contexts are often characterized by disrupted health systems and inequitable service delivery. They are particularly vulnerable to disasters, epidemics and other health emergencies, all of which further weaken these health systems and together can slow or reverse development gains.

Fragile contexts are often highly complex and dynamic, with associated operational constraints and risks. Standard development partnership models may not be effective, while humanitarian interventions may lack the scope and scale needed to meet all the needs. Yet to accelerate progress towards the SDGs, in particular SDG target 3.8 on UHC, and realize the overall vision of leaving no one behind, the international community must prioritize these areas and populations in greatest need.

In all contexts, efforts by governments and partners to strengthen health systems should be informed by assessment of health system capacities and performance. In FCV settings, this can be especially challenging. This document seeks to fill a gap in providing guidance on how to do a health system analysis and foster an ongoing process to inform decision-making, adapted to FCV contexts. The HSA is considered a first step to steer humanitarian and development stakeholders, as well as decision-makers at national and local levels, in considering policy options, setting priorities, and allocating resources. A central premise – especially relevant in FCV settings – is that analysis of the political and social context should be a basis for any engagement to address constraints and build capacities of health systems.

As the authors set out in the introduction, this guidance will serve different purposes for different audiences. Its primary audience is professionals who are, or plan to be, involved in doing a health systems assessment. It is designed in a way that the assessment process and findings can inform health system strengthening approaches when and where opportunities arise. It can be applied as an aid in early recovery approaches in humanitarian response, as well as to improve preparedness.

Where possible, HSA should be coordinated under the leadership of the health authorities and other relevant health stakeholders. Additionally, the HSA guidance can be applied to inform non-state actors' priorities and investments and to identify opportunities for integrating humanitarian and development programming. The participation of different stakeholders in HSA varies according to context, political realities, capacity and commitment of different stakeholders.

Considering the dynamic contextual environments of FCV countries, HSA guidance and its application will have to remain flexible. This is therefore a living document and should be used as such. We welcome feedback so it can be further improved.

**Andre Griekspoor & Karl Blanchet, on behalf of the
UHC2030 Technical Working Group on UHC in Fragile Settings**



As complex as
things are today,
everything will be
more complex
tomorrow

(Kelly, 1994)

Epigraph

Authors' lament (and gentle plea to the reviewers)

Writing a guidance is not an easy task. If we don't include every reference, people say we are superficial. If we do include every reference, people will say it is too dense. If we include every perspective, people will say we are too discursive. If we don't, people will say we are being too simplistic. If we are occasionally light-hearted, people will say we are flippant. If we are not, people say we are too serious. If we accept too many contributing comments, people say we are too lazy to write ourselves, if we include all, the book will be full of rubbish. If we don't, we are accused of being too confident in our own abilities and failing to appreciate true genius.

Now, most likely, someone will say we took this from another document. Yes, we did.

Adapted from: Oxford handbook of public health practice;
Pencheon D, Guest C, Melzer D, Muir Gray JA. editors, 2006.

1

How to use this guidance

Key Messages

The guidance offers advice on how to assess health systems in crisis settings to a heterogeneous group of potential users. This chapter helps the different categories of readers navigate the text and use the guidance. It underlines that the document is not a reference book to consult, but a text that requires dedicated study, given the breadth of its contents and the complexity of the subjects discussed.

It stresses the inadequacy of applying normative approaches based on blueprints and universal frameworks in the analysis of health systems in diverse contexts under protracted or acute distress. It acknowledges that useful lessons learned from past crises, when regarded as relevant to the specific context, should be appreciated: they can help avoid some of the common traps, and foresee the outcomes of the processes under way.

The main guiding principles of the guidance are introduced, starting with the focus on learning rather than on solutions, and the advice of expecting the unexpected. A comprehensive scope to the assessment, its strong link to decision-making processes, the importance of an iterative cycle of analysis and attention to the process, in addition to the technical aspects, are at the top of the list of principles.

Readers will look at this guidance with different eyes, depending on their experience, competence and the tasks at hand. Health systems experts will probably focus their attention on the bibliography and case studies, to broaden and update their knowledge with new materials, and study unknown contexts. Less experienced professionals who are, or plan to be, involved in a health systems assessment (HSA) will study it thoroughly and in its entirety, together with the referenced materials. Some of these users will be tempted to skim the initial chapters and focus on chapters 5 and 6 which resemble, but are not simply, data collection tools: they are templates to be adapted to the specific context. This shortcut would be a mistake, like using a map with a very large scale for a trip: the traveller may recognise the borders and the big cities, mountains and rivers, but is likely to miss the fine and critical details and, as a result, risk taking the wrong turn and never reach the desired destination.

The initial chapters provide the technical and theoretical backdrop to the more practical components of an HSA. Contrary to its modular handbook precursor (Pavignani and Colombo, 2009), this guidance needs to be studied from beginning to end, devoting time and energy, until “one has the right eyes” (Rilke, 1944) and the materials make sense in a logical sequence. Analysing a troubled health system (HS) is not an easy task; the material provided in the guidance is vast and the concepts complex. The guidance requires, therefore, serious study and the continuous review of concepts that have proved relevant to the experience of conducting HSAs. Simply reading the guidance will not do justice, alas, to the breadth of its content and to the complexity of the subjects discussed. One should not be discouraged by the dense text in his/her first encounter: the concepts will become clearer as the user progresses.

Other users of the guidance, such as managers and donors, will benefit from the initial chapters on the role of stakeholders in an HSA, the conceptual considerations that drive the data collection and interpretation and, above all, from the discussion on the validation of findings of the analysis and required follow-up, which may fall under their responsibility. They may not be interested in the details of data collection and interpretation, but should be aware of the limitations of the methods and resultant findings.

The guidance shies away from normative approaches based on the application of universal frameworks and on rigid sequences of rules and procedures to diverse contexts. ‘Wicked’ problems defy the definition of clear objectives to be achieved, and the linear progression of inputs, activities and outputs is nice, but irrelevant, logframes. Gathering more information does not always reduce uncertainty, it can even add ambiguity with redundant and contradictory data. Framing questions in ways that elicit frank discussions is critical: standardised questionnaires can stimulate superficial or irrelevant answers, at worst inducing response bias. The importance of drawing on the ‘tacit’ knowledge of key informants (i.e. the knowledge obtained from their experience, not always verbalised) cannot be overrated. There is an increasing consensus on the need for shifting away from general best practices towards best fit interventions that are adapted to the context (Ramalingam, 2013).

The overall guiding principle of the guidance, which applies to both analysts and decision-makers, is “...to focus on learning rather than on solutions. Systems change in unexpected ways, but planners can learn to expect the unexpected...the goal should not be to meet predetermined benchmarks, but to learn which elements of one’s initial understanding of the system were right and which were wrong. These lessons can bring a sense of humbleness, which will encourage planners to listen to what the system is telling them instead of assuming they know best.” (Ricigliano, 2012)

Whereas no normative approach to HSA is recommended, some guiding principles applicable in most crisis settings are highlighted below. They will be discussed in detail throughout the guidance:

- the HSA needs to be comprehensive, encompassing the overall context in all its critical aspects, the causes, impact and evolution of the crisis, the HS in all its components and their interactions, the health status and needs, and the actors. Focusing only on specific components or issues in isolation from the rest leads analysts to misread the reality. In particular, aid-sponsored analyses tend to focus on specific programmes (e.g. maternal and child healthcare) or interventions (e.g. performance-based financing), without encompassing the entire HS. As a result, such analyses provide a limited picture that misses the complex web of determinants of HS performance and ignores the unexpected consequences of such interventions on sub-sectors, within the healthcare arena and outside it (de Savigny and Adam, 2009);
- there are useful lessons to be learned from past crises and whose relevance for the specific context has to be assessed; they help to avoid some of the common traps, and foresee the outcomes of the processes under way;
- the assessment should not limit itself to the public segment of the healthcare arena; both profit- and non-profit private service providers play an important role in the most distressed environments;
- analytical frameworks and tools help when used critically and creatively, to better reflect the healthcare arena under study. They become a hindrance when followed mechanically across vastly different contexts;
- crisis environments are by definition dynamic: HS should be studied historically, analysing their past features, and the policy decisions that affect their structure over time, their reaction to stressors and the changes induced by them. A forward-looking perspective is needed as well, with possible scenarios sketched and likely future events foreseen: the HSA should remain relevant as the crisis context evolves;
- ensuring that the HSA is linked to the decision-making processes is essential, so that the analysis can influence policy and operational changes;
- keeping a trans-national perspective is key in crises encompassing several neighbouring countries, which are the norm; Dewachi et al. (2014) have made a compelling case for adopting “...new transnational methods of inquiry so that we can begin to understand, before we are able to provide answers to, health problems of populations enduring protracted and long-term conflicts”;
- both quantitative data and qualitative information, flexibly adapted to the context, and drawn from multiple information sources, must be collected and integrated;
- the HSA process should be iterative, incrementally illuminating areas and aspects on which there is convergence of opinion, consistency of data and plausible explanations, and highlighting aspects that require further analytical effort;
- key process aspects are important, such as: a thorough preparation of the assessment, wide consultation with key stakeholders, an openness to alternative perspectives, extensive diffusion of findings and the follow-up of recommendations.

The following chapter sets the scene on the role of HSAs in the global health debate: it refers to other texts on HSAs, summarises the review of selected HSAs, defines the rationale and objectives of the guidance and provides a short cautionary note on the contested concept of the fragile state.

Chapter 3 describes the different roles of stakeholders and the uses of HSAs, briefly discusses why some assessments are not utilised suggesting ways to minimise this risk, defines the potential users of the guidance and sketches the ideal skills and experience of HS analysts.

Chapter 4 examines key conceptual and methodological considerations. After a brief discussion on approaches to HSAs, with a focus on HS thinking, the chapter presents issues to be clarified through consultation and consensus among stakeholders before starting the assessment, to avoid misunderstandings and disappointments about the HSA findings. It also examines the consequences of neglecting important factors in the analysis of HS. Key lessons learned from relevant HSAs are discussed.

Chapter 5 delves into the preparation of HSAs: it draws attention to practical arrangements and tips that will help save time and avoid common traps and mistakes. It provides suggestions on how to identify informants, prepare meetings and field visits. It also highlights the key steps of developing study questions and raising awareness on the political nature of HSAs and on the consequent risk of the manipulation of findings.

Chapter 6 examines key aspects, issues and areas to be considered in data collection and analysis, including with real-life examples. After a discussion on the importance of studying the overall context, history, economy and demography of the country/region to be analysed, the chapter examines the various components of a HS. For each of them, a table suggests specific issues that can guide the analysts with tips and recommended readings.

Chapter 7 examines cross-cutting domains: health governance, health information and knowledge management, and healthcare provision. For the latter, a matrix is proposed to synthesise the different modalities of healthcare provision, key providers and recurring patterns. The matrix is then applied to Syria, to show how critical it is, in a complex situation, to understand the diversity of sub-national contexts and the adaptation of healthcare provision to each.

Chapter 8 briefly describes the HSA process, focusing on how to organise and extract the relevant information, which will always be incomplete and uneven, with areas and aspects that have been elucidated and others that will remain obscure, at least initially. HS analysts may lose their compass bearings when confronted with complex and fragmented healthcare arenas (which is quite a common occurrence, be they violence-affected or not). A set of questions is, therefore, proposed to help the analysts remain focused on priority problems and possible solutions.

Chapter 9 examines options for validating the findings, facilitating their dissemination and encouraging their use. To anticipate this chapter's core message, the acid test of any guidance is its later intelligent use, helped by adapted methods of dissemination to the specific context.

Chapter 10 highlights the importance of follow up: the HSA should not provide a static picture in a dynamic context: changes occur that need to be captured and 'black holes' of the HS performance need to be filled iteratively to get a real understanding of the reality.

The final chapter pulls together key issues discussed in the previous chapters and puts forward some suggestions to make the guidance more effective. A short story by J.L. Borges and a poem by W. Szymborska conclude the document, resuming the initial metaphor of the guidance as a general map that provides a flexible route to an approximate destination.

Boxes with case studies, examples and tips are interspersed in the text in order to illustrate and clarify key concepts.

The annexes include an annotated selection of recommended articles and books, a glossary of terms and concepts (which appear in italics throughout the text), the full synthesis of the review of selected HSAs, a short description of selected qualitative methods relevant to HSA which are not part of the normal toolbox of HS analysts, a 'critique' on health outcome indicators and a selection of relevant aphorisms.

The user of this guidance is recommended, starting as early as possible, to read the documents proposed in Annex 1, which will complement, support and enrich the advice given in the pages that follow.

References

- Kelly K (1994). *Out of control: The new biology of machines, social systems, and the economic world*. Basic Books, New York.
- Pavignani E, Colombo S (2009). *Analysing disrupted health sectors. A modular manual*. WHO. Retrieved from: https://www.who.int/hac/techguidance/tools/disrupted_sectors/adhsm.pdf.
- Ramalingam B (2013). *Aid on the edge of chaos: rethinking international cooperation in a complex world*. Oxford: Oxford University Press.
- Ricigliano R (2012). *Making peace last*. Boulder Paradigm Publications.
- Rilke RM (1995) [1944]. *Lettres sur Cézanne*. Paris, Seuil.

2

Introduction

Key Messages

The main goal of the guidance is to help the professionals involved in the assessment of health systems under stress and the users of its findings to identify and understand the critical HS issues to be addressed and the obstacles to implementation of the recommended measures likely to be encountered. To achieve this goal the guidance advocates for the application of a complexity approach, which allows the analysis of the underlying, interdependent aspects of the health system in the dynamic context of the crisis.

Texts on HSA are available: however, with one exception, they were not conceived for use in distressed settings, which require flexible approaches and an intelligent use of the scarce information available.

The review of HSAs from different crisis settings allowed the identification of several shortcomings, particularly inadequate contextualization, the flawed conceptualization of key issues, the neglect of important aspects, their overly descriptive nature and their inadequate information management.

The guidance warns against the use of the fragile states label, a term that obfuscates rather than clarifies a heterogeneous and broad set of diverse situations.

In recent years, a great deal of debate and rhetoric in global health has focussed on the importance of health systems strengthening (HSS), especially in fragile situations, since the converse, stand-alone disease-control programmes, have shown their long-term limitations. The ways policy-makers conceptualise HSS are, however, multiple and confusing. In order to clarify what HSS stands for a useful distinction has been proposed between health system (HS) strengthening activities that enhances permanently systemic performance (e.g. introducing a new financing policy) and those that support the system by filling some gaps (e.g. procuring medicines) to produce improved short-term outcomes (Chee et al., 2013).

The impact of the Ebola outbreak has focused the attention of policy-makers on how to make health systems more resilient to shocks, capable of coping with uncertainties and unplanned events, and able to recover their functions after a crisis (Kruk et al., 2015; Blanchet et al., 2017). In addition, discussions centred on global health have recently broadened, from increasing access to health services to improving their quality, in order to maximise health outcomes and reduce health inequities (Kruk et al., 2018). The goal of improving 'effective coverage' and monitoring it (Ng et al., 2014) is, however, particularly difficult to achieve in crisis settings, where the context is insecure and chaotic, health governance is weak, information scant, institutions fragile, financing inadequate and unpredictable, healthcare provision fragmented and volatile. All these factors contribute to an obscuring of the understanding of the most critical health system issues and patterns, how they interconnect and mutually influence each other, and hinder the introduction of the required measures.

This guidance aims to help the professionals involved in the assessment of health systems (HSA¹) under stress, and the users of its findings, including implementers and managers, to better understand those critical issues and the obstacles to the implementation of the recommended measures. The guidance should be used like a general map that points to the approximate destination in a continuously changing landscape, draws a rough route, variable according to the departure points, fellow travellers, events occurring along the way and the baggage to carry, warns about dangerous

turns and shortcuts, suggests how to read road signs and ask for information on the way ahead. Moreover, such a map refers the reader to the tales of previous travellers, rich with tricks and hints from their experience. More detailed and specific maps can be derived from the general one, according to the needs of the health system analyst travelling that journey.

Given the variability of the contexts, the complexity and variability of health systems, and scope and objectives of the assessments, an HSA guidance cannot be normative, based on fixed approaches, standards and tools. Instead, the guidance advocates for complexity² approaches to health system assessment (HSA), to analyse its underlying, interdependent aspects within a connected whole and in the dynamic context of the crisis (Ramalingam, 2013; de Savigny and Adam, 2009). Collaboration with other disciplines more familiar with these approaches and methods, still relatively new in public health, has become essential.

A few texts on HSA, published over the last decade, have offered advice to analysts. Most are aimed at stable, national health systems, which can be assessed with conventional quantitative methods of international recognition.

Van Olmen et al. (2012) built their guidance around a HS framework that expands the WHO Building Blocks (BB) model (WHO, 2007) to incorporate new elements and functions and their interactions in order to analyse the structure and functioning of HSs at national, meso- or micro-level. The result is dynamic rather than static, with governance, health workers and the served community taking centre stage. Crucially, this framework highlights the role of the values underlying the HS.

Berman and Bitran (2011) refer to the typology of descriptive, analytical and explanatory / predictive approaches to HSA, increasingly more demanding but also more valuable for decision-makers. It is worth noting that many HSAs sponsored by the World Bank have adopted a range of methods rather than following a corporate format. Berman and Bitran agree with van Olmen et al. (2010) on the importance of examining other contextual dimensions, such as politics, history and institutional arrangements to better understand HS problems.

The USAID textbook (2017), more aligned to traditional methods, presents “a structured, indicator-based methodology for rapid, comprehensive assessment of a country’s health system”. Based on the WHO BB framework, the manual consists of six modules, each one with proposed indicators that can be used to assess a country’s health system performance.

A different manual, oriented to troubled settings, was published by WHO (Pavignani and Colombo, 2009). Its thematic modules suggest ways of analysing the context, as well as the patterns recurring in healthcare arenas in turmoil. They offer experience-based advice for addressing them and

how to contain most common pitfalls. The variety of situations and processes described in this manual recommends the adoption of tailored approaches to HSA which are adjusted to its scope, context and available information. In the decade that has elapsed since this publication, the depth of the insights gained in responding to assorted crises has grown, calling for an update that will necessarily add layers of complexity to an already complex training tool.

This guidance updates the modular manual with new concepts and examples, but does not replace it; most sections refer to it for its more comprehensive scope and detailed discussion of HS issues.

Recommended reading

- Kruk ME, Myers M, Varpilah ST, Dahn BT (2015). What is a resilient health system? Lessons from Ebola. *Lancet*, 385: 1910–12.
- de Savigny D, Adam T (2009). Systems thinking for health systems strengthening. WHO. Retrieved from: http://apps.who.int/iris/bitstream/handle/10665/44204/9789241563895_eng.pdf;jsessionid=41219B77A1F83A0C96D270A2B8F60C0D?sequence=1.
- Van Olmen J, Criel B, Van Damme W, et al. (2012). Analysing health systems dynamics. A framework. *Studies in Health Services Organization & Policy*; Report No. 28. Retrieved from: <http://dspace.itg.be/bitstream/handle/10390/6945/2012shso0028.pdf?sequence=1>.

References

- Berman P, Bitran R (2011). Health Systems Analysis for Better Health System Strengthening. Health, Nutrition and Population paper. IBRD / World Bank. Retrieved from: <http://siteresources.worldbank.org/HEALTHNUTRITIONANDPOPULATION/Resources/281627-1095698140167/HealthSystemsAnalysisForBetterHealthSysStrengthening.pdf>.
- Blanchet K, Nam SL, Ramalingam B, Pozo-Martin F. (2017). Governance and capacity to manage resilience of health systems: towards a new conceptual framework. *Int J Health Policy Manag*, 6(8), 431–435. Retrieved from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5553211/pdf/ijhpm-6-431.pdf>.
- Chee G, Pielemeier N, Lion A, Connor C (2013). Why differentiating between health system support and health system strengthening is needed. *Int J Health Plann Manag*, 28: 85–94. Retrieved from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3617455/pdf/hpm0028-0085.pdf>.
- Kelly K (1994). *Out of control: The new biology of machines, social systems, and the economic world*. Basic Books, New York.
- Kruk ME, Gage AD, Arsenault C, Jordan K et al. (2018). High-quality health systems in the Sustainable Development Goals era: time for a revolution. *Lancet Glob Health*. Retrieved from: [https://www.thelancet.com/journals/langlo/article/PIIS2214-109X\(18\)30386-3/fulltext](https://www.thelancet.com/journals/langlo/article/PIIS2214-109X(18)30386-3/fulltext).
- Ng M, Fullman N, Dieleman JL et al. (2014). Effective coverage: a metric for monitoring universal health coverage. *PLoS Med*, 11,9. Retrieved from: <https://journals.plos.org/plosmedicine/article/file?id=10.1371/journal.pmed.1001730&type=printable>.
- Pavignani E, Colombo S (2009). *Analysing disrupted health sectors. A modular manual*. World Health Organization. Retrieved from: https://www.who.int/hac/techguidance/tools/disrupted_sectors/adhsm.pdf.
- Ramalingam B (2013). *Aid on the edge of chaos: rethinking international cooperation in a complex world*. Oxford: Oxford University Press.
- USAID (2017). *Health Systems Assessment Approach: A How-to Manual; version 3.0*. Retrieved from: <https://hsaamannual.org/download-the-pdf/>.
- World Health Organization (2007). *Everybody's business. Strengthening health systems to improve health outcomes. WHO's framework for action*. Retrieved from: https://www.who.int/healthsystems/strategy/everybodys_business.pdf.

Summary of the HSAs' review

A review of selected HSAs from different crisis settings and periods was carried out in preparation for the guidance's development, the full appraisal of which is included in Annex 3. As a summary of the review, the following inter-linked shortcomings were identified which will be discussed further in the rest of the guidance:

- inadequate contextualization, particularly of the causes of the crisis, their influence on the HS and impact on health status;
- neglect of the past, with most HSAs providing a 'frozen' picture of the HS, without an analysis of the trends, historical patterns and path dependence³;
- flawed conceptualization of key issues, such as 'governance', frequently mistaken for 'government', which leads to an underestimation of the role of non-state actors.
- state-centric perspective, strengthened by the state-building donor discourse, which leads to the overlooking of:
 - trans-border health care
 - large within-country differences
 - private and informal provision
 - private financing, including remittances and other diaspora contributions
 - the views of constituencies opposing or distrustful of the central state.
- recurrent neglect of several important aspects, such as hospital care, referral flows, perspectives of grassroots organisations and networks, as well as of the users of health services;
- uncritical adhesion to rigid / static frameworks, like the official management and level-of-care pyramid; inappropriate adoption of binary categories to describe fuzzy HS features, such as public/private, formal/informal, etc.;
- inadequate information management, with a big variance in terms of data presented, their interpretation, misuse of health indicators, etc.;

- overly descriptive nature, with little effort to interpret data and information and establish links between them and the conclusions. At the other extreme of the spectrum, one of the reviewed HSAs used sophisticated analytical methods despite serious data limitations, which resulted in over-stretched conclusions;
- little space given to diversity, in terms of different perspectives and alternative explanations on controversial issues;
- inadequate summarization of findings, insufficient prioritisation of HS issues, lack of sequencing of recommendations and little attention paid to the follow-up of HSA suggestions.

No reference was made in the examined reports to the utilization of technical guidance, nor to the choice of frameworks and approaches for carrying out the HSAs. The WHO-proposed Building Blocks were, however, adopted in many cases.

Conversely, the best HSAs in the studied sample were characterised by a protracted, careful preparation, were carried out and supported by insiders, promoted by government, well resourced, extended over time, and having their production discussed with a vast array of stakeholders. Moreover, they were launched with an open agenda, without binding preconceptions. The Liberia HSA carried out in 2011 is a good example (described in Case study 1). Unsurprisingly, such an envelope of enabling factors materializes only in privileged circumstances.

The shortcomings that emerged in the review reinforce the perception that an updated technical guidance in HSAs is valuable and necessary, but alone may not be sufficient to improve the relevance and quality of the assessments. An improved diffusion of an HSA guidance, coupled with the training of public health professionals in this field, would be helpful but, to anticipate a conclusion, what seems more important is a critical utilization of HSAs by stakeholders for decision-making and planning, which may trigger a virtuous cycle and improve the quality of HS analysis.

Case Study 1.

The Liberia Situational Analysis 2011: solid product of an elaborate process

In 2010, at the end of the previous planning cycle (started in 2006), which covered the transition from post-conflict through recovery, the MoH decided to evaluate the results achieved, update the national health policy, and produce a 10-year national health plan. The perception of having concluded a successful cycle, which deserved full documentation, motivated this initiative. Aid agencies and NGOs provided technical support, funding and in-kind resources over a one-year period, under MoH leadership. The entire process, which cost around one million US dollars, included developing a roadmap, identifying the necessary policy changes, updating the package of basic health services, taking the policy discussion to the county level and, finally, aggregating the county plans into a 10-year national health plan, which became a central plank in the re-election campaign of the incumbent government. The situational analysis (or sitan), which took about three months, represented therefore the first step of the new planning cycle.

Access to available MoH information was ensured from start to finish. It was largely comprised of HMIS data and various surveys on the health work force and the facility network, complemented by DHS and census data. The fragmented project information collected by donor agencies was less valuable, due to the disparate data formats used by them and by their high number. Most donors were mildly supportive, or at least not obstructive, of a process led by the MoH, but few were actively involved and most were somewhat sceptical of the process until it was completed. Given the big investments made by donors in the Liberian healthcare arena, their stronger engagement in the sitan might have been expected, especially given that the new 10-year plan would guide their future investments.

Meanwhile, the summary analysis of the documentation available uncovered some distortions / departures from the planned goals. In short, the health system experienced an uncontrolled expansion of the public facility network and of the workforce, largely derived from donor-funded international NGOs, which absorbed considerable resources both in absolute terms and in relation to domestic revenues. Severe inefficiencies and widespread inequities plagued the sector, due to well-intentioned but disconnected sub-sector decisions. Such observations demanded further inquiries in order to be fully understood. Despite the abundance of detailed, programme-specific data, sector-wide, interrelated problems, such as inefficiency, inequity, and sustainability, had been overlooked. Paying too much attention to the trees, actors had missed the important developments taking place in the forest.

The sitan endeavoured to encompass the whole health care arena, as it was understood at the time, and to explain the identified problems. To that effect, it relied extensively on the ADHS manual as a tool for making sense of the available information and of its policy and planning implications. Sailing was not always smooth: criticism of certain shortcomings (such as the overreliance on expensive vaccination campaigns) was sometimes opposed by MoH officials expecting an unambiguously positive picture. Thus, the final text was partly sanitised due to the political context. Overall, the sitan remained a frank document greatly contributing to health systems understanding, essential for building a consensus about the changes that needed to be made to the policy and plan.

The sitan findings were extensively discussed and validated at central and peripheral levels. County-level consultations led by the MoH, perhaps the first of this kind, were worth both their effort and cost, especially in light of the enduring tensions between urban elites and rural populations. The sitan and the subsequent policy revision provided the foundations for the county planning process that ensued. As such, its broader findings around the inequitably distributed and inefficient service delivery network suggested measures to optimize resource allocation according to population size and location. Less clear was the absorption of the sitan findings by development partners, who were sceptical about the sustainability of the plan, without recognising in it a determined push towards the universal coverage of basic health services required by Liberian law. This overriding concern proved crucial against priority proliferation, which usually derails inclusive policy processes.

With hindsight, some key aspects could have been tackled differently. Private, for-profit healthcare provision was overlooked by a state-centric and aid-influenced planning process. The dominant weight of disease-control programmes was not fully appreciated. Healthcare provision to slum dwellers (largely delivered by unregulated drug sellers) and cross-border population movements were neglected as well. More attention to community health aspects would have been warranted. Additionally, past responses to stressors should have been investigated in order to unveil weaknesses otherwise unapparent, allowing their consideration in the planning process. Finally, the value of running a capacity-intensive, high-cost comprehensive national exercise every five years might be questioned, in light of a crippling capacity shortage, scarce resources and a fast-moving environment. A lighter annual analysis and planning revision process might be more reactive to standing and emerging problems.

In the end, both the situational analysis and 2011 health plan lost credibility with the onset of the 2014 Ebola epidemic which was interpreted by outsiders as evidence that the recovery track followed by the health system since 2006 was flawed, hence to be abandoned in favour of new approaches. Quite a rushed, arguable conclusion, which betrayed a poor grasp of events: the post-epidemic aid windfall has expanded health assets, outputs and costs, without fostering alertness and responsiveness to stressors (other than disease transmission) and to the population's health needs. Despite the critical vulnerabilities exposed by Ebola, poor quality, inefficiency and ineffectiveness, and especially lack of financial sustainability continue to jeopardise health development. Aid funding has dropped off sharply since Ebola, while domestic revenues, once expected only to increase, have declined under the current economic recession.

**Reference: Ministry of Health and Social Welfare of Liberia (2011).
Country Situational Analysis Report.**

The rationale and objectives of the guidance

Despite the availability of guidance documents, it appears that they have been under-used for reasons that would be worth exploring in order to avoid a further waste of energies and resources. This exploration would involve answering questions like: were existing guidance manuals irrelevant to the needs of the analysts and/or to the current humanitarian context? What were their limitations? Are parts of them obsolete, due to changes in the contexts studied? Were they not adequately promoted and diffused? Was their under-use attributable to HS analysts, indifferent to the advice offered to them? For the time being, the production of this guidance, through the HSA review and the discussions held with many experts, is providing some useful hints informing the choices made in relation to this guidance's contents and presentation.

The rationale for the WHO 2009 manual cited above (Pavignani and Colombo, 2009) still seems valid today: HS analysts and decision-makers have to struggle with an increasingly chaotic and fast-changing environment, under strong political pressures for more accountability from different parties, and often with limited access to affected populations, while often relying on data of poor quality and low coverage. However, with insights from knowledgeable informants, intelligent use of the available data, iterative explorations of the arena and recognition of emerging key HS issues, and by taking advantage of the experiences gained in other crises, the analysts can avoid the traps and mistakes that tend to recur in this type of assessment. Thus, the huge hurdles faced should not discourage the launching of HSAs where they might be useful: with a dose of luck, it is possible to put together a fairly valid picture of the health system with its main problems, and consequently recommend sensible and feasible actions. The importance of a HS analysis should be, by now, clear to the readers and no longer stressed: "never engage in detailed overexplanations of why something important is important: one debases a principle by endlessly justifying it." (Taleb, 2018).

The results of the analysis must reach decision-makers in effective ways and using appropriate language: "The way in which information is presented can be crucial to its uptake and use by decision-makers." (Darcy, 2009). Evidence alone, even when derived from reliable and valid information (which is an exception) is not sufficient, however, for convincing decision-makers, who are constrained by ideology, biases, mandates, previous decisions, resources, and other priorities and commitments.

Almost a decade after the publication of the WHO manual, the need to reflect the changes that have occurred in the nature of humanitarian crises and in the elicited responses, as well as in the way HSAs have been carried out, makes its revisiting and updating necessary. No substantive changes have been introduced to the main arguments of the manual, while some aspects related to the process and contents of HSAs have been confirmed. Fresh examples from HSAs, the literature and the humanitarian context are being used to illustrate and clarify these aspects.

The overall goal of an HSA should, however, remain the same: the informing of decision-making through an improved understanding of the context and HS capacities, flaws and distortions. HSAs may also support broader political initiatives, justify fund-raising and budget allocations, assist advocacy efforts and trigger action-oriented research. Depending on each HSA's chosen goals, its methods, formats, timeframes and processes will differ; its eventual contents, breadth and depth of analysis, and recommendations, will vary as well.

In addition, the availability of information, the access to informants, the extent of key actors' engagement, the complexity and fluidity of the situation and the capacity and experience of the analysts will determine how the analysis will be carried out and what the final product will look like. Because of these differences, no framework, tool or guidance should be used mechanically, in a standardised way. They must be chosen in consultation with stakeholders in the preparatory phase of the assessment, and creatively adapted taking the above points into consideration.

Moreover, contextual changes during the assessment process may alter the situation and in turn impose a reappraisal of the original goals: the dynamic environment requires flexibility in the assessment approaches and in the expectations of the sponsors. However, HSAs have been frequently carried out under time and political pressures, and without the necessary consultation, to be presented at a donor conference during transitions from conflict to peace. In these circumstances, making a compelling case for funding recovery takes precedence over the depth and soundness of the analysis. In this way, critical issues risk being sidelined, only to return later to centre stage (sometimes with a vengeance, when they are then more difficult to address).

The new guidance intends to help professionals in the assessment of a healthcare arena under stress, taking stock of the experience gained over the years and of the resulting conceptual insights. It builds on the improved comprehension of protracted turmoil, transitional processes and post-conflict recovery. It also reflects the changes triggered by large-scale crises (the Ebola outbreak, the Middle Eastern conflict cluster, etc.) and in those responses constrained by heightened security challenges and reduced humanitarian space.

Guidance and tools concerning overall and sectoral needs assessments in sudden-onset humanitarian crises are beyond the scope of this guidance; the interested reader is referred to the IASC guidance (IASC, 2012), the HESPER scale⁴ and the tools and guidance developed by ACAPS⁵.

A note on the concept of fragile state

The term fragile state has been contested since its introduction, due to its pejorative connotation and its normative assumption of how states should be structured and, in turn, perform within a given territorial demarcation. The variety of terms and measurement / classifications utilised for the concept of 'weak' states, and their evolution over time, are proof of this. Yet, "in most cases, these labels do not have a meaning that is clearly understood far beyond the author who has used them" (Cammack et al., 2014). Common elements across the various definitions include: a government's capacity and willingness to ensure provision of basic services to its population, its legitimacy and ability to provide security and stability (Witter and Bertone, 2019). Given the disparate nature of the situations clustered under this label, however, the term obfuscates rather than clarifies. Moreover, it concentrates attention onto states, rather than socially-configured populations, which are the actual targets of healthcare provision. Additionally, fragile state implies an internal defect, thus diverting attention to domestic problems, which are frequently caused or compounded by external meddling or outside shocks (Barakat and Larson, 2014). Fragility or, more recently, fragile situations, fragile and conflict-affected states / situations or vulnerability are preferred terms.

Beyond semantic discussions, healthcare arenas under stress need to be sorted into smaller groups in order to be better understood. See Pavignani and Colombo (2016) for an empirical breakdown of so-called fragile situations. The proposed grouping is suggestive, with open boundaries. Thus, healthcare arenas might shift from one group to another as they acquire new properties in response to stressors, or may have characteristics of two groups. Such a typology is revisited in a table included in Chapter 4, where some implications for carrying out a HSA are unpacked.

This guidance was developed while keeping in mind healthcare arenas under protracted stress caused by a combination of violence, insecurity, chronic poverty, political instability and other shocks, such as large epidemics and economic decay. Violent conflict is arguably considered the ultimate manifestation and, at the same time, cause of fragility and is therefore prominent in this guidance. However, given the broad range of distressed or disrupted contexts, the use of the guidance in less extreme situations is encouraged. Of particular interest is the assessment of health systems on the brink, whose performance might seriously deteriorate under (even minor) shocks, with a view to identifying vulnerabilities that can be addressed and attracting capacity and resources for that purpose.

Box 1. Recovery and Peacebuilding Assessments (RPBAs)

Previously named Post-Conflict Needs Assessments, they are a joint EU, the World Bank and UN approach for recovery planning in transitional contexts (EU, World Bank and UN, 2017). Therefore, HSAs have sometimes been carried out within the RPBA/PCNA framework. The RPBA is usually launched at the beginning of a transition from war to peace to inform donor pledging decisions. The assessment normally covers political, security, social and economic sectors and aims to present a comprehensive set of priorities in the short, medium and long term. Given their scope and complexity, the absolute and opportunity costs of RPBAs may be huge.

The political nature of a post-crisis recovery permeates a RPBA. Its launching by the international community is a statement of support to a struggling government. RPBAs, in fact, do not assess objective needs but instead try to allocate forecasted external funding across sectors. RPBAs should try to get the balance right between: the priority needs of a country, its absorption and implementation capacity, the strategic interests of different actors, including those of the main donors. In practice, horse-trading, inter-agency rivalries, evidence-free decisions (particularly in relation to aid fads) are commonplace.

Recommended reading

- Barakat, S. and Larson, A. (2014) Fragile States: a donor-serving concept? Issues with interpretations of fragile statehood in Afghanistan. *Journal of Intervention and Statebuilding*. 8, 1:21-41.
- Dewachi O, Skelton M, Nguyen V-K et al (2014). Changing therapeutic geographies of the Iraqi and Syrian wars. *Lancet*, 383:449–57. doi: 10.1016/S0140-6736(13)62299-0.
- Pavignani E, Colombo S (2016). Strategizing in distressed health contexts. In G. Schmets, D. Rajan, S. Kadandale (Eds.) *Strategizing national health in the 21st century: A handbook*. Geneva, WHO. Retrieved from: <https://www.who.int/healthsystems/publications/nhpsp-handbook-ch13/en/>.

References

- Cammack D, McLeod D, Rocha Menocal L, with Christiansen K (2006). Donors and the 'Fragile States' Agenda: a survey of current thinking and practice. Report submitted to the Japan International Cooperation Agency. Overseas Development Institute. Retrieved from: <http://www.odi.org/sites/odi.org.uk/files/odi-assets/publications-opinion-files/1955.pdf>.
- Darcy J (2009). Humanitarian diagnostics: the use of information and analysis in crisis response decisions. Paper prepared for FAO. London, HPG/Overseas Development Institute. Retrieved from: <https://www.alnap.org/system/files/content/resource/files/main/2009-humanitarian-diagnostics.pdf>.
- EU, the World Bank, UN (2017). Joint recovery and peacebuilding assessments (RPBAs). A practical note to assessment and planning. Retrieved from: <http://www.unicefinemergencies.com/downloads/eresource/docs/conflict%20sensitivity/RPBA%20Guidance%20Final.pdf>.
- Inter-Agency Standing Committee (2012). Operational guidance for coordinated assessments in humanitarian crises. Retrieved from: https://interagencystandingcommittee.org/system/files/legacy_files/ops_guidance_finalversion2012.pdf.
- Peters DH, Tran NT, Adam T (2013). Implementation research in health: a practical guide. Alliance for Health Policy and Systems Research, WHO Geneva. Retrieved from: https://www.who.int/alliance-hpsr/alliancehpsr_irpguide.pdf.
- Ricigliano R (2012). Making peace last. Boulder Paradigm Publications.
- de Savigny D, Adam T (2009). Systems thinking for health systems strengthening. WHO. Retrieved from: http://apps.who.int/iris/bitstream/handle/10665/44204/9789241563895_eng.pdf;jsessionid=41219B77A1F83A0C96D270A2B8F60C0D?sequence=1.
- Taleb NN (2018). *Skin in the Game: Hidden Asymmetries in Daily Life*. Allen Lane.
- Witter S, Bertone MP (2019). Health financing in fragile and conflict-affected situations. WHO Health Financing Working Paper. Draft.

3

Goals, uses, roles and expectations of stakeholders in the HSA

Key Messages

Each HSA's goal varies according to different factors, so do its contents, methods and expectations. A change in the political or institutional environment, the need for the development of a new sector policy or strategy, or the start of a recovery process after a large-scale emergency are typical triggers for an HSA.

In this variety of situations, the roles of the government and the other actors in designing the HSA, leading the process and contributing to the sharing of information and discussion of findings are not uniform. A wide consultation and agreement on the objectives and scope of the HSA, the consultation modalities and the follow-up actions can improve the odds of the HSA producing robust findings and becoming a relevant, useful and used document, which will then hopefully influence policies and decisions.

An adequate mix of skills and experience within the team is critical to the HSA's success. A solid public health background and familiarity with key allied disciplines is required, as well as curiosity, cultural sensitivity, humility in listening to others and social skills. A mix of insider and outsider professionals is, in general, ideal for bringing together respective strengths and knowledge.

Preparation for the assessment can start promptly, searching and screening the available information and drawing on the network of acquaintances familiar with the context

Goals and uses

HSA represents a heterogeneous category of analyses and studies. They can be launched after a large-scale emergency, to guide the recovery and reconstruction processes and raise the necessary funds. Or they can be promoted by a government to document the progress of the sector as part of a broader monitoring and review system; or commissioned by a MoH or a donor as a foundation and baseline for a new strategy or plan; or developed as part of a research / evaluation programme; or requested by a donor as a condition for a large grant or before the implementation of a new system-wide policy. They can be carried out at the end of a political cycle, as an act of genuine accountability to the citizenry or, conversely, as an electoral instrument. HSAs are often initiated during a substantial change in the political and institutional environment, in a transitional context, to mark a departure from the past.

As their goals vary, their contents and methodology diverge, as does their focus, which can be either on political or technical aspects. A useful typology (Berman and Bitran, 2011) classifies HSAs into three categories:

- **Descriptive studies**, which cover health systems components, their structure, the resources absorbed, their outputs, the main stakeholders and the norms ruling their functioning. Many HSAs fall into this category, sometimes due to inadequate information, limited time and constrained access. Descriptive studies incur the risk of describing the situation as it should be, rather than as it is in reality. For example, many descriptions of referral flows depict them as structured within a neat pyramid of levels.
- **Analytical studies**, which examine the interaction of the different components to produce health outcomes. Some HSAs are analytical in intention, often falling short of offering robust data in support of their (often compelling) observations. But their attention to relationships between components and the respective reactions to change between components attests to the soundness of this type of HSA.

- **Explanatory or predictive studies**, which try to answer questions related to performance and the worth of interventions intended to improve it. Given the web of factors affecting the behaviour of health systems under stress, such explanations remain largely tentative. Since many HSAs are carried out within a recovery perspective, their predictive aspects relate mostly to foreseeable changes caused by certain interventions, or otherwise.

HSA processes (and findings) can also differ according to contextual factors: the complexity of the health system; the availability of relevant and quality data and key informants; the security conditions that may limit the accessibility to some regions; the timeframe and resources allocated for the exercise; the technical capacity of the experts tasked to carry out the assessment; the modalities of the consultation process (wide and open or limited and restricted) and the independence or not of the experts, and their freedom to present the findings of the assessment without censorship or other external pressures.

If the HSA has been the result of a consultation process among the sector's key actors, and its findings have been widely circulated, its potential users will be multiple: politicians, decision-makers, donors, managers of implementing agencies, researchers and lobbyists; they will see different merits in the HSA, and will cherry-pick its findings according to their roles and needs. Conversely, if the consultation has been limited, the odds that the findings of the assessment will be ignored, or used by few actors, will be high. But approval of the main HSA findings and of the measures regarded as indicated does not guarantee their introduction: often the decision space is too constrained to allow officials to take those steps seen as necessary but beyond their reach.

Roles and expectations

Health authorities can actively participate and lead the exercise, sometimes controlling it. They may have a hands-off attitude, which can denote either their trust in the analysts and their willingness to ensure their independence or their passive acceptance of an assessment imposed by outsiders. They may also show no interest, or engagement in an exercise that they consider to be valueless. Finally, they may obstruct the assessment, limiting access to precious information, particularly if they feel the risk that some uncomfortable facts - like corruption or blatant incompetence - will be disclosed. In some circumstances, the absence of official health authorities in the process may be beneficial: when the government is contested and has no access to some areas and population groups, when it has strong censoring instincts, or when bureaucratic inertia would jeopardise the assessment. Of the HSAs that were reviewed, only the Liberia (2010-11) and Sierra Leone (2016) assessments were led by the MoH; all the others were promoted and carried out by international organisations.

Some HSAs, instead, remain 'dormant' without public circulation, for different reasons: an assessment may not have satisfied the demands of the sponsors because it is considered technically unsound, or may have discussed issues considered too sensitive and controversial, or have presented findings and recommendations not aligned with donor mandates and priorities, or go against decisions already made by politicians: the 'publication bias' applies not only to academic research but also to policy-making. Finally, the report may have not been widely circulated because of a concern that its potential readership at country level might find the methods and language too difficult.

To avoid these risks, an agreement should be reached beforehand between key actors on the objectives and scope of the HSA process, the consultation modalities and the follow-up actions. This pre-requisite will raise the odds of the HSA becoming a relevant, useful and used document. This discussion will also be instrumental in agreeing the ToR of the exercise, the selection

of the HS analysts, the timeframe of the analysis, the resources allocated to it and, more importantly, the future use of the findings and recommendations.

Too often, promoters expect clear, actionable proposals from an HSA. Instead, a competent assessment will present more questions than answers, pose uncomfortable choices and identify black spots recommending research rather than action. Paradoxically, if a problematic HSA has deterred players not ready to address the highlighted problems from taking hasty initiatives, it might be regarded as valuable: an absence of ill-considered action can be seen as an achievement.

A key point to be made clear with decision-makers is the robustness of the findings. Particularly during a transition, decisions will have to be made regardless of the strength of the available data. An informed decision is better than an uninformed one, even if the information in question is often the absence of solid data. For instance, decision-makers engaged in post-conflict Syria will have to be alerted to the huge disability burden to be tackled, even if it cannot be quantified. Decision-makers must be made aware that a postponement of needed actions, in the expectation that stronger information will later become available, may cause harm.

The guidance is primarily intended for health professionals who are tasked to carry out HSAs or contribute to it. It is hoped that also the sponsors / promoters and users of HSAs (such as senior MoH officials, donor managers, implementers, HS researchers, etc.) will benefit from its study: learning from the guidance and from experiences gained elsewhere will help pre-empt likely pitfalls and set realistic expectations for the exercise. This can sound overly optimistic: "humanitarian organisations are not good at learning lessons from the past and applying them to their current practice (Hallam and Bonino, 2013)

Profile of the HS analysts.

The HSA team will need an adequate mix of skills and experience. No team member will start fully equipped and ready to make sense of a healthcare arena in turmoil: learning-by-doing will always be needed. A solid public health background and a familiarity with key demographic, statistical, epidemiological, social sciences and HS research concepts and methods is required. Knowledge of, and interest in, the history and political, geographical and social features of the context are essential items in the analysis team toolbox. Curiosity, cultural sensitivity, humility in listening to and learning from others, and an abundance of social and interpersonal skills will be essential for interacting effectively with informants. Finally, tenacity and long-term engagement are needed to make sense of the findings, complement them with missing pieces and revisit initial understandings.

A mix of insider and outsider professionals is, in general, ideal for assembling a balanced HSA team: the former bring a knowledge of the country and can facilitate access to key informants and documentation, but at the same time they may carry ingrained prejudices and be more susceptible to internal pressures. The outsiders may bring new ideas and relevant experiences from other countries and be more independent, but at the same time they may have a limited familiarity with the settings and be ignorant of the local language. Outsiders may be too keen to transfer lessons from other contexts to the current one, without the necessary adjustments, a hazard amplified by short assignments. There are also cost and availability implications to be factored in when hiring international consultants.

Preparation

Prospective analysts should find the time to equip themselves for the tasks ahead in a timely fashion; outsiders should prepare themselves before moving to the country (see also chapter 4). A lot of valuable information is now available online: the starting points are websites of think-tanks, international organisations, ministries of health, electronic databases of journals, etc. A strong team of analysts is likely to be part of a large network of health professionals, some with

knowledge of the healthcare arena under study: this potential mine should be explored through contacts via email / skype / telephone; the yield, in terms of recommendations of key documents from grey literature and suggestions of informants to be contacted, health facilities and districts to be visited, etc., will be extremely valuable. Using the references of selected documents to identify other papers – ‘snowballing’- allows for an expanded documentation.

References

- Berman P, Bitran R (2011). Health systems analysis for better health system strengthening. Health, Nutrition and Population paper. IBRD / World Bank. Retrieved from: <http://siteresources.worldbank.org/HEALTHNUTRITIONANDPOPULATION/Resources/281627-1095698140167/HealthSystemsAnalysisForBetterHealthSysStrengthening.pdf>.
- Hallam A, Bonino F (2013). Using evaluation for a change: Insights from humanitarian practitioners. ALNAP Study. London: ALNAP/ODI. Retrieved from: www.alnap.org/resource/8980.aspx.



Experts who acknowledge the full extent of their ignorance may expect to be replaced by more confident competitors, who are better able to gain the trust of clients. An unbiased appreciation of uncertainty is a cornerstone of rationality—but it is not what people and organizations want

(Kahneman, 2011)

4

Conceptual and methodological consideration

Key Messages

Traditional 'reduce and resolve' and research approaches are not fit for the analysis of the complex issues offered by health systems under stress. The dynamic environment, the multiplicity of actors, the diverse and changing crisis drivers, the scarce information available, the impact of the emergency on the health system and its adjustment to it, etc., all call for an innovative way of analysis. Systems thinking, awareness of the importance of contextual factors, implementation research, realist review and mixed methods are increasingly applied to the study of problems concerning HS in crisis settings.

These methods do not prevent, however, HSA processes from evolving along different paths, beyond the control of the analysts. The ToR should, therefore, reflect this uncertainty and be open to the fact that the final product may be different from the initial conception.

Nevertheless, some agreement should be reached among the stakeholders on the space and time boundaries for the HSA including, when relevant, their transnational or sub-national nature, the need to study the healthcare arena in all its diversity, not limiting the focus to the public sector, the use of lessons learned in relevant contexts, which can alert both analysts and users on common pitfalls to be avoided, and the use of evidence not limited to that resulting from research but is good enough to inform policy decisions.

Information management in crisis settings is a minefield, which requires awareness of the many biases and weaknesses of data, experience in selecting information both qualitative and quantitative from different sources, making sense of it and deciding which critical information gaps need to be filled.

The urge to rush to the field in order to collect data must be managed. Paying adequate attention to conceptual and methodological issues will pay off handsomely later, at the data-collection and analysis stages. Otherwise, the risk of wasting energies and resources in sterile or misleading work is high. Such conceptual clarification efforts must involve both promoters and prospective users of the eventual HSA, to forestall misplaced expectations or the erroneous use of its findings. Each of the warnings included in this chapter have been observed in practice: they are not abstract risks, but very concrete ones.

Much thinking on health system assessments has been trapped, since the publication of the controversial World Health Report 2000 (WHO, 2000), in the debate around the measurement of performance, from the league tables with country rankings to the monitoring of the progress towards global health development targets with related frameworks and indicators. This interest is partly due to the increasing emphasis by global health institutions and donor governments on quantitative support to decision-making and partly to justify aid budgets. The debate on which measurement methods and metrics to use for the assessment of health systems performance has ended up overshadowing other critical issues, related to improving healthcare provision in real settings.

“The gap between the evidence-based ideal and the political and material realities of the here-and-now may be wide” (Greenhalgh and Papoutsis, 2018). A useful distinction for dealing with complex problems was made between the “high ground, [where] manageable problems lend themselves to solutions through the use of research-based theory and technique and the ‘swampy lowlands’, [where] problems are messy and confusing and incapable of technical solution...” (Schon, 1984, quoted in Wolpert and Rutter, 2018). Flaws affecting health systems under stress clearly belong to ‘swampy lowlands’.

In the meantime, and in parallel, new approaches to HSAs based on systems thinking – “seeing how things are connected to each other within some notion of a whole entity” (Peters, 2014; de Savigny and Adam, 2009) and complexity science, which deals with problems that cannot be addressed with the traditional “reduce and resolve” approaches (Plsek and Greenhalgh, 2001), have emerged. These new approaches have challenged the common belief that technical solutions alone, based on simplistic causality assumptions and models, and often imported from abroad, could fix the complex, multi-causal problems affecting health systems, particularly in distressed settings: “Different solutions need to find their niche in an evolving landscape... effective aid strategies are those adaptively positioned between order and chaos” (Ramalingam, 2013).

Box 2. Beware of theories unsupported by facts

Giving precedence to theoretical statements over empirical facts is a fallacy as old as humankind. Lev Tolstoy (1869) mockingly described a real-life military thinker as “...one of those theoreticians who so love their theory that they lose sight of the theory’s object - its practical application. His love of theory made him hate everything practical, and he would not listen to it. He was even pleased by failures, for failures resulting from deviations in practice from the theory only proved to him the accuracy of his theory.”

Complex problems are characterised by fuzzy boundaries, limited knowledge of cause and effect, high unpredictability and limited consensus on key policy questions (Jones, 2011). Studying them requires assorted approaches: “only variety can absorb variety” (Ashby, 1956, quoted in Tsoukas, 2017). The uncertainties about the future, the presence of contextual factors that were not considered in the design of interventions and the unsure links between knowledge, plans and field implementation contribute to unexpected adverse effects. It has been observed, however, that the complexity approach, when applied to social phenomena, also presents some risks: it can “explain little or nothing. On the contrary, it deters curiosity and rationalises ignorance” by indicating that no pattern, structure or combination of causal factors can be identified, nor understood in the undetermined environment (Duffield, 2019). Not all complex issues are, however, impenetrable: with effort, curiosity and a dose of luck, it is possible to understand the key issues informing a healthcare arena.

Applying traditional approaches, grounded in linear mechanistic models of cause and effect, to complex system problems risks producing “the right answers to the wrong questions” (Petticrew et al., 2004). The health system presents a complex web of dimensions and actors; studying their interactions implies changing the paradigm (Braithwaite et al., 2018). For example, randomised controlled trials (RCTs) were until recently considered the methodological gold standard for generating evidence. However, the effect modification that occurs along the complex causal chains of public health interventions limits the external validity of the RCTs’ findings (Victora et al., 2004). RCTs are increasingly criticised for their limited generalisability and reductionist scope, when applied to the evaluation of complex interventions (Marchal et al., 2013).

Understanding the dynamic interactions between the HS components, their often spontaneous adjustments and adaptations to the crises and to the interventions, as well as the multiple perspectives of stakeholders requires, therefore, new adaptive approaches and frameworks. These should be tailored to the context and go beyond a static and reductionist representation of the health system, like in the WHO Building Blocks (BB).

The strengths and limitations of existing analytical frameworks and tools must be considered, in order to choose the most appropriate for the HSA in preparation. Adopting ill-adapted tools, because they are already available or being promoted by an influential agency, is a recurrent mistake (frequently made at the very start, in the redaction of the ToR). An example of this fallacy is the use in fragmented, turbulent contexts of frameworks and tools conceived for application in stable and unified healthcare arenas, where health authorities are in control of operations. Exploring how the health system changes under stress and incorporates humanitarian responses calls for the use of dynamic and flexible frameworks.

With its wider approach, systems thinking is particularly relevant in settings under stress, since it encourages analysts to focus on the multiple actors and institutions that operate in the fragmented and chaotic crisis environment, studied in motion rather than when standing still. Thus, the temporal dimension is as important as the spatial one. Conceiving systems as consisting of sub-systems also allows a better understanding of the interactions between them, and the relationship between the centre and periphery, such as in decentralized health systems.

Another trend in the area of HSAs has been a growing awareness of the importance of contextual factors - historical, cultural, political, etc. - that heavily affect the performance of health systems but which cannot be analysed with the traditional epidemiological and evaluative methods. A new field of analysis, implementation research, has emerged, which acknowledges the gap existing between what works in theory and what is effective in the real world. It highlights the need for studying contextual differences that affect the implementation of interventions, the efficacy of

which had already been proved in other settings; thus, it warns against the dangers of mechanical transfers of policies and interventions from one context to another (Peters et al., 2013).

'Realist review', a branch of the new trend of analysis, is increasingly used to try to understand what works for whom, why, in what circumstances and how. It combines theoretical understanding and empirical evidence to analyse iteratively complex social interventions implemented in complex social systems, like HS, whose outcomes are particularly dependent on contextual factors and implementation modalities (Pawson et al., 2005). Its practical application to troubled settings has to be explored. Being methodologically demanding, it might exceed what is feasible in real conditions. But its conceptual tenets assist in analysing distressed healthcare arenas.

In addition, the need for a capture of important and often troubling issues, which cannot be measured by the usual quantitative methods and metrics, has been increasingly recognised (Dijkzeul et al., 2013). Research, and by extension analysis, "in conflict negates the use of highly structured methods" (Barakat and Ellis, 1996). Trust in health services, acceptability by communities of certain health interventions, legitimacy of health authorities, health-seeking behaviours and quality of interactions between service providers and users are all examples of these intangible aspects. They require soft intelligence⁷ for their identification and interpretation (Martin et al., 2015) while considering the related perspectives of multiple actors. This recognition has encouraged the development of mixed methods⁸ of analysis, which combine the relative advantages of quantitative and qualitative approaches: namely the breadth of the former and the depth of latter (Bamberger, 2013). While quantitative data can suggest patterns and show trends, qualitative information can help explain those patterns and trends and deepen understanding by illuminating aspects that were not obvious and suggesting hypotheses that can be tested with additional data and insights

Clarifying key issues

HSA production processes may evolve along different paths, partly dependent on circumstances beyond the control of the analysts. Their final product may be, therefore, different from what had been agreed in the initial conception, and distant from the early expectations of those who had sponsored it. Therefore, in a dynamic context, some flexibility in the expected outputs of the assessment and its timeframe should be factored into the ToR, which should not be too specific and should include the proviso that they may be jointly revised, if needed.

Different factors may make the HSA diverge from its original track: for example, new unexpected events (a large epidemic, the influx of a large number of refugees, a new conflict outburst, a coup or a new party coming to power, etc.) may distract the attention and interest of key informants, thus reducing their availability to share insights and so making the assessment less relevant. Alternatively, a fortuitous intuition concerning an important HS aspect so far neglected - e.g. the unintended consequences of a new service delivery modality, or a promising new local drug procurement mechanism, or interesting data from a population survey that have been previously ignored - may shift the focus of the assessment and require some more in-depth explorations, with implications on the process and duration of the HSA.

Consultation among key stakeholders is essential to the assessment's credibility and future use; the process must be firmly guided towards focussed exchanges, otherwise it risks becoming a void and wasteful exercise. A 'champion' of repute will be able to raise the interest of key actors and keep them engaged during the assessment and open to its findings. A small steering committee, consisting of a few, knowledgeable and independent members, can be an option in contested environments, where the risk of political manipulation of the findings is high. The collaboration of senior officials can be undermined if they have been insufficiently consulted on the ToR of the assessment or by politically difficult relationships between them and the sponsors; as a result, important information will

not be made available and the final findings may not be endorsed by the respective agency. But, more often, the withdrawal of requested information is a signal of its nonexistence or of its irremediable faultiness.

If technically sound, the flexible ToR recommended above will allow sponsors, analysts and future users of the HSA to agree on key aspects guiding the analysis and commit to the use of its findings.

Time spent in discussing these aspects at the beginning of the assessment will pay off in terms of minimising the risk of misunderstandings and disappointment in the results of the HSA. These aspects include:

A. Defining the space and time boundaries

for the HSA, taking into consideration the contextual features and dynamics, the objectives of the assessment and the resources allocated for it. The agreed boundaries will have important methodological and practical implications.

- **Geographical boundaries.** Increasingly, crisis clusters encompass several countries, as in the case of the Lake Chad basin, the Horn of Africa and the Middle East. In fact, neighbouring countries, given their historical, political and economic links, often share the determinants of the crisis, the involvement of the same powerful external actors, incoming/outgoing population movements, the spread of instability, the circulation of germs, the labour market for health professionals and the humanitarian responses to the turmoil. In the Nepal earthquake response, it was highlighted how important it was to "recognise the regional nature of the response" (Sanderson and Ramalingam, 2015).

More generally, many historical legacies and processes transcend national borders and should be analysed with a broader lens, in relation to both time and space. These contexts require new approaches, supported by wide perspectives: "the health system can no longer be thought of as being confined to the borders of the state..." (Dewachi et al., 2014). Studying the supra-

national / trans-border dimension of healthcare provision in crisis settings offers, therefore, analytical advantages in that it allows the capture of “the geographic reorganization of health care within and across borders under conditions of war” (ibidem).

The regionalisation of health care is patent in the Middle Eastern region, either through institutionalised government policies concerning the referral of patients abroad or through informal channels, while the demands of health care of millions of Syrian refugees in Lebanon, Jordan and Turkey exert an enormous pressure on those countries' existing HSs (Dewachi, 2017). An unknowable number of refugees and IDPs will eventually go back to their homes and will expect the same level of health care they had enjoyed in neighbouring countries and/or in camps serviced by NGOs.

- **Changes induced by protracted stress.** Health systems adapt to protracted crises: they fragment and diversify, under the pressures of violence, impoverishment and the influx of new actors and financial resources. In such settings, a number of HS changes occur: the struggling state withdraws from health care provision, with a correspondingly higher share of the public budget allocated to defence and security, health workers move to more secure areas, especially towns, leaving peripheral health facilities to the care of less qualified staff; routine management systems (information, supervision, referral pathways, procurement) deteriorate or collapse. As a result, the overall quality of healthcare tends to decay.

Usually, unregulated private providers multiply, as a result of the diminished trust of communities in their under-resourced public health services. Some gaps may be filled by international NGOs and/or local faith-based providers, with their own service delivery modalities and standards or, alternatively, by the reallocation of the scarce resources left behind – e.g. through task-shifting of staff. Disconnected from the central government and deprived of a regular flow of resources, local systems (like those in Darfur, northern Syria, etc.) end up gradually diverging from the pre-existing ones. The changes tend to become structured into the HS and cannot be reversed quickly after

the end of the crisis. Some HSAs have a mainly central and public sector focus, due to a number of constraints: lack of time, poor security, difficult logistics, closed mindsets of analysts unable to recognising the internal diversity of distressed healthcare arenas. Particularly in partitioned and large countries, it is critical, therefore, to include the study of sub-national healthcare provision arrangements. Stressors will impact differently on each sub-system, external support will induce different responses and support needs will vary in the diverse contexts, during acute spells and afterwards, when health systems may or may not rebound. It must be anticipated, however, that this analysis can be obstructed, or even prevented, by strong political resistance, requiring skilful negotiations with the parties concerned.

- **Healthcare arenas under stress,** such as Darfur or north-eastern Nigeria, may require an aggregate analysis, despite their administrative partition. For instance, north-eastern Nigeria is composed of six states, Darfur of five. Studying each state as a self-contained unit fragments the picture and obscures region-wide patterns. In both cases, functional healthcare provision units, which reflect actual dynamics, may be preferable to official ones.
- **Composition of the healthcare arena.** Too often, a HSA state-centric focus - what was defined as the ‘capital city trap’ (Chambers, 2006) - will lead to the study of mostly the public sector, with a neglect of private service delivery (both profit and non-profit components) and the porous interfaces between public and private segments of the healthcare market. This occurs despite the fact that private for-profit provision usually expands as the disruption deepens in the absence of effective regulation and due to the weakening of government-provided services. But it is well known that studying private provision is prohibitively difficult, due to its informal and diversified nature: unless a proper survey is carried out, it is only possible to get qualitative and general insights on its utilisation and costs to users, which are in any case always important for understanding broad healthcare-seeking patterns and the extent of dual practice. In addition, it is important to define whether the assessment will be limited to the strictly health dimensions of the

healthcare arena, or encompass other related social sectors that directly impact on the health status of the population, like water, sanitation, nutrition and food security.

B. Lessons learning. Crises are unique and dynamic, but share some patterns in the ways health systems behave and adapt and in the reactions of health actors. A review of the lessons learned in relevant contexts, as documented in the literature or transmitted by informants, alert both analysts and users to common pitfalls to be avoided, including:

- A focus on official policies and documents and disregard for the reality on the ground: “the relation of policy and practice is not as an instrumental or scripted translation of ideas into reality, but as a messy free-for-all in which processes are often uncontrollable and results uncertain” (Mosse and Lewis, 2006). Praise for the policy formulation work is commonplace. Honest analyses, however, admit that the implementation of those policies and plans, when not altogether absent, was defective. Now, poor implementation is a strong indicator of poor policy-making and planning (Mintzberg, 1994). This sequence should be reversed: first, actual achievements and failures have to be appraised, and then checked against adopted policies and plans. A backwards explanation of the discrepancy leads to rich insights.
- A re-application of standardised interventions in all contexts. Analysts should be careful in their recommendation of the implementation of policies and interventions that were effective in other contexts and look technically sound on paper: “standardised interventions are subjected to the formidable test of implementation contexts, which are always very diverse and largely unknown to the promoters of the interventions” (Olivier de Sardan et al., 2017). Additionally, a healthy scepticism is recommended in relation to the proven effectiveness of fashionable models, which is usually inflated by their proponents.
- A neglect of contextual determinants and the political economy surrounding the intervention, despite ritual claims to the contrary. This flaw includes ignoring or downplaying political

factors, such as territorial partition, and sensitive issues such as constrained sovereignty, ethnic and class discrimination of access to services, corruption, tensions between regions and central government, the determinants of the conflict, etc. These central determinants of health system performance must inform the analysis from start to finish, and the actions engendered by it.

- Actors, both local and outsiders, may become involved in the production of narratives, often competing, of the conflicts and their consequences (Roll & Swenson, 2019). Simplified or politically correct narratives and unwarranted assumptions should be challenged when they misread the reality. For example, Goodhand warns us about the danger of ‘conflict fetish’: “the automatic assumption that violence is the problem and the only lens through which to look at people’s lives” (Goodhand, 2000). In the same vein, it is common to read reports that either overestimate, or conversely minimise, the influence of development and humanitarian aid programmes on the healthcare arena: the fragmented and transient nature of interventions and their frequent lack of financial transparency explains why their study is difficult.
- An ignoring of the dynamics of the vulnerable environment and the long-term evolution of its healthcare arena, shaped by the interplay of global and local forces: too often the analysis provides a snapshot ‘frozen in time’, without attention to trends, changes over time and historical processes within the context that have impacted on health systems. Some HS weaknesses and distortions preceded the crisis and may have been exacerbated as a result of it: their causes need to be analysed with an historical lens, to avoid the simplistic view that they can be reversed once the emergency is over.
- An overlooking of the changes induced by stressors, as well as by relief interventions. Such a fallacy leads to the overlooking of existing patterns, and to proposing de-contextualised measures. Stressors, like a natural disaster or a political upheaval, provide an acid test for the vulnerability of the health system to future events. Studying only the HS behaviour under ordinary conditions misses critical clues suggested by its

reaction under stress. A documented example refers to Liberia, where in 2010-11 a sudden refugee inflow exposed a severe vulnerability (Derderian, 2014) masked by the impressive recovery registered after 2006. Such serious vulnerability was dramatically confirmed three years later by the Ebola epidemic. The alarm bell rang by the refugee crisis went unheard: “stressors are information” (Taleb, 2012), but only if properly investigated!

- The equation of actual health services with those emanating from central institutions, without any attention paid to fragmentation on the ground, resulting in diverse modalities of service delivery introduced by external actors and local providers alike, which are beyond the reach and control of the central MoH.
- An ignoring of the interactions between different elements of a HS and the effects of interventions introduced in one component of the system onto its entire structure and function. We can learn from engineers that: “complex systems become dysfunctional when building parts in isolation” (Cristancho, 2016).
- A neglect of certain population groups, whose livelihood, tradition or ethnic origin reduce their access to health services: e.g. nomadic populations or minorities that have been socially excluded, historically segregated and persecuted, such as the Rohingya in Myanmar (Mahmood et al., 2017). In the same vein, the analysis may discriminate against marginalized groups constituting the political opposition or, conversely, in favour of politically-powerful constituencies.
- The ignoring of crucial aspects, because of inadequate / contradictory information, or because they are difficult to interpret, or are politically controversial, with attached sensitivities. A common flaw of HSAs is an excessive reliance on quantitative information, despite its inadequacy in quality and coverage to the detriment of qualitative insights, which are often crucial (and robust if sufficiently triangulated). With regard to controversial aspects, the independence of the team, coupled with diplomatic tact, may overcome the political obstacles and allow the presentation of a balanced and fair picture of the issues at risk of neglect.

- A precedence to “form (what organizations ‘look like’) over function (what they actually ‘do’)” (Andrews and Pritchett, 2012), i.e., falling into the isomorphic mimicry trap, as this fallacy is designated by the above authors. The way state budgets are appraised in HSAs is illustrative of this. The regular publication of detailed budgets could be taken as a demonstration of sound public financial management. Moreover, the significant budget allocations to health care may be interpreted as a signal of government commitment. And the enlarged share attributed to neglected peripheries may be greeted as a move to redress such disadvantage. Regrettably, the tracking of actual expenditures reveals oftentimes the disconnection between funds budgeted and those actually spent. Moreover, such behaviour recurs year after year, betraying its premeditated nature. It has for this reason been dubbed budget escapism.
- As a rule, every official structure should be observed in motion and its true function appraised in this way: participant observation is needed to identify who is in charge of a given task, regardless of the organisational jurisdiction, and whether such a function is actually carried out. After such a test, most organograms will appear as empty constructs, not reflecting the actual functioning of the organisation under examination. The longer the stress, the larger the discrepancy is likely to be, with the true modus operandi frequently representing a practical adaptation which deserves a closer look as an example of positive deviance.

c. The nature of useful evidence. The following definition of evidence is upheld in this guidance: “Any form of knowledge, including, but not confined to research, of sufficient quality to inform decisions” (Buse et al., 2005). This empirical view of evidence suggests that it is not produced only by experiments and research, as often assumed: expert opinions and lessons learned play an important role. It is important, however, to be aware of the fact that expert opinions are prone to several cognitive biases that can lead to flawed interpretations of information and narrative fallacies (Blanchet et al., 2018; see also ‘narrative fallacies’ in the glossary). Additionally, Buse’s definition above subordinates evidence to the decisions to be made, rather than judging it only on its own methodological merits (Hawkins et al., 2016). Aspiring to make ‘evidence-informed’ decisions seems wiser than pursuing an ‘evidence-based’ ideal, too often unsupported by hard data and in any case ignoring other critical dimensions, like cost, risk and resistance.

It has been observed that “there is no objective, bias-free way of assessing evidence” (Dillon and Campbell, 2018). Much of the crisis-related information is not published and becomes part of the vast body of ‘grey’ literature, which must be explored in depth to extract relevant and valid data. Only part of this literature is included in online databases (e.g. Google Scholar, Open Grey). Contrary to published articles, these papers seldom describe the adopted methodology and do not undergo a formal peer-review process. Sound judgment is therefore needed in relation to their quality.

Inclusion and exclusion criteria for the documentation to be reviewed are often subjective: we tend to use the documentation we can easily access and / or that is produced by authors and institutions we trust. Moreover, documents consistent with the prevailing or emerging interpretations of reality are more likely to be judged as sound. As a result, biased conclusions may be drawn, for instance when considering the favourable conditions described by a paper to be representative (Petticrew and Roberts, 2006). On the other hand, grey documents may be more informative than the official, published ones, precisely because they are not sanitised by authorities or weakened to satisfy academic formats and standards.

There are reasons why some HS aspects and issues are not adequately covered (e.g. frequently health financing, the pharmaceutical sub-sector, etc.). For the same reasons, efforts should be made to explore obscure areas. Some information may be withdrawn because it is considered sensitive, or fragmented across many sources, or generated outside of the country, or aggregated in a way that defies a thorough analysis. This problem was captured long ago by a parable: “...it is to use evidence in the manner of the fabled drunkard who searched under the street lamp for his door key because that is where the light was, even though he had dropped the key somewhere else” (Evans, 1995).

Data extraction and analysis may sometimes be carried out in a non-transparent way. An author bias cannot be excluded: both the selection of evidence and the assessment of its quality involves a large degree of subjectivity. Principles and criteria for assessing the quality of evidence are available (Bond for International Development, 2013; Knox-Clarke and Darcy, 2014), but “they are not neutral or apolitical; they are built on particular assumptions about the ordering of evidence, and, as such, it is important to question their foundations” (Hagen-Zanker and Mallett, 2013). A balance needs to be achieved between rigour in searching, selecting and analysing available information and the need to make judgments on what counts as evidence and so, on this basis, make recommendations for decision-makers.

Misusing data which are consistently of poor quality and coverage, for the simple reason that they are available is a frequent pattern (see annex 6 for a discussion on problems with outcome indicators). Two opposing mistakes should be avoided: on the one hand the over-interpretation of data through sophisticated analytical methods that do not recognise the limitations of the collected datasets: “If you torture the data long enough, it will confess” (Coase, 1981 quoted in Kleinbaum, 2002).⁹ On the other hand, the summary discarding of data because they are considered unreliable leads to missing potentially valuable clues.

The unavailability of data is a useful piece of information, to be collected and interpreted. It is rare that information is totally non-existent or has

been completely destroyed. Information can be inadequate for the purpose of the HSA analysts, because it is dispersed among different sources, not organised, outdated, incomplete, not disaggregated, not valid, and so on. It could have been censored for various reasons (but those who suppressed the information would know why...). Inadequate information always alerts the intelligent analyst on why it is not what he/she would like. Instead, the focus has to shift onto available data, intelligence and knowledge that can fill, at least partially, that gap. Inadequate information should not be an excuse for ignoring an important HS area or issue. On the contrary, this recognition should trigger efforts to shed light on such gaps, and the reasons behind their existence.

Investing in the formulation of clear definitions provides limited returns when the reality that is to be analysed is ambiguous and fluid. Most situations will escape clear definition, or satisfy them only briefly. In fact, all-embracing definitions are not useful, because they are too unspecific for describing a concept in a pristine way. Conversely, narrow, specific definitions have limited applicability to a dynamic context rich with ambiguous features: they function like a straightjacket used to calm down an agitated patient.

Proposed typology of healthcare arenas under stress, with implications for HSA

TYPE	HSA IMPLICATIONS
<p>Politically-legitimate but technically-weak government, with a MoH willing to lead healthcare developments</p>	<p>The HSA scope may be national, and be led by health authorities, whose reputation will benefit from a solid analysis. The frank recognition of existing flaws, usually feared by government officials, will give credibility to the process. The HSA process may be fairly quick. By its end, the MoH might have acquired some management skills, and gained some self-confidence.</p> <p>The acid test of the government intentions will arrive when the HSA findings have to be translated into policy measures, sometimes risky or unpopular, sometimes resisted by powerful constituencies. Sovereign decisions may also be suffocated by donor initiatives. Documenting their effects over time may strengthen the government hand at the negotiating table.</p>
<p>Absent, disinterested or resource-less government leaving both policy formulation and health care provision to other actors</p>	<p>Low-intensity government should not be mistaken for a governance vacuum. Faith-based organisations, diaspora support networks, political formations, aid agencies, health entrepreneurs engage in the health field, collaborating as much as competing. A HSA must sagaciously explore such (largely informal) governance networks, drawing insights from political sciences to complement health analysis.</p> <p>In this left-to-fend-for-themselves environment, the documentation may be richer than expected, but needs to be retrieved through sustained effort. Informants as well may be scattered across the world. Making sense of such multiplicity demands protracted work.</p>

TYPE	HSA IMPLICATIONS
<p>Stable / peaceful but poor country, with health authorities unable to play a leading role in the healthcare field (despite their legitimate mandate)</p>	<p>Assorted healthcare providers may have spontaneously multiplied. The HSA must focus on such variety (rather than on official prescriptions disconnected from real patterns), appraise the strengths and weaknesses of the main models, and their potential for scaling up. Structural poverty, and the related sustainability considerations, must be given centre stage in the analysis and consequent policy suggestions.</p> <p>Under-governed healthcare arenas tend to diversify internally, with regions presenting quite striking differences, which should be captured by the HSA. Documenting valuable indigenous developments may help containing the usual proliferation of donor standardised interventions.</p>
<p>Recognised government, formally in charge of the healthcare field, but opposed by powerful donors on political or human-rights grounds</p>	<p>The prevailing mistrust restricts the HSA scope and depth, or impedes its realisation. Sensitive issues cannot be discussed openly, and information is not shared. Oftentimes, information is not produced at all (its absence conveniently hidden behind a confidentiality curtain). Donors may be dismissive of domestic health features, despite their objective worth. The HSA team may play a go-between role, providing an indirect venue for exchanging views, expectations and data.</p> <p>The HSA risks giving excessive weight to certain well-documented aspects, which are hardly representative of the situation at large, or indulging in uncontroversial recommendations. Political acumen and diplomatic skills, applied over protracted interactions, are needed to counter these limitations, and table proposals that raise the interest of stakeholders.</p>
<p>Protracted, severe turmoil, with contested government, competing power holders, unresolved conflicts</p>	<p>If a national health system existed before the conflict, it has been replaced by several local ones, separated by frontlines and supported by different parties, national and/or foreign. Aligning with one warring side may preclude collaborating with its enemies. Security concerns (legitimate as well as preposterous) greatly limit the access to information.</p> <p>The main local systems must be encompassed by the analysis. Trans-border aspects must be included. The resulting picture will resemble a jigsaw puzzle of uneven depth, likely to remain incomplete without a protracted effort. Given the fluidity of these health spaces, frequent HSA updates are needed. Even better would be establishing a permanent HSA observatory, hosted by an autonomous institution.</p>

Recommended reading

- Andrews M, Pritchett L, Woolcock M (2012). Escaping capability traps through problem-driven iterative adaptation (PDIA). CGD Working Paper 299. Center for Global Development. Retrieved from: https://www.cgdev.org/sites/default/files/1426292_file_Andrews_Pritchett_Woolcock_traps_FINAL_0.pdf.
- Derderian K (2014). Changing tracks as situations change: humanitarian and health response along the Liberia–Côte d'Ivoire border. *Disasters*, 38(4): 673–689.
- Olivier de Sardan JP, Diarra A, Moha M (2017). Travelling models and the challenge of pragmatic contexts and practical norms: the case of maternal health. *Health Res Policy Sys*, 15, 1, 60. Retrieved from: <https://health-policy-systems.biomedcentral.com/track/pdf/10.1186/s12961-017-0213-9>.

References

- Bamberger M (2013). The mixed methods approach to evaluation. Social Impact Concept note series nr.1. Retrieved from: <https://www.alnap.org/system/files/content/resource/files/main/mme613.pdf>.
- Blanchet K, Allen C, Breckon J et al. (2018). Using Research Evidence in the Humanitarian Sector: A practice guide. London, UK: Evidence Aid, London School of Hygiene and Tropical Medicine and Nesta (Alliance for Useful Evidence). Retrieved from: https://crises.lshtm.ac.uk/wp-content/uploads/sites/10/2018/10/Evidence_Aid_Practice_Guide_52pp_DIGITAL.pdf.
- Bond for International Development (2013). Principles and checklist for assessing the quality of evidence. Retrieved from: <https://www.alnap.org/help-library/principles-and-checklist-for-assessing-the-quality-of-evidence>.
- Buse K, Mays N, Walt G (2005). Making health policy. Open University Press.
- Chambers R (2006). Poverty Unperceived: Traps, Biases and Agenda. IDS Working Paper 270. Institute of Development Studies, Brighton. Retrieved from: <https://www.ids.ac.uk/files/Wp270.pdf>.
- Coase R (1981), quoted in: Kleinbaum DG (2002). Epidemiologic methods: the “art” in the state of the art. *Journal Clin Epidem*, 55, 12, 1196-1200.
- Cristancho S (2016). Lessons on resilience: Learning to manage complexity. *Perspect Med Educ*, 5:133–135. Retrieved from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4908044/pdf/40037_2016_Article_277.pdf.
- Dewachi O (2017). Ungovernable life: Mandatory medicine and statecraft in Iraq. Stanford: Stanford University Press.
- Dewachi O, Skelton M, Nguyen V-K et al (2014). Changing therapeutic geographies of the Iraqi and Syrian wars. *Lancet*, 383:449–57. doi: 10.1016/S0140-6736(13)62299-0.
- Dijkzeul D, Hilhorst D, Walker P (2013). Introduction: evidence-based action in humanitarian crises. *Disasters*, 37(S1): S1–S19, doi:10.1111/disa.12009.
- Dillon N, Campbell L (2018). ALNAP Lessons Papers: A Methods Note. London: ALNAP/ODI. Retrieved from: <https://www.alnap.org/system/files/content/resource/files/main/ALNAP%20Lessons%20Paper%20Method%20Note.pdf>.
- Duffield M (2019). Post-humanitarianism. Governing precarity in the digital world. Cambridge, Polity Press.
- Evans JG (1995). Evidence-based and evidence-biased medicine. *Age Ageing*, 24(6):461-463.
- Goodhand J (2000). Research in conflict zones: ethics and accountability. *Forced Migration Review*, 8, 15. Retrieved from: <https://www.fmreview.org/sites/fmr/files/FMRdownloads/en/accountability-and-displacement/goodhand.pdf>.
- Greenhalgh T, Papoutsi C (2018). Studying complexity in health services research: desperately seeking an overdue paradigm shift. *BMC Medicine*, 16:95. Retrieved from: <https://bmcmedicine.biomedcentral.com/track/pdf/10.1186/s12916-018-1089-4>.
- Hagen-Zanker J and Mallett R (2013). How to do a rigorous, evidence-focused literature review in international development. London: ODI. Retrieved from: www.alnap.org/help-library/how-to-do-a-rigorous-evidence-focused-literature-review-in-international-development.
- Hawkins B, Parkhurst B (2016). The ‘good governance’ of evidence in health policy. *Evid Policy*; 12, 4, 575–92.
- Jones H (2011). Taking responsibility for complexity. How implementation can achieve results in the face of complex problems. Overseas Development Institute, Working Paper 330. Retrieved from: <https://www.odi.org/sites/odi.org.uk/files/odi-assets/publications-opinion-files/6485.pdf>.
- Kahneman D (2011). Thinking, fast and slow. London, Penguin Books.

- Knox-Clarke P, Darcy J (2014). *Insufficient evidence? The quality and use of evidence in humanitarian action*. ALNAP Study. London: ALNAP. Retrieved from: www.alnap.org/help-library/insufficient-evidence-the-quality-and-use-of-evidence-in-humanitarian-action-alnap-1.
- Mahmood, S.S. Wroe, E. Fuller A et al. (2017). The Rohingya people of Myanmar: health, human rights, and identity. *Lancet*, 389, 10081, 1841-1850.
- Marchal B, Westthorp G, Wong G et al. (2013). Realist RCTs of complex interventions – an oxymoron. *Soc Sci Med*, 94:124–8.
- Martin GB, McKee L, Dixon-Woods M (2015). Beyond metrics? Utilizing 'soft intelligence' for health care quality and safety. *Soc Sci Med*, 142: 19-26.
- Mintzberg H (1994). *The rise and fall of strategic planning*. Prentice Hall Europe.
- Mosse D, Lewis D (2006). Theoretical approaches to brokerage and translation in development; in Lewis D and Mosse D. *Development brokers and translators: the ethnography of aid and agencies* 1-26. Sterling: Kumarian Press. Retrieved from: <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.523.9270&rep=rep1&type=pdf>.
- Peters DH (2014). The application of system thinking to health: why use system thinking? *Health Res Policy Sys*, 12, 51. Retrieved from: <https://health-policy-systems.biomedcentral.com/track/pdf/10.1186/1478-4505-12-51>.
- Petticrew M, Roberts H (2006). *Systematic reviews in the social sciences*. Oxford: Blackwell Publishing.
- Petticrew M, Whitehead M, Macintyre SJ et al. (2004). Evidence for public health policy on inequalities: 1: the reality according to policymakers. *J Epidemiol Community Health*, 58: 811–16.
- Plsek PE, Greenhalgh T (2001). The challenge of complexity in health care. *BMJ*, 323, 625-8.
- Prudhon C, de Radigues X, Dale N, Checchi F (2011). An algorithm to assess methodological quality of nutrition and mortality cross-sectional surveys: development and application to surveys conducted in Darfur, Sudan. *Popul Health Metr*, Nov 9;9(1):57. doi: 10.1186/1478-7954-9-57.
- Ramalingam B (2013). *Aid on the edge of chaos: rethinking international cooperation in a complex world*. Oxford: Oxford University Press.
- Roll K, Swenson G (2019). Fieldwork after conflict: contextualising challenges of access and data quality. *Disasters*, 43, 2: 240–60.
- Sanderson D, Ramalingam B (2015). *Nepal earthquake response: Lessons for operational agencies*. London: ALNAP. Retrieved from: www.alnap.org/help-library/nepal-earthquake-response-lessons-for-operational-agencies.
- Schon D (1984). quoted in: Wolpert M and Rutter H (2018). Using flawed, uncertain, proximate and sparse (FUPS) data in the context of complexity: learning from the case of child mental health. *BMC Med*, 16: 82. Retrieved from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5998597/pdf/12916_2018_Article_1079.pdf.
- Taleb, NN (2012). *Antifragile*. London: Penguin Books.
- Tolstoj L (1869). *War and peace*. Hertfordshire: Wordsworth Editions.
- Tsoukas H (2017). Don't simplify, complexify: from disjunctive to conjunctive theorizing in organization and management studies. *J Manag Stu*, 54:2. Retrieved from: <https://doi.org/10.1111/joms.12219>.
- Victora CG, Habicht JP, Bryce J (2004). Evidence-based public health: moving beyond randomized trials. *Am J Public Health*, 94, 3, 400–405.
- World Health Organization (2000). *World Health Report 2000. Health systems: improving performance*. Retrieved from: http://apps.who.int/iris/bitstream/handle/10665/42281/WHR_2000.pdf?sequence=1&isAllowed=y

5

Preparatory work and practical arrangements

Key Messages

Once a decision has been taken to conduct an HSA, it should be initiated as soon as possible to avoid the loss of information and departure of key informants. But before launching an assessment, it is important to verify if a similar exercise has already been carried out or is in the pipeline, to avoid the waste of money, time and effort.

After an agreement has been reached among the key actors on the objective, scope and consultation modalities of the assessment and the team of analysts has been assembled, some preparatory work is in order. This includes informing the potential informants of the exercise, agreeing on a division of responsibilities among the team members, reviewing the available information, identifying potential informants, developing study questions and data collection instruments.

Special attention should be paid to field visits, usually very informative but time-consuming, when they will occur in the country's peripheral areas. The choice should be guided by the issues that emerged in the initial phase of exploration as requiring confirmation.

Logistics is an important aspect, too often overlooked: support for the transport of the analysts, in contacting the informants and in organising the meetings is essential. The same applies to translation and interpretation when the local language represents a barrier for outsider analysts.

A summary of interim findings is useful to elicit useful feedback and promote the absorption by stakeholders of the main points suggested by the analysis. A matrix for summarising the information is proposed at the end of this chapter, as a base for discussions with stakeholders.

It is never too early to start an HSA. The heavier the stress and the higher the risk of disruption, the sooner the analysis should be carried out. In fact, the risk that most information is lost in a collapsing environment is very concrete, as vividly demonstrated in Iraq and Syria. But before rushing to launch an HSA, a thorough look around is recommended, as other institutions, aid agencies or experts could have carried out a similar exercise, or been engaged in it. Efforts might be saved and alliances found in this way.

An HSA should be launched during a conflict when there is a glimmer of peace, for example when the negotiation between opposing parties looks to be on the right track. This was the case in Sudan in 2003, when the WHO and the World Bank commissioned two independent HS assessments (see Case study 3). In Mozambique as well, the MoH, this time jointly supported by WHO and the World Bank, launched an ambitious exercise to prepare plans for reconstruction two years before a peace deal was signed (Noormahomed and Segall, 1994).

Once the objectives of the assessment have been agreed upon among the main actors and the team of analysts has been assembled, the preparatory work can start. This phase, often neglected, is of high importance: if well conducted, it can save time in data collection and avoid common errors, like not paying attention to key aspects of the analysis and/or falling into common traps / mistakes.

The envisaged assessment process must be discussed with the sponsors and other key stakeholders. The consultation's intermediate and final modalities, the revisiting of goals, time, effort and support required, and the final products and follow-up all have to be agreed. A periodic consultation with key actors will allow for an examination of the limitations and drawbacks of the HSA in preparation in light of the initial information collected, the most severe knowledge gaps, the obstacles and the emerging insights.

The preparatory phase includes the following steps:

a. An official information note from the HSA sponsors, presenting its scope, objectives, modalities and timing, to be addressed to key

actors and potential informants will be useful for encouraging the collaboration of stakeholders. An initial meeting / workshop for launching the assessment is an option to be considered.

b. A division of responsibilities among the team members, based on their expertise and experience in determinate sector domains could be agreed, as well as the modalities and timeframes for the joint discussion of preliminary findings. But caution is needed against the risk of a siloing of the analysis, say with the financial expert working apart from the team.

c. The available documentation, starting with past HSAs, should be explored through a desk review, using all relevant sources. This initial reconnaissance will focus on:

- The broader political and socio-economic context within which HS developments take place; the determinants and dynamics of the crisis; the overall impact of the crisis on the healthcare arena;
- The main aspects ignored or inadequately covered in previous assessments; key information gaps;
- The policy concerns of assorted stakeholders;
- The results of past recommendations and reforms; implementation bottlenecks;
- Project evaluation reports;
- Aid: volume, modalities and trends; humanitarian and development streams; conditionalities; pooling mechanisms, if existing;
- Important processes and initiatives under way or in the pipeline;
- The findings of population surveys, especially if they contain health indicators; statistical bulletins;
- Basic data: population with breakdowns; GDP; number and location of refugees and IDPs (if any); current population movements and trends; key health indicators for health status and coverage of health services.

The information collected should be critically

appraised, on methodological as well as relevance grounds. Public health information is invariably inadequate in humanitarian crises: the analysts need to judge if what they have collected and reviewed is 'good enough' for the purpose of the assessment or should be discarded because of its flaws and/or irrelevance (Colombo and Checchi, 2018). Triangulation of data, comparisons of indicators with those of similar contexts, trend analysis, attention to outliers before possibly discarding them¹⁰, challenging the assumptions and methods used in data collection and analysis, existence or absence of plausible explanations for the data, can all help judge the quality and usefulness of the information.

The information to be analysed should be screened also in terms of its relevance to the scope and objectives of the HSA: parsimony should be a criterion to guide the choice of data and avoid an unnecessary overloading of the report, thus diluting key findings. The limitations of the information utilised should be discussed in a transparent way, and in technically accessible terms, to allow the reader to gauge the quality of evidence on which the arguments and the conclusions of the assessment rest. The information harvest is routinely uneven, with some aspects better studied than others. Once the mosaic starts taking shape, its main gaps will indicate where additional information collection efforts are needed.

d. The next critical step is to identify potential informants: they will represent a purposive¹¹ sample, therefore unavoidably subject to selection bias¹². Ensuring diversity of informants (e.g. insiders and outsiders, different organisations or institutions, providers and users of health services, people at central and local level, etc.) may minimise this bias. The starting point should be the preparation of a list, including the suggestions of names from people familiar with the settings, the authors of technically-sound studies (including past HSAs), MoH officials, programme managers, staff of aid agencies and NGOs. Service providers and users should be added after the decision on which localities and health facilities will be visited. The initial list could be shared with trusted colleagues to make the necessary changes. The analysts should be open to the inclusion of alternative perspectives by informants, who might challenge received wisdom and assumptions and encourage the revisiting of initial perceptions.

Tip: informants should be selected for their knowledge and capacity to reflect, rather than for their hierarchic status. Often mid-level functionaries within the organization's bowels have more and better information than the top people, and can provide obscure and forgotten reports etc. Additionally, informants should be approached with sharp questions, reflecting a thorough study of the available documentation: valuable informants are usually busy people whose time should not be wasted.

The initial contact is key for obtaining collaboration and defusing any diffidence due to continuous requests for information and the perception of an unnecessary intrusion by newcomers. The preliminary exchanges should give concise information about the objectives of the assessment, the main features to be studied, the main obstacles to be overcome, the HSA timeframe, the potential contributions of different parties. The support of local staff in contacting the informants and making appointments will save precious time for the analysts.

Strong logistic support (for transport, office facilities, travel arrangements, accommodation, security authorisations, etc.) is invaluable, but too often not given the necessary attention at the outset, which results in the waste of time and energy by the assessment team.

The engagement of analysts and their interaction with key informants should not be short-lived: establishing trust and reputation requires time and patience on both sides: "Have patience with everything that is unsolved in your heart and try to cherish the questions themselves, like closed rooms and like books written in a very strange tongue" (Rilke, letter IV, 1929).

e. The team of analysts will develop the study questions, based on the assessment's scope and objectives, and translate them into semi-structured data collection tools to guide the review of secondary data, the interviews of informants and direct observations. Blind alleys should not be pursued: if certain questions consistently do not bear fruit, they should be dropped in favour of the threads that do. The tools should be used in a flexible way, granting the interviewer the liberty to

probe certain answers and/or explore interesting aspects that have emerged in the discussion. The tools will also need to be adapted to the specific components of the HS, their level (national or local) and the context.

f. Discussions with other government departments - the Ministry of Finance, the Ministry of Planning and the Ministry of Education - will allow the analysts to collect relevant information. These meetings need to be prepared carefully, in terms of the precise questions to be asked and the relevant information to be gathered. Being accompanied by a senior MoH official will help: s/he can explain the reasons for the meeting and facilitate access to information and the collaboration of colleagues in other sectors, often unused to such requests.

g. Field visits may be very informative, but are usually time-consuming, particularly when occurring in peripheral areas of the country. They should take place when concepts emerging from documents and interviews need to be verified. Otherwise, they result in the collection of unfocused information and, consequently, represent a waste of time. Field observations may confirm or question initial findings and be sharpened by local perspectives in order to enrich the picture assembled so far. These enhanced insights can in turn be submitted to informants in order to obtain further inputs.

Humility is in order in relation to the insights that outsiders may gain during brief visits. Thus, submitting field impressions to seasoned insiders is a sensible way to gauge their soundness. It is up to the analysts, in the specific context where the exercise is carried out, to decide on the appropriate balance between the review of available data and documentation, the information collected through interviews and the field observations. In principle, when data/ information saturation¹³ (Braun and Clarke, 2013) has been attained data collection could stop. In contrast to quantitative studies, for which there are rules for deciding the sample size, there is no specific guidance for establishing the saturation point in qualitative studies. In practice, many grey areas are likely to remain so, efforts at illumination notwithstanding.

h. A timely plan of visits to localities and health facilities should be developed, to allow for the

necessary logistic arrangements to be made. Time, security and cost will influence the choice of visits. In addition, other criteria should be considered to guide the choice of field visits. Contrasting dissimilar settings and facilities (urban vs. rural areas, private vs. public facilities, well vs. badly-performing districts, hospitals and PHC units, etc.) helps in the understanding of the internal diversity of the HS, the main weaknesses at its various levels and the influence of the contextual factors on service provision.

During the visits, in addition to direct observation of the facilities and health service delivery, and collection of data, the analysts should gather the perspectives and experiences of local health authorities, front-line health professionals and users. A purposive sample of exit-interviews of patients is an efficient way of gathering information in a short time. Focus group discussions can be more informative, but require skilled facilitation and more time for data collection and analysis.

Language barriers should also be considered in advance: the need for a skilful and locally-trusted interpreter/ translator to accompany the visits may be necessary.

i. Carrying out an HSA is like taking a journey without knowing at the beginning what the final precise destination and the best path to get there will be: it is impossible to know a priori how demanding the production of the assessment will be, and how long the attainment of satisfactory results will take. This uncertainty should be somehow reflected in the ToR, which could keep the door open for subsequent phases of assessment. The HSA's eventual yield will have to be assessed according to the challenges encountered. In favourable circumstances, an informant may help elucidate key aspects right at the beginning of the analysis, or facilitate access to other valuable sources. Luck also plays a role: "the serendipitous revelation of pieces of tacit knowledge" (Gavrilova and Andreeva, 2012). Discordant perspectives, which challenge conventional wisdom and stereotypical assumptions, can steer the analysis towards unexplored paths. Counterintuitive insights are often valuable, given the ambiguity of most aspects to be studied. Conversely, when most informants agree on key issues, the occurrence

of a selection bias should be considered, and efforts to listen to alternative points of view renewed.

Distressed healthcare arenas demand an exploratory approach, with flexible timeframe, workplan and study questions. Useful information might emerge only after some time, forcing the analysts to revisit their views on particular aspects, and look for relevant expertise. Health insurance for displaced people, for instance, is a novelty about which only a few experts are becoming conversant. They need to be consulted, to take account of their knowledge. Thus, successive approximations of reality are generated by iterative cycles of data collection, analysis and discussion, in the pursuit of conclusions that will be valuable for decision-making.

In this way, the HSA's scope and value will become clearer and will motivate the informants to contribute to it, during its production and afterwards. Valuable insights may emerge towards the end of the appraisal, when the analysts have identified the best sources of information, are able to place the right questions, and receive the right answers from informants. If the interaction has generated compelling results, these informants will in turn motivate other actors to support it. The whole process will move up a notch or two in terms of analytical substance and implementing commitment.

j. HSAs are more than technical exercises carried out in a highly politicised context: they have always a strong political colour too. Therefore, both their process - such as the contextual and policy analysis, the consultation process, etc. - and their future use acquire political connotations. Reconciling technical and political concerns requires awareness of the risks of political manipulation of their findings, and honesty tempered by diplomacy and humility in dealing with sensitive issues.

k. As information is collected and organised, the preliminary interpretation of patterns, trends and issues should be circulated, on the one hand to elicit useful feedback, and on the other to promote the absorption by stakeholders of the main points suggested by the analysis. A strong and easily-digestible summary of interim findings will greatly facilitate the following round of data collection, in light of the reputation acquired by the exercise and the interest induced in participants about key issues.

A matrix such as the one below can help summarise the information and serve as a base for discussions with stakeholders (an example of the matrix populated with real information, on the Somali health sector, is available in: Pavignani and Colombo, 2009, pg.382-5).

AREA/ISSUE	SITUATION	REMARKS	POLICY OPTIONS	RELEVANT EXPERIENCES FROM OTHER COUNTRIES
Health policy
Health financing
Human resources				
...

Case study 2

The Darfur Health and Nutrition Recovery Strategy 2012-3. An accidental model formulation process?

The Darfur Joint Assessment Mission (D-JAM), launched in 2006 by the UN and the World Bank, and soon interrupted for political and security reasons, was resumed in 2012, in view of the Doha donor conference. This event was later postponed to 2013, and did not fulfil the funding expectations it had nurtured. The health component of the D-JAM was completed, resulting in a stand-alone recovery instrument, which needed validation before being implemented because, despite the Darfur's extremely-high profile, the health information available was quite poor, absolutely inadequate to the task at hand. Thus, the exercise was likened at the time to: "Drawing a map while travelling (towards recovery)".

The D-JAM health component was strengthened over 2013, through discussions with stakeholders, data collection and field assessments. Accidentally, deadlines shifted and some funding was found to carry out four studies intended to put the strategy on firmer ground. Such work was incorporated in a revised Health Recovery Strategy (approved by end-2013). After one year of hard work, the collected data unexpectedly confirmed the strategy foundations as sound. But carrying out the studies constituted a learning process in itself (for those participants who were keen to learn). The severity of the situation was fully appreciated, inducing an extension of the adopted time frame, and a renewed emphasis on management-strengthening measures.

Rather than the Big Bang investment envisioned by the D-JAM (thanks to the funding bonanza supposed to be released after Doha), a modest, grow-as-you-go approach was proposed. First, the existing obstacles were too daunting to enable a large investment programme. Second, funding was still meagre. Only demonstrable progress would attract additional funds.

Sadly, political calculations barred the main donors from funding a recovery strategy they had approved on technical grounds. Years after, changes in the geopolitical landscape opened up avenues for collaboration, and some of the measures contemplated by the strategy are being considered anew.

Reference: Federal Ministry of Health of Sudan. A health and nutrition recovery strategy for Darfur. Expanded and updated, December 2013.

Recommended reading

- Colombo S, Checchi F (2018). Decision-making in humanitarian crises: politics, and not only evidence, is the problem. *Epidemiol Prev*, 42 (3-4), 214-225. Retrieved from: http://www.epiprev.it/materiali/2018/EP3-4/EP3-4_214-art1.pdf.
- Noormahomed AR, Segall M (1994). *The public health sector in Mozambique: a post-war strategy for rehabilitation and sustained development* (translation of the 1992 Portuguese original). Geneva, WHO (Macroeconomics, health and development series, No. 14). Retrieved from: <https://apps.who.int/iris/handle/10665/62120>.

References

- Braun V, Clarke V (2013). *Successful qualitative research*. Sage Publications
- Gavrilova T, Andreeva T (2012). Knowledge elicitation techniques in a knowledge management context. *J. Knowl. Manag.*, 16,4, 523e537. Retrieved from: <https://pdfs.semanticscholar.org/17e2/a95676b40e8ebd23878cf6f15e3537522a10.pdf>.
- Pavignani E, Colombo S (2009). *Analysing disrupted health sectors. A modular manual*. World Health Organization. Retrieved from: https://www.who.int/hac/techguidance/tools/disrupted_sectors/adhsm.pdf.
- Taleb NN (2010). *The black swan: the impact of the highly improbable*. 2nd ed. New York, NY: Random House.

6

Aspects to be considered

Key Messages

A typical, comprehensive HSA should study and present the components below, while considering their multiple links and threads that turn them into a system. After a description of the key areas to be studied, the rationale and some examples, a table lists specific aspects to be kept mind in the HSA, which could vary according to the context, together with key information resources. The list should be used as a flexible guide: as the HSA proceeds, the adopted template is likely to change, all the better to adapt to available information, findings and ensuing concerns (rather than squeezing the latter into a rigid structure). Health governance, health information and healthcare provision are discussed in a separate chapter since they encompass all HS components.

A. The context

Key messages

The analysis of the overall context is sometimes done in a perfunctory way, whereas it is a critical component of an HSA. This analysis, which includes a look at the changes of the nature of crises and their impact, requires new analytical approaches, drawing from disciplines other than health. The analysis of the context must be carried out with clear linkages to healthcare provision.

Physical geography, often overlooked, can provide insights on the barriers to health services utilisation. The tendency of conflicts to spill over neighbouring countries calls for the need, in some cases, to analyse the trans-border implications of the crisis.

History is a fundamental for understanding the current crisis and the state of the healthcare arena, the stressors, such as high poverty levels, the determinants of violence and instability, and the fragility of institutions, which are often structural, rooted in past dynamics.

The stressors lying at the origin of a crisis are often of an economic nature: they need to be studied, together with the impact of the crisis, both as they directly and indirectly impact on the economy and the health systems. Economic factors, including aid, strongly influence the financing of the health system.

Crises impact on populations in different ways, changing their size, composition and structure through increased mortality, reduced fertility and mass displacement. Therefore, demography, together with the companion discipline of epidemiology, is an essential tool for the HSA analyst.

Global trends should be actively looked at, to be considered when formulating future scenarios: some of them recur and are recognisable in most settings.

Preamble: new responses, as well as new analytical approaches are demanded by the broad spectrum of present crises. It ranges from the Ebola epidemic in West Africa and the areas of eastern DR Congo currently in conflict; through the re-appearance of famine, thought to have been vanquished, in conflict-ravaged Yemen, South Sudan and Somalia; and the 'migration crisis' in Europe, with all its political ramifications; to the Syrian catastrophe, which has become internationalized with the presence of powerful regional and world actors; and the economic, social and political collapse of Venezuela, with the crumbling of its public health system, etc. Such diversity cannot be studied with a uniform tool, but calls for innovation and creativity instead.

Crises no longer occur only in borderlands (Duffield, 2001): rather they appear in cities too, where around 60% of refugees live (Park, 2016), and in middle-income and high-income countries. The globalized nature of crises is intensified by the increased mobility of migrants and displaced people, which physical and bureaucratic barriers try in vain to stem. The fragmentation of parties involved in large conflicts has become extreme: over 1,000 armed groups were fighting in Syria in 2014, with a continuous reshaping of their alliances (Carter Centre, 2015). In such contexts, advocating for the respect of International Humanitarian Law is chimerical. As a reaction to insecurity and reduced humanitarian space, donors and NGOs have become increasingly risk-averse: remote management and cross-border interventions are on the rise (Duffield, 2019).

The number of people in need increases every year, with a large share being forcibly displaced persons: 68.5 million in 2017, two thirds of them IDPs (ALNAP, 2018). Many crises are protracted: the average duration is more than nine years (OCHA, 2019). Large-scale, long-lasting conflicts remain the main drivers of need: 80% of humanitarian funding is spent in these contexts. Funding is increasing, but its rate of growth seems to be tailing off. Humanitarian aid is outpaced by need, with funding at about 40-50% of requirements. Funding is concentrated in a small number of complex crises, in particular in the Middle East.

The concentration of aid in strategic geopolitical areas accelerated after the 9/11 events. It is related to the use of humanitarian aid as a foreign policy instrument to stabilise areas that may pose a security threat and to obtain military intelligence behind the ostensible goal of “winning hearts and minds” (El Taraboulsi-McCarthy et al., 2016). This blurring of boundaries between politics, military and relief operations has posed increased political and physical risks to humanitarian workers (Briody, 2018).

Humanitarian action has improved in many aspects, particularly in its short-term impact: consequently, the extremely high levels of mortality of the past are no longer recorded. There is a common perception, however, that the humanitarian “system has in many ways reached its limits”: it is overstretched and at the same time underfunded, and it is obstinate to any radical reform (ALNAP, 2015). Part of the problem lies in the fact that the system is hostage to political agendas: “Humanitarian actors are trapped by their mandates, and donors are risk averse. As a result, interventions are largely driven by what agencies can do, rather than what is needed” (Howe, 2016). The roots of this are not new: the humanitarian system “was not designed to address the types of complex conflicts that are happening at present; it is not simply overstretched—it is no longer fit for purpose” (Spiegel, 2017).

Contextual domains to be explored. More often than expected, conceptual breakthroughs come from disciplines other than health. Studies drawing from assorted fields are particularly generous with insights: therefore, the analyst should start his/her exploration with a wide-angle lens, to cover an ample horizon, and zoom in to capture details later on.

The geography of the country is seldom considered; as an example, one cannot understand the overall low coverage and quality of health services in Haiti - whose name in the indigenous Taino language means ‘land of high mountains’- without taking the challenging terrain into consideration. Many long-suffering societies are extroverted, in the sense that strong external links determine supposedly-domestic events. For decades, the crisis tormenting the DR Congo had its epicentre in the Great Lakes, i.e. spanned eastern Congo, Rwanda, Burundi and Uganda. The core of some states (such as Sudan and Myanmar) lies along a river valley, with restive peripheries never fully absorbed into the national fabric. Their grievances include health care provision. Moreover, many states were given ‘difficult geographies’ by their colonial creators (Herbst, 2000): immense, internally-diverse territories with poor communications, supposedly to be governed from eccentric capitals.

Conflicts tend to spill over neighbouring countries or have always been cross-border in nature; in several cases like the Horn of Africa, Sudan-Chad, the Middle East region, crises “are deeply embedded in a regional and cross-border context” (Söderbaum and Tavares, 2009). These complexes are characterised by transnational alliances of armed groups, population displacements, migration of health personnel, spread of outbreaks, etc. When this is the case, the HSA should not limit itself to the country under study, but broaden its analysis to encompass the trans-border implications of the crisis: “In many cases it is therefore more appropriate to talk of ‘regional war zones’... borders have become progressively less relevant” (Freedman, 2017).

History is a fundamental lens for understanding the current crisis and the state of the HS. Interlinked stressors, such as the determinants of violence and instability, the fragility of institutions, high poverty levels, widespread corruption, etc., are usually structural, rooted in past dynamics. This explains why crises tend to recur and last a long time, and why political solutions to end them are difficult to achieve and sustain, with institutions remaining fragile. Somalia, DR Congo, Iraq, South Sudan, to name just a few countries, are cases in point. The same stressors impact, both directly and indirectly on HS, on the supply and demand of

health services: the studied timeframe of the HS and the wider context might have to stretch back into the past, in order to understand certain patterns and flaws of the sector. In his book, Dewachi (2017) examines almost a century of historical processes in Iraq, with a focus on colonial rule and the transnational influences of British medical institutions, which have shaped the health care system and made it particularly vulnerable to the impact of UN-imposed sanctions and subsequent wars, violence and political instability.

The economy. Under stress, the internal domestic formal economy shrinks, while external links are forged by aid inflows, remittances, imports. Outward links include capital flight, raw resource exports, migrants and refugees. Most estimates of the domestic economy fail to capture its internationalisation, including its dollarisation. Informal transactions come to dominate the economy. The healthcare arena evolves in the same direction as the economy, of which it represents a sizeable portion.

The stressors lying at the origin of a crisis are often of an economic nature: botched structural adjustment programmes were in place in Somalia and Syria (among others) before their implosion. International financial institutions have pushed for economic reform programmes requiring reductions in government spending, prioritising fiscal discipline over social issues and public health priorities. It has been argued that IMF policies on low government spending in Sierra Leone contributed to the lack of HS responsiveness to the Ebola epidemic (Kentikelenis et al., 2014).

Economic factors influence the financing of the health system, including aid modalities and channels. There is now a consensus that economic incentives, in their close interactions with power and politics, play an important role in causing and often sustaining most conflicts and crises. Only recently, however, have economists started paying attention to the 'dark side' of human activity: conflicts and crime (Hirshleifer, 1994).

An influential study identifies state weakness, marked by poverty, a large population and instability as better predictors of risk for civil war than ethnic and religious diversity or grievances;

it also argues that grievance is often the result of civil wars, rather than their cause (Fearon and Laitin, cited in Freedman, 2017). Low per capita incomes and slow economic growth are robustly linked to civil wars (Blattman and Miguel, 2010). The abundance of natural resources - the 'resource curse' - in particular oil and diamonds, also increases the risk of conflicts by creating opportunities for criminal activities, such as smuggling, trafficking and corruption: Iraq, Angola, Sierra Leone and DR Congo are cases in point. 'Greed' seems in many circumstances to represent a stronger incentive for conflict than 'grievance'; in addition, countries that have suffered conflict have a higher risk of recurrence of violence (Collier, 2000).

As violence becomes pervasive, as an instrument to maintain access to resources, looting and short-term benefits, "winning may not be desirable: the point of war may be precisely the legitimacy it confers on actions that in peacetime would be punishable as crimes" (Keen, 1998). The expressions of the war economy, in the sense of "an alternative system of profit, power and even protection" (Keen, 1998), in the healthcare arena are often overlooked. Using a war-economy lens is, however, helpful in order to penetrate some murky patterns and to understand the duration of many conflicts, which greatly benefit some entrepreneurs at different scales. The pharmaceutical supply lines established in Somalia and Afghanistan stand out for their size and sophistication. Further examples relate to the costly medicines of indeterminate quality smuggled through Syria and Iraq, the bribes paid to pass checkpoints, and payments made to power holders by health professionals in order to practice.

Estimating the economic impact of a crisis is methodologically complex: it requires a variety of methods, it depends on data that the involved parties may not be willing to fully disclose and it does not include non-material costs, nor some economic benefits to certain sectors and population groups. A certain degree of arbitrariness and bias affects, therefore, the estimates found in the literature on the subject. The cost can vary substantially depending on the type of events ('natural' versus man-made disasters), their severity and duration. According to empirical studies, civil wars may reduce the GDP growth of an average low-income country by 2-3% a year,

with consequences that last for years after the end of the hostilities (Carbonnier, 2015). A study on Darfur, Sudan, estimated the cost of the conflict, on a conservative base, at \$30 billion between 2003 and 2009, or some 13% of the annual GDP of the country (Hamid, 2013). An older study on the Iran-Iraq war of 1980-88 estimated the costs at nominal prices at \$644 billion for Iran and \$453 billion for Iraq (Harris, 1997).

In addition to the direct economic consequences, there are indirect effects: the production of goods and services may collapse, human/social capital is lost due to the excess mortality and population displacement and migration, the government budget for social sectors usually shrinks, the rule of law relaxes, creating opportunities for informal and illegal activities. Remittances from abroad and international aid usually increase, but not to the extent that they compensate for the losses. For example, a study shows that even though foreign aid in countries affected by large disasters between 1970 and 2008 increased on average by 18%, aid only covered 3% of total disaster losses (Becerra et al., 2012).

External assistance contributes to the local economy by the injection of fresh money through the hiring national staff, the renting of houses, offices and cars, the sub-contracting of building and security companies, etc. It brings foreign currency, so desperately needed in many crisis settings, but it may have a negative impact on the exchange rate, with inflationary repercussions on the local economy, which has no capacity to increase the production of new commodities. As a result, the prices of domestic goods and services soar beyond the purchasing power of most national citizens. Additionally, selective hiring, if perceived as biased by competing groups, may indeed add fuel to the local conflict, as in Somalia.

Some authors argue that aid can contribute to the intensification and prolongation of conflicts, like in the Biafra war in 1967 and in the Ethiopian famine of 1984 (Nunn and Qia, 2014; Frank, 2013). Aid obtains these unwanted effects through different mechanisms. It can be re-directed, diverted and taxed; looted medicines can be a new source of revenue. It may expose beneficiary populations and health infrastructure to increased attacks, a

worrisome trend documented in Syria, Yemen and Iraq (Briody et al., 2018). It may free up government resources for military expenses, or personal enrichment. Finally, if aid targets specific groups, irrespective of the overall needs, it may reinforce grievances along ethnic, religious or political lines (Carbonnier, 2015).

In distressed settings, macro-economic data are usually not very useful, since large portions of the economy are informal, underground and/or illegal, official government budgets are released late and are often incomplete, and fiscal capacity is poor. Moreover, large differentials may exist between regions and population groups. Micro-level assessments, including market analysis, are increasingly used to measure livelihood levels and the vulnerability of households. Since household income is often difficult to measure, proxy means testing¹⁴ has become the standard approach by humanitarian agencies for household surveys. For example, a vulnerability assessment of Syrian refugees in Lebanon in 2013 found that the average monthly expenditure per household was \$774, nearly half of which went on food, a quarter for accommodation and 9% for health (WFP, UNHCR, UNICEF, 2013).

Demography, together with the companion discipline of epidemiology, is critical for enhancing the understanding of the impact of crises on populations and allowing appropriate planning. Populations change their size, composition and structure through increased mortality, reduced fertility and mass displacement. In turn, population changes may fuel tensions, by increasing the competition for scarce resources. It has been postulated that these kinds of political friction occur particularly in situations characterised by high unemployment, where there is a large youth population, a youth bulge, which fuels social discontent, political unrest and, ultimately, conflict (Urdal, 2006). Because of the interconnections between politics and demography, a new field - political demography - has emerged which studies how population changes affect politics and vice versa.

In some past crises, dramatic demographic changes remained hidden, because the official statistics, if released, would have been politically 'uncomfortable'.

For example, at the height of the Great Irish famine of the 1840s, the British government, worried about the political consequences of disclosing the exceptionally high death toll, resisted the demand of the opposition for a body count (Ó Gráda, 2009). Today, more public scrutiny, improved communication and better demographic methods make the manipulation of data more difficult, but not impossible.

There are also examples of demographers who were able to shed light on the severity of the crisis, or even foresee the societal consequences, contradicting official political interpretations. The consequences of the 1932-34 famine in Ukraine and parts of southern Russia, one of the worst tragedies in modern history, would not have come to light, if not for the work of demographers. In fact, Stalin, who was the main architect of the brutal collectivisation policies and destruction of richer peasants that resulted in the famine, ordered the doctors to falsify the causes of deaths and the functionaries to alter the death registries. He halted the publication of the 1937 census¹⁵ which would have shown that some eight million people were 'missing' - victims of the famine and their unborn children - from an expected total of 170 million (Applebaum, 2017). Recently, demographers were able to look at the number of people in the Ukraine before the famine and afterwards and concluded that losses due to the famine amounted to 13% of the population (ibidem).

The age distribution, disaggregated by sex, in the form of population pyramids (see glossary) is a powerful tool used by demographers. A 2005 mortality survey in Darfur, Sudan, showed important deficits of males in the 15-49 age group, which was explained by the excess mortality during the conflict due to violence-related factors, as the absence of men who had migrated and/or were involved in the fighting (WHO, 2005). The same pattern was observed in Cambodia after the civil war, with most of the deaths concentrated in males aged 20-40, suggesting violence as the main cause of mortality (Guha-Sapir and D'Aoust, 2010).

Fertility patterns during crises are difficult to interpret, because of the complexity of the factors that influence reproductive capacity. On the one hand, conflicts seem to contribute to a reduction of fertility rates, through differential mortality between sexes, poor healthcare and labour migration

Box 3.

The politics of population data

Population estimates are politically consequential: census data impact on electoral representation and fiscal spending. Therefore, in countries where power is contested and state capacity to organise a census and monitor its process is limited, population counts are often controversial. For example, the 1991 census in Nigeria estimated a total of 89 million, but the World Bank disagreed on this estimate, considering it too low and used for the World Development Indicators dataset of the same year the figure of 99.9 million.

The 2016 census in Nigeria has been delayed, with the last count in 2006 giving a total of 140 million: some argue that this figure is 20–30 million too high, whereas others see it as too low. In response to the criticism on how the census was carried out, the then Nigeria's president, Olusegun Obasanjo stated: "If you like, use it, [if] you don't like [it], leave it." (Jerven, 2018; Jerven 2013).

(Agadjanian and Prata, 2002; Blanc, 2004). On the other hand, it has been argued that high fertility may represent a coping strategy against shocks and to ensure future financial support in old age. A substantially reduced fertility is a common symptom of famines, arguably more than an increased mortality; during these crises, there seems to be a change in the sex ratio of births, with a higher proportion of infant females, but the mechanisms for this are unclear (Ó Gráda, 2009).

Migration and displacement substantially alter the size of the population in a conflict. Population movements due to the fighting also change the demographic, social, religious and ethnic composition of the population with consequences which are difficult to assess. The adult, skilled and healthy portion of the population has a greater chance of migrating, leaving behind dependent groups. Once the conflict ends, such changes are only partially reversed, with returnees facing serious problems of reintegration into a radically-changed society.

The size of the affected population, and of its more vulnerable groups, is essential for estimating needs, the health outcomes and the coverage of health services. Denominators are, therefore, critical for assessing the severity of the crisis and the humanitarian needs and for planning adequate responses. However, determining denominators valid enough in “the statistical vacuum of political collapse” (Redfield, 2006) is difficult or impossible. In fact, in these environments civil registration is non-existent or has a limited coverage, censuses are not carried out on a regular basis (and their data soon become outdated) and health information systems collapse, while mass population displacements are frequent and dynamic events quickly change the context. Surveys like the USAID-supported Demographic and Health Surveys – DHS - (MEASURE, 2012) and the UNICEF Multiple Indicator Cluster surveys – MICS - (UNICEF, 2012) are expensive and time consuming, involving sample sizes of around 15,000 and 10,000 households respectively; therefore, they cannot be replicated every year.

An initial rough estimate of the population is often used, which everyone knows is probably inaccurate, and then is refined if more accurate assessments are done. Various demographic and epidemiological methods of rapid estimation have been proposed; with only some of them validated (Checchi et al., 2017). Immunisation coverage data, combined with health activity data have long been used to estimate the population (Telford and al., 1997). The coverage of antenatal care first visits or BCG vaccination may also be used for the estimation of the population size. Recently satellite-based imagery has been tested (Checchi, 2013) as well as mobile phone network data to track the movement of communities affected by the earthquake in Haiti (Bengtsson et al., 2011).

Data manipulation is frequent in contested settings. The number of people in need may be inflated with the aim of obtaining more aid (sometimes for profiteering purposes) or, conversely, scaled down in order to minimise or deny the crisis. A heated debate was recently triggered by the release from OCHA of the total number of people in need of humanitarian assistance in the DR Congo. Aid groups denounced the “increased politicisation of data” in the reduction of people in need, claiming

that the UN had ceded to the government pressure to demonstrate that the situation had improved, despite evidence to the contrary, in order to convey a reassuring message before the elections (Peyton, 2018).

Demographic methods are also used to profile populations in need, in order to describe population characteristics, understand displacement dynamics and provide a base for planning humanitarian interventions. The demographic and socio-economic surveys of IDPs across Syrian governorates are examples of valuable data obtained, however, at a high cost (NPM, 2018).

Global trends should be actively looked for across diverse and fractured healthcare fields to be considered when formulating future scenarios, particularly if a recovery strategy is being sketched. Some global changes are recognisable in most settings, stable and unstable alike:

- Population growth and migration is reconfiguring entire societies. Outmigration changes the population structure, with an increase in less-educated, unskilled and dependent groups amongst those who remain.
- Environmental deterioration affects many societies, compounding other major stressors. It has been considered to be a powerful force behind several conflicts, such as Darfur and Syria.
- Economic decay is among the main determinants of conflict, as it undermines the coercive capacity of the state while fuelling grievances. Social cohesion also suffers.
- Privatisation is proceeding virtually everywhere; it cannot be reversed, but should be pragmatically managed, without holding prejudices against it. Private entrepreneurs will greatly influence the direction taken by healthcare provision, within recognised borders and outside them.
- Urbanisation. Conflict redesigns the urban landscape through destruction, displacement and rebuilding, generating a new, radically diverse urban fabric. Tensions and violence are common features of an urban landscape with concentrated high inequality. Norton wrote of ‘feral cities’, as

“metropolises with population of more than a million people in a state the government of which has lost the ability to maintain the rule of law within the city’s boundaries” (Norton, 2003). A new social configuration has to be expected as a result. Physical investments in health facilities will respond to such restructuring, either in a planned way or (more frequently) through dispersed ad hoc decisions. Urban growth demands novel healthcare provision responses, better suited to satisfying the diverse demands of city dwellers.

- Decentralisation may be an outcome spontaneously accomplished on the ground, as a result of *laissez-faire* or political turmoil. Officials with centralist instincts may try to reverse the prevailing fragmentation, with uncertain success. The eventual decentralisation setup has to be negotiated between central and local power holders, better if done on empirical rather than ideological grounds.
- Asset depletion: protracted stress accelerates the outmigration of skilled health professionals. The health network suffers as well, particularly in fought-over areas.

Analysing the context is, therefore, a complex task, requiring new conceptual instruments and competencies to study different domains and their relationships. The analysis should help in the understanding of the dynamics of the situation and its impact overall and on the healthcare arena. Moreover, it should assist in the formulations of humanitarian and recovery strategies that are adequate for the specific context and its evolution. It is important to consider how contextual factors may influence the effectiveness of humanitarian interventions, determining effects that have not been anticipated. For example, the politicisation of aid has resulted in poor security and in turn in hindered access to populations in need. For an excellent example of contextual analysis, see Slim and Trombetta, 2014.

The analysis of the evolution of the crisis into plausible scenarios will provide a frame for recommendations in the medium-long term; human forecasting ability is, however, limited, a limitation that is not popular among experts, for whom the fact that “everything makes sense in hindsight...

makes it difficult to accept the limits of their forecasting ability” (Kahneman, 2011).

The scrutiny of the context must be carried out with clear linkages to healthcare-provision patterns. Otherwise, it may become formulaic, included merely to embellish the HSA. On the contrary, a properly-developed contextual analysis may explain healthcare aspects otherwise unintelligible. For example, a WHO study of healthcare provision in Northern Iraq in 2017 highlights the impact of more than three decades of political, military and economic turmoil on the healthcare arena (Colombo and Pavignani, 2017). The report discusses how the social effects of various conflicts, coupled with the fiscal crisis and economic downturn (due to fluctuating oil prices and the cost of the military campaign against ISIS) and the uncertain future administrative and political settings of the region, would influence HS recovery.

THE CONTEXT	
ASPECTS TO BE STUDIED	EXAMPLES, TIPS AND RECOMMENDED READING
<p>Historical, cultural, political, economic, social and geographical features, with a focus on those more relevant to the crisis; recent important events related to the crisis and with an impact on the society, economy, politics, health.</p> <p>Underlying global transformations, affecting society at large and its future: population growth, migration, urbanisation, economic decay, environmental deterioration, privatisation.</p> <p>A chronology for the country and the health sector, starting with the last years before the crisis, could be built, particularly in situations of great turbulence.</p>	<p>Example: the Lake Chad Basin crisis overlaps with the ancient Bornu Empire, which encompassed portions of Nigeria, Chad, Niger and Cameroon. Such recognition recommends the exploration of the links between the affected regions, rather than considering them apart.</p> <p>Recommended reading: Cammett et al., 2015; Herbst, 2000.</p>
<p>Causes, nature and duration of the crisis; its impact: overall and on health status and health service delivery; main drivers and actors; geographical / political focus of the crisis: country, sub-national and regional.</p> <p>Is the healthcare arena partitioned? If yes, what are the administrative structures in the areas outside government control?</p> <p>Likely evolution of the crisis over time: potential scenarios in the short/medium/long term.</p>	<p>Recommended reading: Slim and Trombetta, 2014.</p>
<p>Displacement: IDPs and refugees. Figures, trends, origin / group (political, ethnic, religious, other); type of settlements; presence of specialised agencies with protection and humanitarian mandate?</p>	<p>UNHCR and UN-OCHA are the primary sources of data.</p>
<p>Aid patterns: volume (general and health sector-specific), origins, modalities, humanitarian and development aid; evolution over time.</p>	<p>The UN-OCHA Financial Tracking Service and OECD are the primary sources of data.</p>
<p>Administrative: ongoing processes, such as public sector reform (this should include a discussion of the civil service). Centralized vs. decentralized settings.</p>	
<p>Situation of other relevant sectors: energy, food, security, transport, education, water, communication. How do these aspects impact on health status and health service delivery?</p>	

Recommended reading

- Checchi F, Warsame A, Treacy-Wong V et al. (2017). Public health information in crisis-affected populations: a review of methods and their use for advocacy and action. *Lancet*. Retrieved from: [http://dx.doi.org/10.1016/S0140-6736\(17\)30702-X](http://dx.doi.org/10.1016/S0140-6736(17)30702-X).
- Howe K (2016). No end in sight: A case study of humanitarian action and the Syria conflict. Kings College London, Feinstein International Center, Overseas Development Institute/HPG. Planning from the future. Retrieved from: https://reliefweb.int/sites/reliefweb.int/files/resources/syria_case_study.pdf.
- Slim H, Trombetta L (2014). Syria crisis common context analysis. Co-ordinated Accountability and Lessons Learning (CALL) Initiative. IASC Inter-Agency Humanitarian Evaluations Steering Group, New York. Retrieved from: https://interagencystandingcommittee.org/system/files/syria_crisis_common_context_analysis_june_2014.pdf.

References

- Agadjanian V, Prata N (2002). War, Peace, and Fertility in Angola. *Demography*, 39(2), 215–23.
- Applebaum A (2018). Red famine. Stalin's war on Ukraine. Penguin Books.
- ALNAP (2018). The state of the humanitarian system. ALNAP/ODI; <https://sohs.alnap.org/system/files/content/resource/files/main/SOHS%202018%20full%20report%20online.pdf>.
- ALNAP (2015). The state of the humanitarian system. ALNAP/ODI Retrieved from: <https://www.humanitarianoutcomes.org/publications/state-humanitarian-system-2015-edition>.
- Becerra O, Cavallo E, Noy I (2012). Foreign aid in the aftermath of large natural disasters. Inter-American Development Bank; Working paper No.333. Retrieved from: <https://publications.iadb.org/bitstream/handle/11319/4056/Foreign%20Aid%20in%20the%20Aftermath%20of%20Large%20Natural%20Disasters.pdf?sequence=1>.
- Bengtsson L, Lu X, Thorson A and al. (2011). Improved response to disasters and outbreaks by tracking population movements with mobile phone network data: a post-earthquake geospatial study in Haiti. *PLoS Med*, 8(8): e1001083. Retrieved from: <https://journals.plos.org/plosmedicine/article/file?id=10.1371/journal.pmed.1001083&type=printable>.
- Blanc AK (2004). The role of conflict in the rapid fertility decline in Eritrea and prospects for the future. *Stud Fam Plann*, 35(4), 236–245.
- Blattman C, Miguel E (2010). Civil war. *J Econ Lit*; 48, 1, 3-57. Retrieved from: <https://chrisblattman.com/documents/research/2010.CivilWar.JEL.pdf>.
- Briody C, Rubenstein L, Roberts L et al (2018). Review of attacks on health care facilities in six conflicts of the past three decades. *Confl Health*, 12:19. Retrieved from: <https://doi.org/10.1186/s13031-018-0152-2>.
- Cammett M, Diwan I, Richards A. and al. (2015). *A Political Economy of the Middle East*, 4th ed. Boulder, CO: Westview.
- Carbonnier G (2015). *Humanitarian economics. War, disaster and the global aid market*. London: Hurst & Company.
- Carter Center (2015). Syria: Countrywide Conflict Report No. 5. Retrieved from: https://www.cartercenter.org/resources/pdfs/peace/conflict_resolution/syria-conflict/nationwideupdate-feb-28-2015.pdf.
- Checchi F, Stewart BT, Palmer JJ et al. (2013). Validity and feasibility of a satellite imagery-based method for rapid estimation of displaced populations. *Int J of Health Geogr*, 12:4. Retrieved from: <https://ij-healthgeographics.biomedcentral.com/articles/10.1186/1476-072X-12-4>.
- Collier P (2000). Economic causes of civil conflict and their implications for policy. World Bank. Retrieved from: https://siteresources.worldbank.org/DEC/Resources/economic_causes_of_civilwar.pdf.
- Colombo S, Pavignani E (2017). Exploring the healthcare arena in northern Iraq, in a recovery perspective. WHO internal report, available on request.
- Dewachi O (2017). *Ungovernable life: mandatory medicine and statecraft in Iraq*. Stanford: Stanford University Press.
- Duffield M (2019). *Post-humanitarianism. Governing precarity in the digital world*. Polity Press.
- Duffield M (2001). Governing the borderlands: decoding the power of aid. *Disasters*, 25,4, 308-20. Retrieved from: <https://pdfs.semanticscholar.org/7938/dda4d84c005bbe93b1acebc6ffd2f477c04b.pdf>.
- El Taraboulsi-McCarthy S, Metcalfe-Hough V, Willitts-King B (2016). Foreign policy and humanitarian action: An agenda for inquiry. Overseas Development Institute/HPG. Retrieved from: <https://www.odi.org/sites/odi.org.uk/files/resource-documents/11125.pdf>.

- Frank S (2013). Reporting disasters. *Famine, aid, politics and the media*. London: Hurst & Company.
- Freedman L (2017). *The future of war. A history*. London: Penguin Books.
- Guha-Sapir D, D'Aoust O (2010). Demographic and health consequences of civil conflict. *World Development Report; background Paper*. Retrieved from: http://web.worldbank.org/archive/website01306/web/pdf/wdr_background_paper_sapir_d%27aoust.pdf.
- Hamid A (2013). Estimate of the economic cost of armed conflicts: A case study from Darfur. Retrieved from: https://www.researchgate.net/publication/263345049_Estimate_of_The_Economic_Cost_of_Armed_Conflict_A_Case_Study_From_Darfur.
- Harris G (1997). Estimates of the economic cost of armed conflicts: the Iran-Iraq war and the Sri Lanka civil war. In: Brauer J, Gissy WG (eds.) *Economics of conflict and peace*. Avebury. Retrieved from: https://www.researchgate.net/publication/288926232_Estimates_of_the_economic_cost_of_armed_conflict_The_Iran-Iraq_war_and_the_Sri_Lankan_civil_war.
- Herbst J (2000) *States and power in Africa. Comparative lessons in authority and control*. Princeton, NJ: Princeton University Press.
- Hirshleifer J (1994). The dark side of the force. *Economic inquiry*; 32, 1-10. Retrieved from: <http://www.econ.ucla.edu/people/papers/Hirshleifer/Hirshleifer172.pdf>.
- Jerven M (2018). Beyond precision: embracing the politics of global health numbers. *Lancet*, 392, 10146, 468-9.
- Jerven M, 2013. *Poor numbers. How we are misled by African development statistics and what to do about it*. Ithaca and London: Cornell University Press.
- Keen D; 1998. The economic functions of violence in civil war. Adelphi paper no.320.
- Kahneman D (2011). *Thinking, fast and slow*. London, Penguin Books.
- Kentikelenis A, King L, McKee M et al (2014). The International Monetary Fund and the Ebola outbreak. *Lancet Glob Health*; 3(2): e69-70. Retrieved from: <https://www.thelancet.com/action/showPdf?pii=S2214-109X%2814%2970377-8>.
- MEASURE DHS. Demographic and Health Surveys. Retrieved from: <http://www.measuredhs.com/>.
- Needs and Population Monitoring Syria. Retrieved from: <https://www.humanitarianresponse.info/operations/whole-of-syria>.
- Norton R (2003). Feral cities. *Naval War College Review*, 56,4, 97-1006. Retrieved from: <https://faculty.washington.edu/plape/citiesaut11/readings/Feral%20Cities.pdf>.
- Nunn N, Qian N (2014). US food aid and civil conflict. *Am Econ Rev*, 104(6): 1630–1666. Retrieved from: https://scholar.harvard.edu/files/nunn/files/aidconf_20130806_final_0.pdf.
- OCHA (2018). *Global Humanitarian Overview 2019*. Retrieved from: <https://reliefweb.int/sites/reliefweb.int/files/resources/GHO2019.pdf>.
- Ó Gráda C (2009). *Famine. A short history*. Princeton University Press.
- Park H (2016). The power of cities. UNHCR. Retrieved from: <http://www.unhcr.org/innovation/the-power-of-cities/>.
- Peyton N (2018). Aid groups accuse U.N. of manipulating data ahead of Congo polls. Thomson Reuters Foundation News. Retrieved from: <http://news.trust.org/item/20181205172153-s30ka/>.
- Redfield P (2006). A less modest witness: collective advocacy and motivated truth in a medical humanitarian movement. *Am Ethnol* 33(1): 3–26. Retrieved from: <http://redfield.web.unc.edu/files/2015/08/Redfield-Witness-AE-min.pdf>.
- Rilke RM (2012) [1929]. *Letters to a young poet*, Snowball Publishing
- Söderbaum F, Tavares R (2009). Problematizing regional organizations in African security. *African Security*, 2,2,69-81. Retrieved from: <https://gup.ub.gu.se/file/119522>.
- Spiegel P (2017). The humanitarian system is not just broke, but broken: recommendations for future humanitarian action. *Lancet*; doi: 10.1016/S0140-6736(17)31278-3. Retrieved from: [https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(17\)31278-3/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(17)31278-3/fulltext).
- Telford J, Gibbons LK (1997). *Counting and Identification of beneficiary populations in emergency operations: registration and its alternatives*. London: Overseas Development Institute, Good Practice Review 5. Retrieved from: <https://www.odi.org/sites/odi.org.uk/files/odi-assets/publications-opinion-files/2393.pdf>.
- UNICEF. *Statistics and Monitoring: Multiple Indicator Cluster Survey*. Retrieved from: http://www.unicef.org/statistics/index_24302.html.
- Urdal H (2006). A Clash of Generations? Youth Bulges and Political Violence. *Int Stud Q*, 50, 607–629. Retrieved from: <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.491.4794&rep=rep1&type=pdf>.
- World Health Organization (2005). *Mortality survey among Internally Displaced Persons and other affected populations in Greater Darfur, Sudan*. WHO report. Retrieved from: <https://reliefweb.int/sites/reliefweb.int/files/resources/DE2FAE55979C73634925709E00085B3F-who-sdn-30sep.pdf>.

Case study 3.

South Sudan: many HSAs about nothing?

South Sudan, the world's youngest state, gained its independence from Sudan only a few years ago, after decades of conflict. The agreement with Khartoum restored a short-lived peace, interrupted in 2013 when political tensions within the ruling clique escalated into violent fighting throughout the country. Almost 400,000 people (mostly civilians) are estimated to have died in excess of the baseline between 2013 and 2018, out of a population of about 10-12 million, with a high proportion of deaths due to violence (Checchi, 2018). 1.9 million have been internally displaced, and more than 2.4 million have taken refuge in neighbouring Uganda and elsewhere. Famine was declared by the UN in February 2017; in 2018 a third of the population is reckoned to be severely food insecure.

Despite its important oil reserves, South Sudan is one of the poorest regions in the world. Harsh climate, primitive infrastructure, dismally-low education standards, record disease transmission levels, endemic violence, widespread corruption create the least conducive conditions for state building and in turn for health system development. Predictably, health authorities have failed to lay the foundations of a unified health system, several policy and planning documents drafted over the years notwithstanding. Donors pledged sizeable funds to support healthcare provision, but absorption has always been poor. Health service operations depend on foreign staff or resources. Health knowledge remains inadequate, a major drawback for actual and potential investors.

Two HSAs of the Sudan were carried out by WHO and the World Bank in 2002-3, when peace negotiations were under way. The WHO assessment focussed on the challenges of starting a recovery process (WHO, 2003). Little of the analysis concerned southern Sudan, due to the political barriers impeding the recognition by Khartoum of rebel-held areas. The World Bank report focused mainly on northern Sudan as well, as part of the re-engagement of the agency with the country after years of absence (Decaillet et al., 2003).

A health recovery strategy for southern Sudan, focused on health care provided by NGOs in rebel-held areas, was developed in 2004 (SPLM Health Secretariat, 2004). Recognising the enormous hurdles to be overcome to build a new health system, it set ambitious but still realistic targets, to be pursued in a stepwise approach. Mirroring the shortcomings of the two previous assessments, it ignored the conspicuous health services delivered in garrison towns by northern authorities. Such a truncated view came to the fore later, when the two strands of the healthcare arena had to be merged.

A multi-sectoral Joint Assessment Mission (JAM) was carried out by the UN and the World Bank, in preparation for the peace conference in Oslo in 2005. The process was politically charged: the assessment had to be carried out separately for northern and southern Sudan and three "transitional" areas were given special status (JAM Sudan, 2005). Technical considerations about poor absorption capacity (overall, US\$ 4.5 billion were pledged in Oslo) were overshadowed by the political requirements of satisfying the opposing parties. The JAM was carried out by a large number of consultants, mainly paying lip service to indigenous ownership. Consequently, there was no follow-up to the assessments, based on the recollection of authors of this guidance who were involved in the described exercises.

An HSA was carried out in 2007, before independence, motivated by a GAVI funding application, but with the intention of laying the foundations of the future HS (Rajkotia et al., 2007). The main limitations of the study included the assumption that there would be no major contextual changes after the independence referendum, the neglect of sub-regional differences and the lack of a feasibility

analysis of the recommendations. Another assessment, limited to health governance and financing, was carried in 2012 (Downie, 2012). Despite its narrower scope, it offered an outspoken appraisal of the dire situation and of the coming troubles from the point of view of disenchanted and frustrated donor agencies. In 2013, the Health Pooled Fund promoted a series of health systems strengthening assessments, with both national and local focus.

This short case study illuminates recurrent themes of HSA practice. Decision-makers (national and donors) seem incapable of building on previous analyses and ensuring the materialisation of recommendations. Every assessment starts anew without delving into past events. The gaps in previous exercises are overlooked, while their findings and recommendations are not questioned. National authorities are passive recipients of the assessment, interested mainly in the resource flows linked to it. The South Sudan HSAs also confirm their very political nature, which determines when the exercises are carried out, their scope and objectives.

Finally, the HSAs carried out before and after independence assumed that the new state would embark on a path of peace and stability. The alarm bells repeatedly rung by political scientists were ignored. The fallacy of pursuing technical goals in a toxic political environment has not been acknowledged by health actors, keen to lament the unfortunate course of foreseeable events. With the country increasingly engulfed in internal violence, with no political or military solution in sight, the focus has shifted from quixotic health-system building to down-to-earth humanitarian assistance. In light of the fragmentation of the healthcare arena, a thorough HSA would indeed be desirable. But the fate of the previous ones discourages its launching.

References

- Checchi F, Testa A, Warsame A et al. (2018). Estimates of crisis-attributable mortality in South Sudan, December 2013–April 2018. A statistical analysis. London School of Hygiene and Tropical Medicine. Retrieved from: https://crises.lshtm.ac.uk/wp-content/uploads/sites/10/2018/09/LSHTM_mortality_South_Sudan_report.pdf.
- Decaillet F, Mullen PD, Guen M (2003). Sudan health status report. World Bank. Retrieved from: <http://fmoh.gov.sd/Reports/World%20Bank%20report%20on%20Sudan%20Health%20System.pdf>.
- Downie R (2012). The state of public health in South Sudan. Global Health Policy Center. Center for Strategic and International Studies. Retrieved from: https://csis-prod.s3.amazonaws.com/s3fs-public/legacy_files/files/publication/121114_Downie_HealthSudan_Web.pdf.
- Health Pooled Fund South Sudan (2013). Health systems strengthening. An initial assessment.
- Sudan Joint Assessment Mission (2005). Volume I. Synthesis. Framework for sustained peace, development and poverty eradication. Retrieved from: [https://postconflict.unep.ch/sudanreport/sudan_website/doccatcher/data/documents/Joint%20Assessment%20Mission%20\(JAM\)%20Volume%20I.pdf](https://postconflict.unep.ch/sudanreport/sudan_website/doccatcher/data/documents/Joint%20Assessment%20Mission%20(JAM)%20Volume%20I.pdf).
- Rajkotia Y, Boulenger S, Pressman W (2007). Southern Sudan health system assessment. Health Systems 20/20 project, Abt Associates Inc. Retrieved from: <https://www.hfgproject.org/wp-content/uploads/2015/02/Southern-Sudan-Health-System-Assessment.pdf>.
- Health Secretariat of the New Sudan. (2004) Laying the grounds for the recovery of the health sector in a post-conflict Southern Sudan. Second Draft.
- World Health Organisation (2003). The health sector in Sudan. A strategic framework for recovery. Retrieved from: <http://apps.who.int/disasters/repo/10383.pdf>.

B. Health status, needs and healthcare demand

Key messages

Health status, health needs and health demand have changed in parallel with the transformations in the nature and duration of disruptions. Chronic and non-communicable diseases, including mental health, diabetes and cardiovascular diseases, which require continuity of specialised care, are among the top health needs. In addition, the exacerbation of pre-existing chronic health problems and the interruption of treatment caused by the crisis add to the burden of disease. Food insecurity, resulting in very high acute and chronic malnutrition, has become the norm in conflict-related crises.

Trauma and injuries of civilians, and their physical rehabilitation needs have become a humanitarian priority; delays or sub-standard treatment result in complications. People with disability before the emergency are particularly vulnerable: they have more difficulty in performing their daily living activities and face more obstacles in accessing medical assistance. Due to the lack of routine statistics, the assessment of the burden of disabilities requires special surveys.

Crises create severe and lasting consequences on the psychological and mental status of affected communities, but addressing these needs in contexts devoid of capable mental health professionals raises a host of problems.

Acute and chronic determinants result in excess morbidity and mortality, which are difficult to estimate due to the lack of baseline data and a number of methodological issues

Health status, health needs and health demand have changed in parallel with the transformations in the nature and duration of disruptions. Crises increasingly affect countries with higher baseline incomes and life expectancy than in the past, such as Syria, Iraq, Venezuela, Greece (Spiegel et al., 2010). Poor countries, such as DR Congo, CAR, South Sudan, Yemen, etc. are not spared, but they reach the headlines much less frequently and attract less funding, unless they are at the centre of geopolitical interests.

The epidemiological profile of the affected population reflects these changes, with a more prominent role for chronic and non-communicable diseases, including mental health, diabetes and cardiovascular diseases, which require continuity of specialised care. The exacerbation of pre-existing chronic health problems, unhealthy living conditions and life-style contribute to the increased burden of disease. For patients, the interruption of treatment has become common in many settings, due to more difficult access to health care, the breakdown of

public procurement systems and the high price of medicines sold by private retailers, when they are available

Trauma and injuries of civilians, and their physical rehabilitation needs (see section below) were not a humanitarian priority in the past, and the related responses were traditionally reserved to a few organisations (military health services, ICRC, MSF, Handicap International, etc.). With the conflicts in Afghanistan, Syria and Iraq, the situation has radically changed: “Unusually for most modern humanitarian contexts, [...] violent death and direct physical injuries are a major factor in human suffering in Syria. As a result, emergency medical care and war surgery fast became a humanitarian priority and another distinct characteristic of the crisis” (Slim and Trombetta, 2014). During the battle to retake Mosul, Iraq, WHO decided for the first time to fill a void in life-saving trauma care, by coordinating a new model of response for injured civilians (Spiegel et al., 2018).

Box 4. Comparing mortality rates: a tip

Household surveys like the DHS, MICS, censuses, etc. estimate a mortality rate that cannot be directly compared with those derived by cross-sectional household surveys in humanitarian settings. The former surveys estimate the CMR as the average risk of dying in a fixed cohort of people in a defined period, usually five years (as a proportion of live births). The latter ones, instead, estimate the rate at which new events (in this case, deaths) occur in a population; the denominator is the sum of the periods of time at risk of dying for each of the subjects. The two indicators, more precisely CMR for the former surveys and CDR for the latter ones, measure, therefore, different quantities and use indicators that cannot be compared. There are approximate methods for converting the CMR into CDR, but they are not commonly used because the assumptions they are based on (constant mortality levels, same age distribution over the period) cannot be satisfied in most emergencies.

Food insecurity, resulting in very high acute and chronic malnutrition, has become the norm in conflict-related crises, both in besieged towns (Mosul in Iraq, Ar-Raqqa and Aleppo in Syria) and in deprived rural areas, due to food scarcity, its high cost, labour- and movement-curtailling threats, impoverishment and the violent disruption of livelihoods. Famines, which had become rarer and less lethal, have re-emerged, first in Somalia in 2011 and then in South Sudan in 2017, with an imminent high risk for Yemen (de Waal, 2018).

Disease transmission has increased, as shown by the outbreaks of poliomyelitis and measles, and the high incidence of cutaneous leishmaniasis in Syria (Ismail et al., 2016). In fact, population displacement on a large scale, livelihood disruption, food and water shortage and malnutrition compound the transmission of infectious diseases. The recent outbreaks of cholera in Yemen and Ebola in DR Congo, both in conflict zones, represent a

nightmarish challenge to local governments and humanitarian agencies. Their control is hindered by the worsened security and disruption of surveillance mechanisms, treatment regimes, immunisations and supply lines. Acute respiratory infections, diarrhoea, measles and, in some regions, malaria still are among the main causes of morbidity in crisis-affected populations. Rising tuberculosis prevalence rates have been found among refugees and IDPs, particularly in the Middle East (Cookson et al., 2015).

Acute and chronic determinants result in excess morbidity and mortality¹⁶, depending on their type, severity and duration, the underlying demographic and epidemiological profile of the affected populations, the changes in their exposure to risk factors and the residual capacity of the health systems. Estimating excess morbidity and mortality is difficult in crisis settings, due to the lack of baseline data and a number of methodological issues (Colombo and Checchi, 2018, Checchi et al., 2017). Regression models have been used recently to estimate crisis-attributable mortality in Somalia and South Sudan (Checchi and Robinson, 2013; Checchi et al., 2018); these methods require, however, a strong methodological expertise not readily available to humanitarian agencies. Mortality is still considered the main indicator of the severity of a crisis and, in the absence of known baselines, the old benchmarks dating back to last century (CDC, 1992) of a crude mortality rate (CMR) higher than 1 per 10,000 per day and an under-5-years mortality rate (U5MR) higher than 2 per 10,000 per day, are still utilised. However, the CMR threshold has been recently questioned, in view of the decreasing mortality recorded in Sub-Saharan Africa (Weissman, 2018).

In order to understand priority health needs, the analysts need to study all the available information, both quantitative (samples of medical records, other secondary data, such as statistical bulletins, surveys) and qualitative (interviews with health managers of public and private institutions, direct observation). The information generated by health facilities, however, only provides a partial picture of health needs, due to the existence of barriers that prevent access by some communities to health care (cost, transport, trust in existing health services, security) and a preference of some patients for other providers, such as community health workers,

pharmacists, traditional healers, etc. The presence of the above barriers explains the difference between two related, but different, concepts: access to health services and coverage (usually estimated by utilisation), as first conceptualised a long time ago (Tanahashi, 1978).

The definition of denominators in dynamic contexts is one of the main challenges for the estimation of reliable and valid health outcome and coverage indicators and for needs assessments. Surveys with tools like the HESPER scale may overcome some of the above limitations by allowing an assessment of the perceived needs of people¹⁷. They require, however, sampling expertise and trained interviewers.

With the increasing trend of refugees and IDPs settling in urban areas, studying healthcare supply and demand faces additional difficulties. In fact, collecting information on spatially-scattered, unregistered displaced people is much more complex and expensive than doing so within camps.

Health outcome and coverage indicators are sometimes available at national level, without geographical / administrative disaggregation, and consequently are of questionable validity. Their supposed country coverage should always be checked against the security constraints that severely limit access. In the rush towards global health targets, there are “perverse incentives for countries to embellish their reporting” from the fear that failure to achieve them will result in funding cuts (Rajkotia, 2018). In addition, these national estimates represent the country’s average levels: they may mask sub-national or other inequalities, due to wealth, ethnic, sectarian, urban-rural, etc. attributes (Gwatkin, 2005). Without disaggregation the variance in the indicators across the population groups cannot be analysed. For a discussion on the limitations of health outcome indicators, refer to Annex 6 of this guidance.

The use of geospatial modelling to obtain small area estimates, which can then be aggregated to administrative level, represents the “new frontline of methodological development” in sub-national estimation (AbouZahr et al., 2017). A recent work, based on these developments, shows serious disparities in child mortality in Africa at a very high-resolution level, potentially useful for targeting

interventions at populations in the greatest need (Golding et al., 2017). Trend analysis, which is so important, can be difficult because of the changes introduced in some data collection domains by new actors, the frequent collapse of routine information systems and population movements.

Traditionally, analysis has focused on the supply side of HS. However, the study of factors related to healthcare demand is necessary for an understanding of how health services are utilised, the level of satisfaction of users and their confidence in public services. The analysis of socio-cultural norms and traditions, including the health-seeking behaviour of communities and their trust (or lack of it) in health systems can offer rich insights about local contexts, requiring expertise from social disciplines.

For example, during the initial response to the Ebola outbreak in West Africa, the failure to understand local burial practices resulted in the refusal by communities to report cases of disease and death, with a consequent increased transmission of the disease (Richards, 2016). It was with the help of medical anthropologists and acquired local knowledge of rites and traditions that this initial mistake was corrected. The rapid spread of the epidemic and the fear it caused worldwide do not fully explain the tardy involvement of medical anthropologists in the control efforts, when previous experiences in Uganda in 2000-01 and in the DR Congo in 2003 had shown the importance of understanding local behaviours and beliefs in controlling the epidemics (Hewlett and Amola, 2003, Hewlett and al., 2005). It seems, once again, that humanitarians are too often oblivious of history (Davey, 2014): by living in a “perpetual present” (Lewis, 2009), they are condemned to repeat past mistakes.

Another study (Parkinson and Behrouzan, 2015), based on ethnographic approaches, analysed the social, political, legal and logistical constraints of access to health care of Syrian and Palestinian refugees in Lebanon and the uncertainties (and creativity) in their capacity to ‘navigate’ the national health system. “Focusing solely on access, without addressing the social experience of healthcare, misses the point of humanitarianism altogether”, a warning to be fully espoused.

The expectations and demand for health care of communities who are used to relatively high standards and, in some countries, to free health care, are difficult to meet using humanitarian barebones packages, as MSF in Syria had to honestly acknowledge: “Our protocols are often based on what is the simplest approach in resource poor settings. The quality of what is being demanded is much higher than what we can provide. This is not only demanded by the medical community but also the patients” (quoted in Whittall, 2014).

Disability. The number of people with disability increases during crises, due to new trauma and injuries, mental distress and precarious health care: delayed or sub-standard treatment of some conditions results in complications and disabilities that could have been prevented. Many of the survivors of acts of extreme violence are left with temporary or permanent disabilities. People who had a disability before the emergency are also particularly vulnerable: they have more difficulty in performing their daily living activities and in adapting to the new conditions imposed by the crisis, and face more obstacles in accessing the required medical assistance (Handicap International, 2015).

The ‘invisibility’ of people with disability put them at risk of being excluded from support services: “They are ignored or excluded at all levels of disaster preparedness, mitigation and intervention” (IFRC, 2007). There is a dearth of data on the prevalence and types of disabilities in humanitarian crises, which partially explains the lack of resources and capacity to address their needs. It is known, mainly on an anecdotal base, that the burden is high, both in natural disasters and in conflicts. A survey of Syrian refugees in Jordan and Lebanon in 2014 found that 22 per cent were affected by physical, sensory or intellectual impairment; six per cent had a severe impairment (Help Age International and Handicap International, 2014). Of those 22 per cent, half experienced difficulties in daily living activities. In Jordan, one in 15 Syrian refugees has been injured.

The demand for rehabilitation services is bound to grow in crisis settings. The focus of analyses has been on “disability as a medical or welfare issue,

rather than a social or human right one” (Kett and van Ommeren, 2009). As a matter of fact, disabilities have an important individual impact with social and economic consequences, amplified in crisis settings: limited mobility, reduced job opportunities, high health needs and high personal, family and social costs of assistance.

Many of the disabilities are permanent: the medical, welfare and social dimensions of the problems to be addressed require long-term responses, for which the authorities of crisis-affected countries and humanitarian agencies have inadequate resources and capacity (Handicap International, 2015). In current conflicts, in which the civilian population is often trapped in violent environments and exposed to bombing, bullets and landmines, the proportion of children and young segments of the population who become victims of physical injuries and mental trauma has increased. Lack of technical expertise for the identification of people with disabilities and the provision of adapted rehabilitation services is a major obstacle. Families, neighbours and communities fill parts of this gap, often with unqualified assistance from primary level health facilities.

Due to the lack of routine statistics, the assessment of the burden of disabilities and the identification of needs requires special surveys. WHO has developed a Rehabilitation System Assessment Tool¹⁸ to be utilised in surveys in order to determine system-wide rehabilitation capacity and performance. A checklist and questionnaire for assessing rehabilitation services have also been recently developed, which was tested in a crisis-affected country (Gutenbrunner and Nugraha, 2018). Finally, UNHCR has developed a tool for identifying the resettlement needs of refugees with disabilities (UNHCR, 2013).

Given the size and severity of the problem, disability should be considered in any recovery plan. Its huge financial implications must be computed alongside the technical requirements of how to assist a large population group with mobility and labour impediments. The infrastructure needed to handle such a problem together with the technical staff required to operate it should be projected. Dedicated training programmes must be designed and financed, to produce a skilled

pool of professionals. Rehabilitation will have to be shifted to community/ primary health care level, with mainstream health workers handling such conditions in collaboration with specialist operators.

Mental health. Various studies and anecdotal evidence point to severe and lasting consequences of stress on the psychological and mental status of affected communities (Morina et al., 2018; Jones et al., 2009). Psychological disorders frequently detected in these settings range from distress to post-traumatic stress disorder (PTSD), severe neuropsychiatric diseases or the worsening of underlying mental illnesses.

Addressing mental health needs in contexts devoid of mental health professionals adequately equipped to deal with them raises a host of problems. In addition, the disruption of family and community networks deprives vulnerable people and those affected by mild psychosocial problems from an important source of support. The treatment of people with mental health disorders predating the crisis, which may have been aggravated by it, is frequently interrupted. In this context, the

risk of outsiders providing culturally inappropriate mental health care or psychosocial support is high. Language barriers compound the problem. Referral of severe cases of mental disorder to higher levels of care is in most cases hampered by the shortage of psychiatrists and psychologists.

Several NGOs have adopted the WHO Mental Health Gap Action Programme, mhGAP (WHO, 2008), to make up for the shortage of specialists, which integrates the identification and management of selected mental disorders into primary care. Recently, WHO has developed a number of psychological interventions addressing multiple health problems that can be provided by non-specialist health professionals, are based on simple techniques and adaptable to different humanitarian contexts (https://www.who.int/mental_health/emergencies/en/). On the positive side, the crumbling of pre-existing coercive psychiatric services offers an opportunity, to experiment in some settings with advanced and sensitive approaches, as piloted in Somalia and Syria (with the Gaza Strip acting as a learning ground in this respect).

HEALTH STATUS, NEEDS AND DEMAND FOR HEALTH CARE	
ASPECTS TO BE STUDIED	EXAMPLES, TIPS AND RECOMMENDED READING
Key health outcome indicators, as proxies of health status; with disaggregation - if available - at sub-national level, gender, population groups, if relevant (e.g. IDPs in camps, populations in rural vs. urban areas); appraisal of their reliability and validity.	Recommended readings: Checchi et al., 2007; for the interpretation of mortality data from surveys: Checchi and Roberts, 2005; for the assessment of the quality of mortality and nutrition surveys: Prudhon et al., 2011.
Available population estimates (general, affected, displaced), with disaggregation at sub-national level. Criteria for retaining or discarding available figures.	Remark: OCHA often provides estimates of crisis-affected populations that are used by all sectors: how updated and reliable are they?
Disease-specific data for major causes of morbidity and mortality.	Information usually incomplete and of poor quality, as routine, facility-generated data reflect the disruption of health services. Disease-control programmes supported by global health initiatives usually collect more robust data.

HEALTH STATUS, NEEDS AND DEMAND FOR HEALTH CARE

ASPECTS TO BE STUDIED	EXAMPLES, TIPS AND RECOMMENDED READING
Food security data; acute and chronic malnutrition data.	The Emergency and Nutrition Network (ENN), through its journal Field Exchange, provides data and analyses on nutrition in emergencies: https://www.enonline.net ; NGOs with a special remit on nutrition (e.g. Action against Hunger) usually carry out nutritional surveys at local level.
Disease transmission as affected by turmoil, and across borders. Limitations of conventional control mechanisms	Recommended reading: Kennedy and Michailidou, 2016. Remark: some country clusters, such as Afghanistan and Pakistan, are connected to such an extent to be considered as “epidemiological blocks” by disease-control practitioners.
Main outbreaks reported during the last few years, with affected areas, number of cases and deaths, and respective responses.	References: The WHO field manual (2005) is a useful text, though a bit outdated; a more recent reference book, particularly the digital edition is: Heymann, 2014. Updates on outbreaks can be found in the WHO website (https://www.who.int/emergencies/diseases/en/) and in the CDC Morbidity and Mortality Weekly reports (https://www.cdc.gov/mmwr/index2018.html).
High-burden but neglected health problems (e.g. mental health, gender-based violence, disability, some endemic diseases)	
Demand-side aspects: barriers, costs and preferences. Health-seeking behaviour across borders and over long distances.	
Main trends of key outcome indicators	Caution is required in comparing indicators from different periods: data collection may have changed, populations may have displaced, some areas may have become inaccessible or, conversely, may have opened up.
Main determinants of health status	Focus on crisis-related determinants (violence, settlements in crowded / unsanitary conditions, food insecurity-malnutrition, interruption of treatment for chronic conditions, changed access to healthcare, etc).

Recommended reading

- Kennedy J, Michailidou D (2017). Civil war, contested sovereignty and the limits of global health partnerships: a case study of the Syrian polio outbreak in 2013. *Health Policy Plan*, 1–9. Retrieved from: <https://academic.oup.com/heapol/article/32/5/690/2999097>.
- Parkinson SE, Behrouzan O (2015). Navigating health and life: Syrian refugees and the politics of access in Lebanon. *Soc Sci Med*, 146: 324–31.
- Rajkotia Y (2018). Beware of the success cartel: a plea for rational progress in global health. *BMJ Glob Health*, 3:e 001197. doi:10.1136/bmjgh-2018-001197. Retrieved from: <https://gh.bmj.com/content/bmjgh/3/6/e001197.full.pdf>.

References

- AbouZahr C, Boerma T, Hogan D (2017). Global estimates of country health indicators: useful, unnecessary, inevitable? *Glob Health Action*, 10: 4–17. Retrieved from: <http://dx.doi.org/10.1080/16549716.2017.1290370>.
- Centers for Disease Control (1992). Famine-Affected, refugee, and displaced populations: recommendations for public health issues. *MMWR*; 41, RR-13. Retrieved from: <https://www.cdc.gov/mmwr/preview/mmwrhtml/00019261.htm>.
- Checchi F, Testa A, Warsame A et al. (2018). Estimates of crisis-attributable mortality in South Sudan, December 2013–April 2018. A statistical analysis. *LSHTM*. Retrieved from: https://crises.lshtm.ac.uk/wpcontent/uploads/sites/10/2018/09/LSHTM_mortality_South_Sudan_report.pdf.
- Checchi F, Warsame A, Treacy-Wong V et al. (2017). Public health information in crisis-affected populations: a review of methods and their use for advocacy and action. *Lancet*. Retrieved from: [http://dx.doi.org/10.1016/S0140-6736\(17\)30702-X](http://dx.doi.org/10.1016/S0140-6736(17)30702-X).
- Checchi F and Robinson W (2013). Mortality among populations of southern and central Somalia affected by severe food insecurity and famine during 2010–2012. *FAO & FEWS-NET*. Retrieved from: http://www.fsnao.org/downloads/Somalia_Mortality_Estimates_Final_Report_8May2013_upload.pdf.
- Checchi F, Gayer M, Grais RF et al. (2007). Public health in crisis-affected populations. A practical guide for decision-makers. *ODI, HPN, Network paper 61*. Retrieved from: http://www.atha.se/sites/default/files/public_health_in_crisis-affected_populations-_a_practical_guide_for_decision-makers.pdf.
- Checchi F, Roberts L (2005). Interpreting and using mortality data in humanitarian emergencies: A primer for non-epidemiologists. *Overseas Development Institute; HPN Network Paper 52*: retrieved from: <https://odihpn.org/wp-content/uploads/2005/09/networkpaper052.pdf>.
- Colombo S, Checchi F (2018). Decision-making in humanitarian crises: politics, and not only evidence, is the problem. *Epidemiol Prev*, 42 (3-4), 214–225. Retrieved from: http://www.epiprev.it/materiali/2018/EP3-4/EP3-4_214-art1.pdf.
- Cookson ST, Abaza H, Clarke KR et al. (2015). Impact of and response to increased tuberculosis prevalence among Syrian refugees compared with Jordanian tuberculosis prevalence: case study of a tuberculosis public health strategy. *Confl Health*, 9:18. Retrieved from: <https://doi.org/10.1186/s13031-015-0044-7>.
- Davey E (2014). Humanitarian history in a complex world. *Overseas Development Institute, Humanitarian Policy Group. Policy brief 59*. Retrieved from: <http://www.odi.org/sites/odi.org.uk/files/odi-assets/publications-opinion-files/8975.pdf>.
- Goldin N, Burstein R, Longbottom J (2017). Mapping under-5 and neonatal mortality in Africa, 2000–15: a baseline analysis for the Sustainable Development Goals. *Lancet*, 390, 10108, 2171–82.
- Gutenbrunner C, Nugraha B (2018). Principles of assessment of rehabilitation services in health systems: learning from experience. *J Rehabil Med*, 50(4):326–332. Retrieved from: <https://www.medicaljournals.se/jrm/content/abstract/10.2340/16501977-2246>.
- Gwatkin DR (2005). How much would poor people gain from faster progress towards the Millennium Development Goals for health? *Lancet*, 365: 813–17.
- Handicap International (2015). Disability in humanitarian contexts. Views from affected people and field organisations. Retrieved from: <https://reliefweb.int/report/world/disability-humanitarian-context-views-affected-people-and-field-organisations>.
- Heymann DL, editor (2014). *Control of communicable diseases manual*. 20th edition. *APHA Press*.
- Help Age International and Handicap International (2014). Hidden victims of the Syrian crisis: disabled, injured and older refugees. Retrieved from: <http://www.helpage.org/newsroom/latest-news/hidden-victims-new-research-on-older-disabled-and-injured-syrian-refugees/>.
- Hewlett BS, Epelboin A, Hewlett BL et al (2005). Medical anthropology and Ebola in Congo: Cultural Models and humanistic care. *Bull Soc Pathol Exot*, 198, 3, 230–6.

- Hewlett BS, Amola RP (2003). Cultural contexts of Ebola in Northern Uganda. *Emerg Infect Dis*, 9, 1242-48. Retrieved from: <https://wwwnc.cdc.gov/eid/article/9/10/pdfs/02-0493.pdf>.
- IFRC (2007). Disability and disasters: towards an inclusive approach. Retrieved from: <http://www.ifrc.org/PageFiles/99876/2007/WDR2007-English-4.pdf>.
- Ismail SA, Abbara, A, Collin SM et al. (2016) Communicable disease surveillance and control in the context of conflict and mass displacement in Syria. *Int J Infect Dis*, 47: 15–22. Retrieved from: [https://www.ijidonline.com/article/S1201-9712\(16\)31054-2/pdf](https://www.ijidonline.com/article/S1201-9712(16)31054-2/pdf).
- Jones L, Asare JB, El Masri M et al. (2009). Severe mental disorders in complex emergencies. *Lancet* 374:654–61. doi: 10.1016/S0140-6736(09)61253-8.
- Kett M, van Ommeren M (2009). Disability, conflict and emergencies. *Lancet*, 374, 1801-3.
- Lewis D (2009). International development and the 'perpetual present': anthropological approaches to the re-historicization of policy. *Eur J Dev Res*, 21: 32–46. Retrieved from: https://www.researchgate.net/publication/46526317_International_Development_and_the_Perpetual_Present_Anthropological_Approaches_to_the_Re-historicization_of_Policy.
- Morina n, Akhtar A, Barth J et al. (2018). Psychiatric disorders in refugees and internally displaced persons after forced displacement: A systematic review. *Front psychiatry*, 9, 43, 1-15. Retrieved from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6160546/pdf/fpsy-09-00433.pdf>.
- Prudhon C, de Radiguès X, Dale N et al (2011). An algorithm to assess methodological quality of nutrition and mortality cross-sectional surveys: development and application to surveys conducted in Darfur, Sudan. *Popul Health Metr*9;9(1):57. Retrieved from: <https://pophealthmetrics.biomedcentral.com/track/pdf/10.1186/1478-7954-9-57>.
- Richards P (2016). Ebola: how a people's science helped end an epidemic. London: Zed Books.
- Slim H, Trombetta L (2014). Syria crisis common context analysis. Co-ordinated Accountability and Lessons Learning. CALL Initiative. IASC Inter-Agency Humanitarian Evaluations Steering Group, New York. Retrieved from: https://interagencystandingcommittee.org/system/files/syria_crisis_common_context_analysis_june_2014.pdf.
- Spiegel PB, Garber K, Kushner A, Wise P (2018). The Mosul trauma response: A case study. John Hopkins Center for Humanitarian Health. Retrieved from: <http://www.hopkinshumanitarianhealth.org/empower/resources/reports/>.
- Spiegel PB, Checchi F, Colombo S, Paik E (2010). Health-care needs of people affected by conflict: future trends and changing frameworks. *Lancet*, 375: 341–45.
- Tanahashi T (1978). Health service coverage and its evaluation. *Bull World Health Organ*, 56(2), 295-303. Retrieved from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2395571/pdf/bullwho00439-0136.pdf>.
- UNHCR (2013). Resettlement assessment tool: Refugees with disabilities; 2013. Retrieved from: <https://www.unhcr.org/protection/resettlement/51de6e7a9/refugees-disabilities-unhcr-resettlement-assessment-tool.html>.
- de Waal A (2018). Mass starvation. The history and future of famine. Polity Press.
- Weissman F (2018). Mortality emergency threshold: A case for revision. ALNAP. Retrieved from: <https://www.alnap.org/blogs/mortality-emergency-threshold-a-case-for-revision>.
- Whittall J (2014). The 'new humanitarian aid landscape': MSF. Retrieved from: https://www.msf.org.uk/sites/uk/files/humanitarian_aid_landscape_-_syria.pdf.
- World Health Organization (2008). mhGAP: Mental Health Gap Action Programme : scaling up care for mental, neurological and substance use disorders; http://apps.who.int/iris/bitstream/10665/43809/1/9789241596206_eng.pdf.
- WHO (2005). Communicable disease control in emergencies. A field manual. Connolly MA editor. Retrieved from: http://apps.who.int/iris/bitstream/handle/10665/96340/9241546166_eng.pdf?sequence=1.

C. Health financing and expenditure

Key messages

Healthcare financing deserves special attention, due to its influence on all aspects of health care. Financial information, however, is always incomplete and of dubious quality. Standard tools and measures, including costing methods, are ill-adapted to disrupted settings, whose economy is largely informal. Moreover, estimates of aid flows miss remittances and other private contributions.

Health expenditure is increasing, driven by several factors that need to be disentangled and understood. In most crises, private health spending is large, whereas public spending is paltry, with a large proportion off-budget. Aid may account for a sizeable proportion of total health expenditure, although not as dominant as it is often perceived.

The composition of health expenditure changes under protracted stress. Domestic allocations to supervision, in-service training, capital investment, drug purchasing and maintenance are axed. Wages are frozen, absorbing most of public domestic financing. Other expenses are frequently taken up by donors. These adjustments result in a dilapidated and underused network, staffed by unmotivated and unproductive health workers, who lack the basic tools to deliver health services.

Financing innovations, such as cash transfers and vouchers, have been introduced as ways to support demand. They remain under-experimented in relation to health care, however, because of its characteristics, which mark it out from other commodities. Performance-based financing has been promoted in many disrupted settings, with mixed results.

The HSA must devote deserved attention to healthcare financing, and bring its influence on all aspects of healthcare provision to the fore. The common occurrence where health professionals make decisions related to service delivery in isolation from financial managers should be countered, by fostering among health decision-makers the necessary familiarity with financing issues.

Health financing and expenditure figures are of dubious accuracy, and never complete. Gathering information on finances requires protracted, expert efforts. Moreover, as mainstream economic measures and tools have been developed for stable healthcare systems operating according to formal mechanisms, they are ill-adapted to distressed healthcare arenas, whose economies are largely informal (Ensor and Witter, 2001). This fundamental difference should be considered before accepting available estimates. For instance, national health accounts (NHAs) are conceived for settled

populations within clear territorial demarcations, and therefore give questionable results about displaced people and trans-border flows of people, medicines, monies and professionals. Another difficulty relates to costing methods, which apply to routine operations in stable conditions. The extra costs of responding to shocks (which are quite ordinary events in vulnerable settings) are in this way missed. Moreover, they estimate the cost of delivering service units, whereas users shop around and often afar, sometimes supported by the public purse, as in Iraq or Palestine. Finally, inventories of aid flows usually miss/ underestimate private and informal contributions, such as remittances. All in all, novel ways to appraise the financial transactions occurring under stress are badly needed.

Health expenditure levels appear to be rising everywhere. The factors pushing expenditure upwards mix differently from one country to another, and even within the same country. Disease-control programmes, chronic NCDs

requiring continuity of care, multiplying practitioners, easy access to medicines, mounting health needs, the prominence of curative care, high-tech choices, referrals abroad, inefficient supply chains and expensive humanitarian operations contribute to health spending inflation. Financing levels should therefore be tracked over the years to monitor their evolution. In many settings, health expenditure reaches surprisingly high levels (for the assumed severity of poverty). Larger-than-expected out-of-pocket household expenses, remittances from abroad and aid inflows add together to attain quite respectable totals.

In response to dwindling or absent public financing, household health spending is large in every situation where estimates were produced, be it Afghanistan, Liberia or the Darfur region of Sudan. The dominance of private spending often predates all-out conflict, as seen in Syria, or persists after it, as in Lebanon. Inequities of access and inefficiencies of service production ensue (Bloom et al., 2013). Private health expenditure must be investigated because it may present original features. In Somalia, household health expenses, particularly substantial ones, are often paid for through the mobilisation of the extended family, or clan. The financial risk is therefore distributed within a large kin group, through an informal health insurance system.

Public health financing is paltry in most under-governed healthcare arenas. Crippled public financial management systems thwart the spending of budgeted funds, particularly in insecure, remote regions lacking roads, banks, safes and telecommunications. A large proportion of public financing may remain off-budget. Flaws in the public budgeting process may be caused by accounting disarray, or by the deliberate messing up of the books. Even in the best budget documents, allocations may be misleading. Escapist budgeting, “whose purpose is to create impressions that are at variance with the reality” (Schick, 1998), remains popular, particularly under cash-budgeting regimes. When they are known, actual health expenses regularly diverge from budgeted amounts.

In many healthcare arenas under stress, official external assistance accounts for a sizeable proportion of total health expenditure – although not as dominant as perceived in aid circles, if household

spending is taken into account. Its nominal value should also be adjusted downwards, for its high overheads, tied rules and questionable benefits. Alongside established donors, other countries have entered the aid field. Turkey and Qatar have become prominent players in many settings. China is gaining in visibility and influence, particularly in resource-rich countries, such as the DR Congo. These contributions tend to escape conventional inventories, even if the conspicuous investments often implied suggest robust engagements.

Health financing research being skewed towards aid-promoted approaches and lumped in a few aid-targeted countries, many glaring knowledge gaps remain. Moreover, the available evidence must be taken with caution (Bertone et al., 2019). Aid flows support healthcare provision, through the formal financing of health activities, as well as through informal resource transfers to indigenous entrepreneurs. The latter phenomenon (inadequately studied) helps explain the buoyancy of the commercial segment of certain healthcare arenas, such as those of Afghanistan and Somalia.

Global health initiatives (GHIs) have become major players in distressed healthcare arenas. Whereas their large financial inputs are usually recorded by HSAs, the impact of their engagement on healthcare provision at large is frequently neglected. Their separate governance structures lacking a continuous presence in country leave implementing agencies and programmes on the front stage. In this way, the influence of the GHIs may be insufficiently appreciated. Some GHIs have realised that their standard approach is ill-adapted to turbulent settings, and are trying to improve it. On the other hand, their long-term programming horizon and the usually large volume of aid appeal to country officials, who are prepared to go through cumbersome processes to tap such funding. Several systemic side effects of the GHI peculiar modus operandi have been suggested (Bertone et al., 2019), but they need to be pragmatically explored in each setting, in light of the prevailing conditions and of the realistic alternatives at hand.

Private donors make in the aggregate a large contribution to health financing, using a variety of intermediaries: charities, foundations, international agencies, solidarity groups and political parties.

The extreme dispersion and informality of many transactions makes exploring their aggregate patterns labour-intensive and technically demanding. The large diasporas generated by protracted stress sustain health services through direct initial investment, the recurrent support provided to facilities, donated equipment and goods, as well as voluntary short-term work. Remittances are also critical to enable destitute patients to buy health services that would otherwise be unaffordable. Due to their dispersed and tied nature, diaspora investments are prone to generate redundancies as well as gaps in healthcare provision.

In response to a financial squeeze, the composition of health expenditure presents some recurring patterns. Quality-related functions, such as supervision and in-service training, are the first expenditures to be axed by a state under stress, followed by capital investment, drug purchasing and maintenance. Wages are frozen in nominal terms and contract in purchasing power. The proportion of public domestic financing allocated to salaries increases, until it absorbs most of the total. The expenditure neglected by domestic financing is frequently taken up by donors. These adjustments result in a dilapidated and underused network (even in the absence of war damage), staffed by unmotivated and unproductive workers, who lack the basic tools to deliver health services.

The investments made during or after a disruption will shape the future healthcare arena. Usually both physical construction and professional training proceed piecemeal, according to many disconnected decisions informed by disparate rationales. The actual needs of the health services, and the future sustainability of such investments, remain the subject of speculation. Market forces will in the long run decide the utilisation or otherwise of the assets in the making. In any case, the ability of healthcare suppliers to generate demand should not be downplayed. During a transition, investments tend to take off, in the absence of the capacity or willingness to discipline them. An inventory of the main investments taking place during the crisis and in the pipeline, as well as of their mutual links, would constitute a pillar of a solid HSA.

The formulation of a health financing strategy often takes a prominent place during a recovery process. Discussions in this area tend to assume ideological tones, and end inconclusively with the pitting of alternative options rarely appraised for their merits and drawbacks. Such options are often invoked in abstract terms, without considering their applicability to a given context. Thus, user fees may be banned without introducing alternative funding means; or a social health insurance may be recommended in the absence of the basic enabling conditions. Furthermore, the market forces shaping the healthcare arena are often overlooked when financing options are debated.

Financing innovations have been introduced in response to changes in the humanitarian landscape (Spiegel et al., 2018). Cash transfers and vouchers are gaining interest as better-suited ways to support demand with displaced people dispersed outside camps. They remain under-experimented in relation to health care, however, because of characteristics which make it different from commodities like food. Promising experiences have been gained when ensuring a social health insurance protection to vulnerable population groups, where feasible (as in Iran with Afghan refugees). Performance-based financing has been promoted and tested in many disrupted healthcare arenas, with mixed results (Bertone et al., 2019). Before embracing this approach, a careful contextual assessment followed by solid experimentation is recommended. Considered together, these novel approaches suggest a shift in humanitarian assistance, away from direct provision towards reliance on financial levers.

HEALTH FINANCING AND EXPENDITURE

ASPECTS TO BE STUDIED	EXAMPLES, TIPS AND RECOMMENDED READING
Sources and flows of funds (internal and external). Short- vs. long-term funding. Sunk ¹⁹ , earmarked and fungible funds.	Remark: the financing landscape may need to be split according to economic and/or political internal cleavages.
Financial responses to past shocks, which may reveal vulnerabilities.	financing levels in Liberia were acceptable, but largely programmed for expected expenditures. This stiffness contributed to the collapse that ensued.
The present resource envelope, with past trends. Did economic decay precede the turmoil, as witnessed in Somalia and Syria? Was domestic health financing already contracting as a consequence?	Caveat: Due to population displacement and/or inaccessibility, the denominator used to compute health expenditure per capita must be adjusted, or this indicator rejected.
Public financing vs. household spending. User fees, official and informally charged. Rate of catastrophic healthcare spending.	Remark: A study of household expenditure should be carried out in most healthcare markets, due to its magnitude. Instead, governments and donors prefer to ignore this reality, which fits poorly into their ways of working. See Levine and Kusnierek, 2019a and 2019b, for estimates of the true cost of ill-health borne by households in violent regions of Sudan and the DR Congo.
Reality of state institutions and relative budgets.	“One donor official distinguished between the ‘Real Ministry of Finance’ and the ‘Fake Ministry of Finance’. The ‘Fake Ministry’ is the one working with the donors and technical advisors on budget allocations, promoting the outward appearance of high functionality, while the ‘Real Ministry’ is operated through backdoor dealings between South Sudanese officials, concealed from donor view. As the donor official says: ‘The technical advisors help prepare budget allocations, but then the army generals wheel into the minister’s office, and they make the real allocations’. While budget allocations are readily and publically available from MoFEP, the budget expenditures are only rarely (and then, only partially) shared” (Larson et al., 2013).
Service delivery costs, present and projected according to different delivery models, with a view to appraising the outputs to be produced for certain financing levels.	Remark: Cost estimates are rarely available. A dedicated study, which would offer system-strengthening indications, might be advisable. Caution is required with costs estimated during a crisis, because they are usually inflated.

HEALTH FINANCING AND EXPENDITURE

ASPECTS TO BE STUDIED	EXAMPLES, TIPS AND RECOMMENDED READING
<p>Service delivery costs, present and projected according to different delivery models, with a view to appraising the outputs to be produced for certain financing levels.</p>	<p>Remark: Cost estimates are rarely available. A dedicated study, which would offer system-strengthening indications, might be advisable. Caution is required with costs estimated during a crisis, because they are usually inflated.</p>
<p>Size of the resource gap in relation to health sector needs. Implications for present and future healthcare provision.</p>	<p>Question: Which gaps should unallocated funding fill, in order to maximise systemic performance?</p>
<p>Composition of health expenditure, as it has changed under stress. What imbalances can be recognized? Within-country financing differentials.</p>	<p>Question: Which imbalances are likely transient, and which ones will persist? For instance, a bloated workforce will impact on the salary bill, as well as on pharmaceutical expenditure.</p>
<p>Aid flows, possibly over time. Main donors, with their respective preferences and modalities. Distortions induced by aid conditionalities.</p>	<p>About the details of carrying out an inventory of external assistance, see Annex 6a, pages 181-4, in Pavignani and Colombo, 2009.</p> <p>For a real-life example of such an inventory, see: Capobianco and Naidu, 2011.</p>
<p>Degree of aid dependence. If serious, will the health sector remain dependent on aid for long?</p> <p>Aid management tools in place or on the drawing board. Their scope, breadth, modus operandi and respective performance.</p>	<p>Remarks:</p> <p>The quality of donor support is as important as its quantity. Flexible funds allocable in country may generate better results than earmarked ones managed from afar, according to cumbersome procedures.</p> <p>Donor preferences tend to converge, creating aid darlings against aid orphans, whose status may shift over time.</p>
<p>Soundness of indigenous financial management systems. Should they be revived after marginal improvements, or radically redesigned in light of their fundamental flaws?</p>	<p>“Thus, the strength of financial and audit systems during crises depends not only on their technical quality but also on their social legitimacy, suggesting that values are fundamental to all health system aspects” (Hanefeld et al., 2018).</p>

HEALTH FINANCING AND EXPENDITURE

ASPECTS TO BE STUDIED	EXAMPLES, TIPS AND RECOMMENDED READING
<p>Social health insurance, if established. Its performance vis-à-vis other financing modalities.</p> <p>If under discussion, which features might it take to function in the foreseeable circumstances?</p>	<p>Remark:</p> <p>Many factors militate against trying to establish a social health insurance scheme in turbulent healthcare arenas: instability, underfunding, low quality of care, mistrust in public institutions, high share of informal jobs, unwillingness to pay and low technical capacity. Meanwhile, contracting schemes, cash transfers and vouchers may shed light on about service costs and quality of care, and offer a learning ground about negotiating with providers and appraising the resulting benefits.</p>
<p>Is absorption capacity perceived as a serious constraint? What bottlenecks could be realistically addressed by targeted measures?</p>	<p>Remark: Fiduciary-risk concerns impose ill-adapted aid-management practices, which misallocate resources and curtail implementation.</p> <p>True story: The MoH in Liberia underwent 17 fiduciary risk assessments in 2012-13. Donors wanted to move their funding through the MoH as systems had improved, but every single aid agency had to conduct its own assessment and apply its own set of corrective requirements (Hughes, personal communication).</p>
<p>Charities, domestic and foreign. Size, motivation and nature of their financial contributions. Their equity, efficiency and effectiveness implications.</p>	<p>See Olivier et al., 2015, for an overview of faith-based healthcare providers in Africa.</p>
<p>Long-term effects of investments, completed, ongoing or being negotiated.</p>	<p>A well-documented example relates to Lebanon (Ammar, 2009; Van Lerberghe et al., 2018). The investment splurge in high-tech assets that followed the civil war fuelled demand, while the Treasury faced spiralling bills to be reimbursed. Wasteful health care of dubious quality provided poor returns to patients as well as to society at large. Only protracted, competent efforts managed to redress a system gone astray.</p>
<p>Financing innovations introduced in the healthcare arena.</p>	<p>Are these innovations contextualised, tested, evaluated, or scaled up? Could they exacerbate the existing problems? Relevant lessons from other settings under stress.</p> <p>Which critical measures are still overlooked?</p>

HEALTH FINANCING AND EXPENDITURE

ASPECTS TO BE STUDIED	EXAMPLES, TIPS AND RECOMMENDED READING
<p>The resource envelope, projected over a transition from war to peace (if this is considered a realistic prospect).</p>	<p>Remark: Meaningful policy and planning discussions require estimates of the total future resource envelope likely to be allocated to health care. Clarity is needed about the way such figures have been computed, their meaning and implications. Boundaries should be set for future financing levels to express forecasting uncertainty. Planning scenarios consistent with low- and high-level financing can be used as fund-raising levers, as well as to assuage excessive expectations.</p>
<p>Main knowledge gaps to be addressed by dedicated studies.</p>	

Recommended reading

- Bertone MP, Jowett M, Dale E, Witter S. (2019) Health financing in fragile and conflict-affected settings: what do we know, seven years on? *Social Science & Medicine*, 232: 209–219.
- Ensor T, Witter S (2001). Health economics in low income countries: adapting to the reality of the unofficial economy. *Health Policy*, 57 1–13.
- Schick A (1998). A contemporary approach to public expenditure management. World Bank Institute.

References

- Ammar W. (2009) Health beyond politics. World Health Organization Eastern Mediterranean Regional Office and Ministry of Public Health Lebanon.
- Bloom G, Kanjilal B, Lucas H and Peters D (eds.) (2013). Transforming health markets in Asia and Africa: improving quality and access for the poor. Routledge.
- Capobianco E, Naidu V (2011). A decade of aid to the health sector in Somalia (2000–2009). The World Bank. Retrieved from: <http://documents.worldbank.org/curated/en/271421468103478677/pdf/618980WP0Aid0S000public00BOX358355B.pdf>.
- Hanefeld J, Mayhew S, Legido-Quigley H et al. (2018). Towards an understanding of resilience: responding to health systems shocks. *Health Policy Plan*, 33, 355–367.
- Larson G, Ajak PB, Pritchett L (2013). South Sudan's capability trap. Building a state with disruptive innovation. WIDER Working Paper No. 2013/120. UNU-WIDER. Retrieved from: <https://www.wider.unu.edu/sites/default/files/WP2013-120.pdf>.
- Levine S, Kusnierek A (2019a). Counting the cost: assessing the cost of ill-health in West Darfur, Sudan. HPG Report. ODI.
- Levine S, Kusnierek A (2019b). Can't afford to be sick: assessing the cost of ill-health in North Kivu, Eastern Democratic Republic of Congo. HPG Report. ODI.
- Olivier J et al. (2015) Understanding the roles of faith-based health-care providers in Africa: review of the evidence with a focus on magnitude, reach, cost, and satisfaction. *Faith-based health care 1*. *Lancet*, 386:1765–75.
- Pavignani E, Colombo S (2009). Analysing disrupted health sectors. A modular manual. World Health Organization. Retrieved from: https://www.who.int/hac/techguidance/tools/disrupted_sectors/adhsm.pdf.
- Spiegel P, Chanis R, Trujillo A (2018). Innovative health financing for refugees. *BMC Medicine*, 16:90. Retrieved from: <https://bmcmmedicine.biomedcentral.com/track/pdf/10.1186/s12916-018-1068-9>.
- Van Lerberghe W, Mechbal A, Kronfol N (2018). The collaborative governance of Lebanon's health sector. Twenty years of efforts to transform health system performance. Policy Support Observatory. Retrieved from: <https://www.moph.gov.lb/en/Pages/0/18161/the-collaborative-governance-of-lebanon-s-health-sector>

D. Human Resources for Health (HRH)

Key messages

Health workers are a heterogeneous and mobile group in crisis settings. They can be targeted by violence, move to secure areas or left to fend for themselves. A useful framework classifies the workforce according to five dimensions, the boundaries of which frequently overlap and evolve over time; ownership, recognition, knowledge system, cadre and mobility.

The analysis must capture the evolution of the workforce: a) its pre-crisis underlying patterns, b) the responses of health workers to stressors, and c) the changes caused by the crisis.

Often boosting production of health workers takes precedence over enhancing their skills, which is more demanding. The recurring complaints about staff shortage should be supported by workload estimates.

The recovery of a derelict health workforce requires huge, protracted investments within the healthcare arena and outside it.

Health workers are active participants in social upheavals, sometimes targeted by combatants, sometimes left to fend for themselves by faltering states, and sometimes migrants in search of security and livelihoods. Human agency must be properly analysed, to make sense of developments. The notion of national health workforces as an expression of sovereign states is increasingly outdated. In many settings, the traditional healthcare provision setup, centred on lifelong civil servants staffing static facilities close to settled communities, has broken down.

The mobility (spontaneous as well as forced) of health workers in many circumstances recommends a trans-national perspective. But the available information is frequently outdated and incomplete, hence misleading. Population ratios make little sense in light of massive displacement. Production projections and formal postings have questionable value in open healthcare arenas subjected to market forces. Nor do staffing norms help, given the physical destruction. Multiple jobs, volunteers, widespread absenteeism and ghost workers blur the picture.

Making sense of heterogeneous, fluid and mobile health workforces requires novel conceptual tools.

Sheikh et al. (2017) propose a framework composed of four dimensions, each representing a continuum:

- Ownership: from public to private
- Recognition: from formal to informal
- Knowledge system: from allopathic to non-allopathic
- Cadre: from specialised to lay.

A fifth dimension should be added to the framework, to reflect the situation prevailing in many settings: Mobility, related to settled HRH vis-à-vis others migrating, being displaced or itinerant (to follow nomadic communities).

The analysis of the health workforce must capture a) its pre-crisis underlying patterns, b) the responses of health workers to acute shocks and protracted stress, and c) the changes caused by disturbances.

a) Workforce imbalances pre-existing the crisis may be exacerbated by it. The over-supply of certain categories, such as doctors and pharmacists, contrasts with the under-supply of others (nurses and midwives). Unemployment or under-employment are rife everywhere production is delinked from market demand. Conservative gender

norms restrain both the training of female health workers and their deployment, particularly in rural areas, where security is a serious concern. An urban bias is recognisable in training enrolment, and in the ensuing posting. The underlying high turnover of health workers, as well as of their managers, is accelerated by distress.

b) The impact of turmoil on HRH is multiform and changeable, with some recurrent patterns. Whereas death and outward migration reduce contingents, accelerated and unplanned training may expand the supply of health workers. Some categories are more affected than others by protracted turmoil. Additional biases are induced by the aid industry, which encourages the creation of new categories. Average productivity decreases, although it remains unmeasured in most instances. Professional skills deteriorate, due to deficient training first and poor working conditions later on. Lax or absent supervision and ineffective in-service training do not redress skill shortcomings.

c) Multiple coping strategies are adopted by health workers, who move within country to safe havens, or out-migrate to peaceful and/or rich countries. The actual remuneration of health workers becomes composite, in response to shrinking or unpaid official salaries (Witter et al., 2016). Charging users or selling medicines may keep staff in post, but are eroding their reputation (Dewachi et al., 2014). The HRH production expands, in the pursuit of revenues. Tasks exceeding professional skill level are taken up. The distinction between public and private providers becomes blurred and irrelevant. Moonlighting, pilfering and smuggling become current practice. Health workers come to own the services operated by them, pursuing profits rather than health gains (Russo et al., 2017).

In many settings, boosting production takes precedence over enhancing skills. Indeed, "...it is relatively easy to train more workers, but more challenging to design and implement policies and activities related to employment conditions and contracts, staff placement, or performance incentives that address bottlenecks such as inadequate staffing or low motivation" (Chee et al., 2013). The recurring complaints about staff shortage should be supported by workload estimates.

HRH management frequently adopts a hands-off stance, a sensible choice in light of the prevailing administrative, financial, political and social restrictions. Pluralism, mobility, cosmopolitanism, urbanisation and privatisation cannot be tackled with traditional civil-service management tools, premised as they are on stable settings under the control of informed, rational management. Forsaking hopes of reining in or reversing such powerful drives, decision-makers with limited clout should invest in feasible measures that steer them in favourable directions. Instead, many struggling health authorities indulge in the issuance of unenforceable provisions. "Literature shows that HRH shortage is more complex than a simple imbalance in supply and demand. Put simply, it is not about more supply in the short term. It is rather about effective management and better utilization of existing health workers within their legislated scope of practice" (El-Jardali et al., 2007).

The recovery of a derelict health workforce requires huge, protracted investments within the healthcare arena and outside it. As warned by Rowe et al. (2005): "...simply scaling up interventions in weak health systems that deliver poor-quality services is likely to waste precious resources and fail to show the anticipated improvements in health". Moreover, multiplying or sophisticating tasks, as so often demanded by external interventions, jeopardises an already poor performance.

The labour market must be restructured, with real salaries remunerating real work under realistic contractual terms. Most health professionals surviving a protracted crisis need intensive and sustained retraining and skills upgrading. The management and regulation of HRH need as much attention as training. A certification programme open to assorted health workers is one of the first steps to be undertaken. The accreditation of health training institutions is potentially a promising measure, but confronts a host of threats, particularly in pluralistic labour markets resistant to regulatory measures. Normative, needs-based goals should be abandoned in favour of contextualised, resource- and capacity-informed planning.

Box 5. How findings morph into targets

“The World Health Report 2006 presented an estimate of 22.8 midwives, nurses and physicians per 10 000 population as a threshold to achieve relatively high coverage for essential health interventions in countries most in need” (Campbell et al., 2013). Relating the density of health workers to coverage is quite straightforward: performing health systems must deploy enough health workers. Obviously, health systems performance depends also on the competence, motivation, distribution, utilisation, productivity, supervision and maintenance of health workers. Performance requires also adequate funding, infrastructures, equipment and supply, all competently managed. High density of health workers alone would not provide returns, on the contrary. Despite such a patent implication, this numerical threshold took a life on its own, and is incessantly referred to, as an overriding criterion for assessing a health workforce. Its worldwide application glosses over another obvious consideration, i.e. that different models of healthcare provision will demand different resource levels, and mixes.

“Inadvertently, the threshold estimate was perceived as a strategic planning target and proved to be unrealistic as a short- or medium-term goal for many low and middle-income countries” (Campbell et al., 2013). Perhaps such a misconceived shift was not accidental. In fact, it played into the hands of assorted stakeholders. First, it satisfied the expansive mantra of health advocates. Second, it was zealously embraced by powerless and/or incompetent managers keen to blame ‘staff shortages’ for service shortcomings. Third, it promoted large intakes into training institutions eager to maximise their revenues. Fourth, it allured youth with professional prospects in tight job markets. By propelling production at the top of the HRH agenda, it sidelined other fundamental aspects needing to be addressed in order to achieve better performance.

“It was not meant to inform decision-makers about the optimal distribution of health workers in their country nor was it meant to be a strategic planning target” (Campbell et al., 2013). Whatever the original intention, inflating HRH ranks in isolation from system-wide developments generates certain predictable effects: salary compression with ensuing dissatisfaction, lower productivity, unemployment, outmigration, deterioration of skills and in turn of quality of care, supply-induced demand and commoditisation. In many distressed healthcare arenas, such an evolution was spontaneous rather than planned, and reluctantly recognised by decision-makers.

Reference: Campbell J, Dussault G, Buchan J, Pozo-Martin F, Guerra Arias M, Leone C, Siyam A, Cometto G. (2013) A universal truth: no health without a workforce. Forum Report, Third Global Forum on Human Resources for Health, Recife, Brazil. Geneva, Global Health Workforce Alliance and World Health Organization.

HUMAN RESOURCES FOR HEALTH	
ASPECTS TO BE STUDIED	EXAMPLES, TIPS AND RECOMMENDED READING
HRH underlying patterns: number, composition and deployment (by region, level of care, ownership).	Tip: beware of official HRH inventories, which may relate mostly to civil servants (including ghost workers), or registered health professionals.
The health labour market, as it changes under stress. Supply against demand, for different categories. Un- and under-employment.	
The complex remuneration of health workers. Coping strategies and related side-effects. Incentives (positive and negative).	Recommended reading: Bertone and Witter, 2015.
HRH management issues. Registration mechanisms. Civil-service provisions. Regulation. Posting and transfer practices. Attrition. Ghost workers.	Recommended reading: Roome et al., 2014; Schaaf and Freedman, 2013.
Trans-national production, employment and post-graduate training. Spontaneous and forced outmigration. Diaspora links.	
Job descriptions and training contents. PHC vs. hospital orientation of the main categories. Professional duties, according to training programmes and workplace realities. Multipurpose categories vs. restricted ones.	Remark: health workers are repositories of HS-informing traditions. Therefore, their reactions during a transition, when the crumbled setup has to be replaced with another one, may decide the success of reforms, or otherwise.
Training (pre-service and in-service) capacity. Training financing and provision.	Example of sensible decision-making: Facing an over-supply of physicians and a shortage of nurses, the Lebanese Ministry of Public Health refrained from trying - in vain - to cap the production of the former, and focussed on expanding the latter category. In other words, it recognised its limited clout and invested in feasible measures (Ammar, 2009).
Staffing patterns: norms vs. actual.	Tip: Short of country-wide estimates, local figures may offer glimpses of the prevailing situation. Diverse staffing patterns are likely to be found, quite plethoric in secure and affluent settings, scanty elsewhere.

HUMAN RESOURCES FOR HEALTH

ASPECTS TO BE STUDIED	EXAMPLES, TIPS AND RECOMMENDED READING
<p>Dual practice: actual vs. perceived patterns, and its effects on healthcare provision.</p>	<p>Recommended reading: Alaref et al., 2017. While stressing the inapplicability of general norms due to the diversity of settings and manifestations, this exploration of the policy options in Palestine calls for caution. Dual practice is “..a symptom of weak accountability structures and poor incentives for public sector health workers in developing countries, rather than the disease itself”.</p>
<p>Assessing staff performance. Workloads, aggregated and related to the main categories. Impact of working conditions on performance. Skill shortfalls against service needs.</p>	<p>Recommended reading: Rowe et al., 2005.</p>
<p>Community health workers, volunteers, folk healers. Their respective roles in a pluralistic healthcare arena.</p>	<p>Remark: in many disrupted settings, such as Liberia, South Sudan and Rwanda, CHWs are promoted by donors and implementing agencies, as a quick, cheap and easy way to deploy large numbers of staff, without paying much attention to the many drawbacks affecting their performance. The opportunity cost of this policy choice is of course the neglect of the training of higher-level professionals.</p> <p>Recommended reading: Standing and Chowdhury, 2008.</p>
<p>Integrating formerly rival health workers, in light of their qualifications, skills and allegiances.</p>	<p>True story: In South Sudan, the signing of the Peace Agreement in 2005 triggered the merging of the two separated branches into a single health system. The resulting health workforce was much larger (about 12,000) than previously thought, and severely under-skilled. A detailed and comprehensive HRH assessment sketched a worrisome picture, and recommended the reorganisation of the HRH field before any upgrading and expansive step. Probably scared by the findings and the difficulty of adopting the proposed corrections, the MoH opted for the formulation of a HRH policy and of a strategic plan, which aimed at doubling the size of the workforce by 2017. Lesson: no ambitious data-collection exercise should be launched if decision-makers are not ready to act, and if no institutional gear is in place to implement decisions.</p> <p>Source: Beesley et al., 2011.</p>

HUMAN RESOURCES FOR HEALTH

ASPECTS TO BE STUDIED	EXAMPLES, TIPS AND RECOMMENDED READING
Addressing the identified distortions. Interventions under way and in the pipeline. Past implementation record.	Are they realistic, tested and resourced? Could they possibly exacerbate the existing problems? Relevant lessons from other settings under stress. Recommended reading: Pavignani, 2011.
Main knowledge gaps to be addressed by dedicated studies.	

Recommended reading

- Pavignani E (2011). Human resources for health through conflict and recovery: lessons from African countries. *Disasters*. 35(4):661.
- Roome E, Raven J, Martineau T (2014). Human resource management in post-conflict health systems: review of research and knowledge gaps. *Confl Health*. 8(1):18. Retrieved from: <https://conflictandhealth.biomedcentral.com/track/pdf/10.1186/1752-1505-8-18>.
- Rowe AK, de Savigny D, Lanata, CF et al. (2005). How can we achieve and maintain high-quality performance of health workers in low-resource settings? *Lancet*. 366: 1026–35.
- Schaaf, M. and Freedman, L.P. (2013) Unmasking the open secret of posting and transfer practices in the health sector. *Health Policy and Planning*, 1-10.
- Sheikh K, Josyula LK, Zhang X et al. (2017). Governing the mixed health workforce: learning from Asian experiences. *BMJ Glob Health*. Retrieved from: <https://gh.bmj.com/content/bmjgh/2/2/e000267.full.pdf>.

References

- Alaref J, Awwad J, Araujo E, Lemiere C, Ahmed Hillis S, Özaltın E (2017). To ban or not to ban? Regulating dual practice in Palestine. *Health Systems & Reform*. 3:1, 42-55.
- Ammar W (2009). Health beyond politics. World Health Organization Eastern Mediterranean Regional Office and Ministry of Public Health Lebanon.
- Beesley M, Cometto G, Pavignani E (2011). From drought to deluge: how information overload saturated absorption capacity in a disrupted health sector. *Health Policy Plan*, 1–8 doi:10.1093/heapol/czq083.
- Bertone MP, Witter S (2015). The complex remuneration of human resources for health in low-income settings: policy implications and a research agenda for designing effective financial incentives. *Hum Resour Health*. 13:62. Retrieved from: <https://human-resources-health.biomedcentral.com/track/pdf/10.1186/s12960-015-0058-7>.
- Chee G, Pielemeier N, Lion A et al. (2013). Why differentiating between health system support and health system strengthening is needed. *Int J Plann Manage*. 28: 85–94. Retrieved from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3617455/pdf/hpm0028-0085.pdf>.
- Dewachi O, Skelton M, Nguyen V-K, Fouad FM, Abu Sitta G, Maasri Z, Giacaman R (2014). Changing therapeutic geographies of the Iraqi and Syrian wars. *Lancet*, 383: 449–57.
- El-Jardali F, Jamal D, Abdallah A et al. (2007). Human resources for health planning and management in the Eastern Mediterranean region: facts, gaps and forward thinking for research and policy. *Human Resour Health*. 5:9. Retrieved from: <https://human-resources-health.biomedcentral.com/track/pdf/10.1186/1478-4491-5-9>.
- Russo G, Pavignani, E, Sá Guerreiro C. et al. (2017). Can we halt health workforce deterioration in failed states? Insights from Guinea-Bissau on the nature, persistence and evolution of its HRH crisis. *Hum Resour Health*. 15:12. Retrieved from: <https://human-resources-health.biomedcentral.com/track/pdf/10.1186/s12960-017-0189-0>.
- Standing H, Chowdhury MR (2008). Producing effective knowledge agents in a pluralistic environment: what future for community health workers? *Soc Sci Med*, 66: 2096-2107.
- Witter S, Bertone MP, Chirwa Y et al. (2016). Evolution of policies on human resources for health: opportunities and constraints in four post-conflict and post-crisis settings. *Confl Health*, 10:31. Retrieved from: <https://conflictandhealth.biomedcentral.com/track/pdf/10.1186/s13031-016-0099-0>.

E. Healthcare networks

Key messages

Healthcare networks are the result of past investments made according to different rationales.

The crisis amplifies pre-existing planning problems, such as maldistribution, imbalances, wrong location of facilities in a dynamic context, in which health needs, demands of health care, supply of health services, migration and urbanisation change.

The national classification of health facilities may no longer reflect the reality and so become meaningless. In many situations, atypical health facilities multiply, with different standards of health care provision, which need to be studied. Information systems centred on health facilities miss the changes under way outside them and need to be redesigned.

Healthcare networks are composed of health facilities at different levels and by the inter-relationship between levels. They result from many investment decisions (following different rationales), spanning decades of health service history. Frequently-detected patterns (geographical maldistribution, poor location and imbalances between levels of care) may be traced back to the pre-crisis period, and will be magnified by the disruption.

Distortions may reflect the absence of coherent planning or, conversely, major planning flaws. The dominance of hospitals tends to be very resilient, in spite of recurring policy statements and the opportunities for change provided by the crisis. Different facilities, built by central and local government, charities, armies, private firms, disease-control programmes, communities and NGOs go through the disruption, being damaged, restored, expanded, or abandoned. Their ownership evolves over time, while their shape, size and functional characteristics may remain diverse.

Healthcare networks are changing, not only in disrupted settings. On the ground, their financing, ownership, composition and organisation, services provided and users served are assuming new characteristics in hybrid, continuously-evolving forms, in response to multiple stressors, to market forces as well as to the decisions of indigenous or external actors, public and private. The traditional

link between state legitimacy and entitlement to health care, usually expressed by static facilities close to settled communities, has broken down. Healthcare provision is largely privatised.

Urbanisation (spontaneous or coerced) brings previously-rural populations closer to health facilities, at the same time that urban warfare damages many of them. The urban and rural components of the healthcare network show, in most cases, very different patterns. High- and low-density areas must be studied and planned as distinct situations, requiring different approaches. But high-density areas usually host affluent communities alongside poor ones, in contiguous but segregated settlements, served by strikingly-different health services, whose patterns must be analysed apart to make sense.

Healthcare demand is reconfigured, becoming trans-national and cosmopolitan, fluctuating according to barriers and security conditions, sometimes with ethnic and sectarian connotations. Demand for trauma care and rehabilitation services increases. Regional hubs of referral care have become established, such as Lebanon (Dewachi et al., 2017), Turkey, Djibouti and Nairobi.

Healthcare supply is reconfigured too. Health services disperse across multiple, autonomous, atypical facilities, shaped by security considerations or market opportunities, and sometimes linked

up into spontaneous networks. Disconnected investments (fuelled by competing donors, the diaspora, businesses and sects) may expand healthcare supply. Financing sources (mostly private and trans-national) multiply. These changes result in an extreme decentralisation from below (with senior professionals taking management responsibilities into their hands). Quality standards deteriorate, due to personnel losses (particularly of critical cadres), deficient working conditions (supplies, equipment, facilities) and revenue-raising pressures.

Most descriptions of existing health infrastructures adopt the image of the pyramid, composed by neatly-integrated, rationally-planned functional layers. This conceptual construction is more often misleading than helpful. In reality, tertiary hospitals might be absent, or inaccessible to most potential users, due to physical or financial barriers. A large proportion of tertiary capacity may be absorbed by the delivery of first-contact care. The secondary level may shrink, due to war destruction, reduced utilisation or abandonment. At the same time, externally-supported facilities may grow in size and sophistication to respond to increased demand. Official counts of the primary level may include ghost facilities, or derelict ones. The healthcare network may look more akin to an archipelago than to a pyramid.

The classification of health facilities may be so disconnected from reality as to look meaningless. In many situations, atypical health facilities, in physical or functional terms, multiply. Thus, a pharmacy may acquire basic lab capacity, or a clinic offer surgical care. The outlook of the healthcare network may be dramatically modified once such atypical health facilities are taken into consideration. To be appraised against its actual features, the health network must be reclassified and quantified in functional terms (Adams et al., 2015). For instance, reporting that only 37% of a sample of surveyed hospitals is providing round-the-clock emergency surgical care is much more informative than stating the number of nominal hospitals existing in a given region. Where the denominator is grossly altered by displacement, computing a population ratio for these hospitals becomes useless. Finally, such average ratios are erroneously presumed on uniform service access. Considering the provision of utilities may give a much more

instructive picture of real operating constraints: in Darfur, 71% of the facilities surveyed in 2012 lacked a safe water supply, and 68% were short of electricity.

Another frequent analytical error relates to **PHC facilities**. Considering all first-contact facilities under this umbrella provides a misleading image of the health network, with consequent planning mistakes. In fact, during (and after) a protracted crisis, different types of facilities exist: a) facilities providing professional services according to set standards (different kinds of health centres, health posts/dispensaries, maternities); b) facilities run by volunteers (CHW and similar healthcare providers, who may have multiplied during the crisis), and c) privately-run healthcare outlets of assorted size and technical capacity.

Mobile health services are used to expand the coverage of routine programmes, reach remote populations, and intermittently deliver some services in dangerous areas. Beyond these respectable motivations, mobile health services may be adopted by organisations eager to show their presence, meagre returns notwithstanding. In any case, they are expensive, with high operational and opportunity costs, inefficient and unsustainable. No best practice has been identified, and no international standard guidelines have been elaborated. But they may be imposed by circumstances. In this case, their costs must be taken into consideration, and their returns maximized. Moreover, the side-effects of the related incentives must be controlled, in order to protect fixed services from disruption.

Information systems in disarray, being centred on health facilities and confined to recognised national borders, miss the fundamental changes under way. To become newly fit-for-purpose, information collection and analysis need to be radically redesigned and streamlined. To serve mobile users in volatile settings overcrowded by autonomous providers, traditional healthcare planning and management concepts, such as catchment population or service access, look out of place.

Multiple localised healthcare systems characterise the post-conflict landscape, and must be studied as such. Their violence-induced features will evolve

as the environment changes. Collapsing such vastly diverging situations into national averages would obscure rather than clarify patterns. In many settings, task-shifting, autonomous management, tele-medicine and home care have been described.

They might just constitute the tip of the iceberg in the experimentation and innovation imposed by hardship on the ground. A valuable HSA should try hard to capture such novel features, and gauge their potential in a recovery perspective.

HEALTHCARE NETWORKS	
ASPECTS TO BE STUDIED	EXAMPLES, TIPS AND RECOMMENDED READING
Pre-crisis features of the network. Balance between levels of care. Distribution patterns of facilities across country. Major recognisable flaws.	Example: in Iraq, the pre-crisis healthcare network was centrally-planned and generously-resourced, according to standard criteria, layouts and technical capacity. Decades of under-resourcing and destruction have exacted a heavy toll.
How did the network change over time? Adjustments induced by the crisis.	Remark: aid-supported interventions modify the healthcare network, sometimes filling gaps but frequently creating redundancies. Western assistance tends to intervene in PHC facilities, frequently with light-touch measures, whereas Middle-Eastern donors prefer to invest in heavy infrastructures.
Inventory of health facilities, disaggregated between fully-, partially-functioning, closed and without information. The facilities reporting their physical and operational characteristics should then be re-classified, according to functional criteria.	Reference: for an example of functional criteria, see Adams et al., 2015. Tip: several inventories may be available, and present gross discrepancies. Patient triangulation, with field checks when possible, is needed to attain acceptable levels of accuracy.
Characterising the features of the network. Main differences between urban and rural healthcare networks, in size, delivery model, and technical contents.	Example: in Liberia, DR Congo and South Sudan, the backbone of the peripheral network is constituted by faith-supported facilities, often of conspicuous size and capacity, in some cases spared by violence. They are often the first and best responders to a shock, such as an epidemic.
Size, delivery model and technical contents of the urban healthcare network. Disentangle its developed and rudimentary components.	Remark: sanctuary cities, such as Nyala in Darfur, may multiply their size, thanks to new settlers fleeing the violent countryside. The healthcare network may expand accordingly, in a quite uncoordinated way.
Degree of dilapidation of the existing network. Is building capacity available locally, or close by? Building costs: inflated by long distances over difficult terrain, or by political measure, such as sanctions or border restrictions?	Tip: alongside the physical destruction caused by the conflict, the deterioration induced by under-resourcing, disrepair and neglect must be considered. Addressing the latter might cost more than the former (despite its higher-profile).

HEALTHCARE NETWORKS

ASPECTS TO BE STUDIED	EXAMPLES, TIPS AND RECOMMENDED READING
Hospitals (tertiary and first-referral): their actual functions, across different areas of political control, resource levels, supply options, staffing strength.	Remark: in Syria, the hospital setup has been radically altered by destruction, the increased demand for trauma care, and security-informed new investments shouldered by external solidarity networks. Quite sophisticated hospitals have been built in secure areas, where none was in place before.
PHC facilities. How were they affected by the crisis? Do PHC facilities follow standard layouts and/or functional profiles? Are they sound and flexible, in order to match the variation on the ground?	Example: In Liberia, a standard layout for the basic PHC facility was designed in 2008, to be adopted across the whole country. Its generous size of 18 rooms was adequate for high-density areas, but induced serious wastage in low-density areas. For a thorough discussion of the shortcomings of rigid planning, see Ministry of Health and Social Welfare of Liberia, 2011.
Private vs. public health facilities. Different aspects must be reviewed in order to usefully classify health facilities: ownership (official and de-facto), management, financing and modus operandi (health- or profit-oriented?).	Remark: given the different mixes that are recognisable in the field, few facilities belong exclusively to one or the other category. In any case, public and private health facilities tend to respond to similar commercial imperatives.
Workloads of different health facilities, by ownership, location and level of care.	
Utilisation of different health facilities, by population groups, income levels, provenance, condition.	Remark: 'public' health facilities (including the aid-supported ones) tend to be under-used, due to multiple barriers faced by patients. Private outlets often take up the unaddressed demand. For an eloquent example, see: Mohamed et al., 2014.
Referral patterns (structured and spontaneous).	Remark: in many distressed settings, trans-border referrals are commonplace. Such referral facilities should be included in any description of the healthcare network.
Support infrastructure (administration, training, warehousing, and maintenance).	
Will the conflict-affected healthcare network have to be restored along pre-existing lines, or be re-designed to respond to future service demands? Is such a discussion under way, or will it have to be promoted?	In Iraq and Syria, restoring the pre-conflict healthcare network might be financially impossible, and also undesirable in light of the pervasive changes caused by protracted turmoil.
Main knowledge gaps to be addressed by dedicated studies.	

Equipment-related remarks

- Equipment is only cursorily referred to in most HSAs, despite its influence on quality of care, service uptake and provision costs. The choices related to technology before, during and after a crisis depend on a host of factors, including service-delivery models, resourcing levels, traditions, external links and health governance modalities.
- Turmoil impacts on equipment, through direct damage, shortages of spare parts and consumables, and forfeited maintenance. The effects of protracted economic sanctions have been documented, particularly in relation to Iraq. High-tech facilities progressively fell into disrepair, with equipment turning into scrap, and spare parts being scavenged from one machine to restore another (Dewachi, 2017).
- Procedures requiring certain technologies are nonetheless carried out in their absence, despite the incurred risks. The precautionary prescription of medicines grows as a result. Out of 94 hospitals that provided operative trauma care services in Syrian rebel-held areas in 2015, “27 hospitals (29%) could not crossmatch blood, and fewer than one-third have the ability to screen for viral contamination with hepatitis or human immunodeficiency virus” (Mowafi et al., 2016).
- The unavailability of certain technologies also impacts on service uptake, whenever patients are used to them and the health workers are not able to shift to alternative practices. For example, midwives may discontinue ante-natal care checks in the absence of a functioning ultrasound scan machine, as reported in Syria. In this sense, resource-poor healthcare arenas may be less vulnerable to technological breakdowns than better endowed ones.
- The damage caused to communicable-disease control by violence is documented in the Levant. Disease occurrence has risen and diagnostic accuracy has suffered (Abbara et al., 2018).
- Conditions that require certain machines have forced sufferers to travel far and wide, often abroad, with the related discomfort and cost.

Short of referral options, increased disability and mortality result. The availability of diagnostic devices not backed by adequate treatment capacity may induce outward flows of healthcare-seekers, as described by Cain et al. (2015) regarding Somali patients with multidrug-resistant tuberculosis travelling to Nairobi to be treated.

- Maintenance needs are raised by the precariousness of working conditions (erratic power supply, poor-quality water) and unfamiliar equipment challenging operators and engineers, who themselves may be short supply.
- Looting of expensive equipment, or of its parts, is commonplace. The operational usefulness of stolen devices is obviously a matter of concern.
- The dumping of donated equipment of assorted provenance, standard and functioning order is common, particularly in ‘noisy’ emergencies. International agencies bring in and overseas well-wishers dispatch an array of machines, leaving them behind upon departure. Many quickly become unusable, for lack of proper servicing.
- Post-conflict recoveries have in some cases been characterised by the rapid acquisition of high-tech equipment, in excess of the health needs to be addressed. Usually, such a trend is induced by the deregulated privatisation of healthcare provision. “In the mid-nineties, a few years after the end of the war, Lebanon boasted more than twice the number of cardiac surgery units per inhabitant, and 15 times that of lithotripsy machines in Germany” (Van Lerberghe et al., 2018).
- The diaspora, charities and solidarity groups are often behind the acquisition of high-tech machinery, with recurrent redundancies, under-utilisation and disrepair. Divided societies are particularly inclined to generate this systemic inefficiency.
- The appraisal of the technological endowment of health facilities may be instructive about their potential functioning. But the correct utilisation of the available devices must be assessed before drawing any conclusion about the actual correspondence of a facility to the assigned category. In fact, particularly in deregulated

settings, technology is acquired organically, according to demand, investment opportunities, serviceability and related costs. Fashionable equipment may be acquired in order to advertise a facility, rather than to provide health benefits. Rarely used diagnostic or therapeutic devices are not only a waste of resources, they provide poor-quality results.

Recommended reading

- Adams AM, Islam R, Ahmed T (2015). Who serves the urban poor? A geospatial and descriptive analysis of health services in slum settlements in Dhaka, Bangladesh. *Health Policy Plann*, 30:i32–i45. Retrieved from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4353891/pdf/czu094.pdf>.
- Ministry of Health and Social Welfare of Liberia (2011). Country Situational Analysis Report. Retrieved from: <https://www.medbox.org/liberia-country-situational-analysis-report-july-2011/preview?>
- Mohamed AH, Dalal W, Nyoka R et al. (2014) Health care utilization for acute illnesses in an urban setting with a refugee population in Nairobi, Kenya: a cross-sectional survey. *BMC Health Serv Res*, 14: 200. Retrieved from: <https://bmchealthservres.biomedcentral.com/track/pdf/10.1186/1472-6963-14-200>.

References

- Abbara A, Rawson T, Karah N, et al. (2018). Antimicrobial resistance in the context of the Syrian conflict: Drivers before and after the onset of conflict and key recommendations. *Int J Infect Dis*, 73, 1–6. Retrieved from: [https://www.ijidonline.com/article/S1201-9712\(18\)34416-3/pdf](https://www.ijidonline.com/article/S1201-9712(18)34416-3/pdf).
- Cain KP, Marano N, Kamene M et al. (2015). The movement of Multidrug-Resistant Tuberculosis across borders in East Africa needs a regional and global solution. *PLoS Med*, 12(2): e1001791.doi:10.1371/journal.pmed.1001791. Retrieved from: <https://journals.plos.org/plosmedicine/article/file?id=10.1371/journal.pmed.1001791&type=printable>.
- Chenge M, Van der Vennet J, Porignon D et al. (2010). La carte sanitaire de la ville de Lubumbashi, République Démocratique du Congo. Partie I: problématique de la couverture sanitaire en milieu urbain congolais. *Glob Health Promot*, 17(3):63–74. Retrieved from: https://www.researchgate.net/publication/47547920_La_carte_sanitaire_de_la_ville_de_Lubumbashi_Republique_Democratique_du_Congo_Partie_I_problematique_de_la_couverture_sanitaire_en_milieu_urbain_congolais.
- Chenge M, Van der Vennet J, Porignon D et al. (2010). La carte sanitaire de la ville de Lubumbashi, République Démocratique du Congo. Partie II: analyse des activités opérationnelles des structures de soins. *Glob Health Promot*, 17(3):75–84. Retrieved from: https://www.researchgate.net/publication/47547921_La_carte_sanitaire_de_la_ville_de_Lubumbashi_Republique_Democratique_du_Congo_Partie_II_analyse_des_activites_operationnelles_des_structures_de_soins.
- Dewachi O, Rizk A, Singh NV (2017). (Dis)connectivities in wartime: The therapeutic geographies of Iraqi healthcare-seeking in Lebanon. *Global Public Health*, DOI: 10.1080/17441692.2017.1395469.
- Mowafi H, Hariri M, Alnahhas H et al. (2016) Results of a nationwide capacity survey of hospitals providing trauma care in war-affected Syria. *JAMA Surg*, 151(9):815-822. Retrieved from: <https://jamanetwork.com/journals/jamasurgery/fullarticle/2529817>.
- Van Lerberghe W, Mechbal A, Kronfol N (2018). The collaborative governance of Lebanon's health sector. Twenty years of efforts to transform health system performance. Policy Support Observatory. Retrieved from: <https://www.moph.gov.lb/en/Pages/0/18161/the-collaborative-governance-of-lebanon's-health-sector>.

F. Pharmaceuticals

Key messages

HSAs often neglect or study superficially the pharmaceutical sub-sector, which, however, has an enormous influence on HS performance and utilization of health services. Additionally, it is an expensive component of healthcare provision, which makes it vulnerable to criminal activities, and is central to the remuneration of health workers.

The sub-sector is complex and dynamic: mapping it is the first step towards understanding its multiple structures and ways of working. Its components can be organised into two groups, related to policy and to logistics.

Under stress, some changes related to pharmaceutical policy are recognisable: domestic public financing for drug procurement shrinks, with donors frequently replacing the state as the main public purchasers. Private financing grows. Drug donations increase. Regulatory provisions and quality controls are disregarded. Pharmacy staff engage in dual (public-private) jobs.

Changes related to pharmaceutical logistics include the following: medicines become pure commodities, supplied through trans-border trade networks. Domestic production suffers, both in quality and volume. Supply channels proliferate. Pharmaceutical preparations multiply. Special supply systems are introduced by vertical programmes. Drug-selling outlets mushroom. Prescription and dispensing standards degenerate, while in privileged areas or facilities performance may improve. Operational costs rise and waste increases.

Public and private not-for-profit schemes have been set up to improve the situation, with partial success. Private for-profit dealers and vendors keep a competitive edge, so that even public operators prefer to place their orders with them. Given the huge economic interests involved and the fragmentation occurring under stress, reforming the pharmaceutical area is always challenging.

The pharmaceutical sub-sector is frequently neglected in HSAs, or only superficially dealt with. Many reasons recommend its thorough study, without which any assessment would be incomplete. In fact, being an expensive and sensitive component of health care, medicines influence service uptake and performance. They also affect the economy of healthcare provision and are in turn affected by it. Pharmaceuticals absorb a large proportion of total health expenditure, a proportion that grows in poor and troubled settings. Such a business moves huge monies, and attracts the attention of criminal rings. Being an internationally tradable and easily movable commodity, medicines are less affected by internal conflict than fixed assets. At the facility level, medicines are central to the remuneration of health workers and to sustaining healthcare provision.

In Somalia as in other troubled settings, the pharmaceutical business might represent one of the largest sections of the economy, at least in value. Numerous import firms, wholesalers and retailers manage a commoditised field with a vast outreach, constituting the most common way of accessing modern health care for most users.

The pharmaceutical sub-sector is complex and dynamic. Mapping it would be the first step towards understanding its multiple structures and ways of working. Its components can be organised into two groups, related to policy and to logistics. Under the first heading the following aspects have to be included: policy formulation and legislation, selection and registration of medicines, regulation and quality assurance, financing, planning and procurement, prescription, dispensing and utilisation, human

resource development. Components related to pharmaceutical logistics include production, purchasing, warehousing, distribution and consumption.

Under stress, some changes related to pharmaceutical policy are regularly recognisable: domestic public financing for drug procurement shrinks, with donors frequently replacing the state as the main public purchasers. Private financing grows, usually by an unmeasured proportion. Drug donations increase. Regulatory provisions and quality controls are disregarded. Pharmacy staff engage in dual (public-private) jobs. As a result of such changes, the pharmaceutical area assumes an international dimension, a critical aspect often missed by assessments confined to national borders.

Changes related to pharmaceutical logistics include the following: medicines become pure commodities, transiting unchecked and unrecorded through trans-border trade networks, to supply other countries. Domestic production (previously buoyed by public subsidies) suffers, both in quality and volume. Supply channels proliferate. Pharmaceutical preparations multiply. Special supply systems are introduced by vertical programmes. Drug-selling outlets mushroom. Prescription and dispensing standards degenerate. Operational costs rise and waste increases.

The circulation of fake drugs becomes a constant concern: "...substandard and counterfeit drugs are regularly conflated and confused". "Substandard medicines represent a far larger risk to public health than counterfeit medicines". "...the few published reports that did differentiate between the two problems have found that the majority of poor quality drugs were genuine, but substandard drugs, and not the result of counterfeiting" (Caudron et al., 2008). Medicines may be substandard due to under- or over-concentration, contamination, poor quality ingredients, poor stability, packaging problems, poor storage and expiration. Dual production standards compound the problem at the source.

Many factors shape the utilisation of medicines during a crisis. Whereas overall standards tend to worsen, privileged areas or facilities may see their performance improving. With decaying diagnostic

capacity, antimicrobial resistance, already present in Syria before the conflict, has increased after 2011. Several factors have contributed to this trend: the flight of most qualified professionals, poor user compliance, unsanitary conditions in overcrowded IDP camps and other settlements, the increased burden of traumas and injuries and the lack of equipment and supplies for medical laboratories (Abbara et al., 2018).

Many agencies and NGOs assess prescribing and dispensing patterns. Such rationalistic approaches should not lead to the neglect of what occurs across the deregulated arena: "Use of self-medication and buying 'over-the-counter' drugs at retail outlets is a highly prevalent health-seeking behaviour in any study in low-income urban areas and needs to be viewed as part of urban 'health services'" (Harpham, 2009).

Public and private not-for-profit schemes have been set up to improve the situation, with partial success. Revolving drug funds, central supply stores, essential drug programmes have run into trouble, sometimes self-inflicted. Promising small-scale franchising schemes have been established, for instance in Somaliland. Procurement and supply channels remain fragmented in most settings, with predictable effects on prices, availability and quality of medicines. Stock-outs are regularly lamented, while market stalls may be awash with medicines of dubious worth.

Private for-profit dealers and vendors keep a competitive edge, so that even public operators prefer to place their orders with them. Public providers pressured to sustain health services through the sales of medicines adopt business-oriented practices. Meanwhile, health authorities sometimes have their own interests in the commercial deals they are supposed to regulate. The highly informal operating environment, with its prevailing incentives, puts formal public schemes at a disadvantage.

Given the huge economic interests involved and the fragmentation occurring under stress, reforming the pharmaceutical area is always challenging. Hurdles notwithstanding, huge benefits in terms of financial savings, expansion of service coverage, better quality of care, reduction of harmful practices

and improved credibility of health services may be expected. An inventory of the initiatives under way and in the pipeline should be assembled. Such a review is likely to identify some conventional designs.

But alternative approaches deserve consideration: “Traditional government-operated public health supply chains are [...] becoming a thing of the past. In most countries today, [...] public health supply chain systems encompass multiple supply chains and involve a multisectoral range of public, private, faith-based, and NGO facilities and distributors; diverse operational agencies and practices; and people from many organizations and professions. [...] when well-

understood and managed, these diverse supply chains and supply chain actors can be woven into a rationally integrated system. This can give stewards flexibility and prudent redundancy in funders, suppliers, distributors, procurement arrangements, and even in quality assurance, reducing risks of supply disruption and better serving all customers” (Bornbusch et al., 2014).

The diversity described above applies to disrupted settings as much as to settled ones. The changes induced by protracted turmoil should be analysed under this perspective, identifying elements on which the future, post-disruption pharmaceutical sub-sector can be built.

PHARMACEUTICALS	
ASPECTS TO BE STUDIED	EXAMPLES, TIPS AND RECOMMENDED READING
<p>Describing the pharmaceutical market, including its trans-national links. Regulated segments vs. unregulated ones. How did the market change during the crisis?</p> <p>To make sense of the situation, business aspects must be appraised alongside healthcare-related ones.</p>	<p>Remark: the market may present striking internal differences, with imported medicines abundant in peripheral areas and distributed far from them, depending on variable border controls, frontlines, checkpoints.</p> <p>A rare example of appraisal of a troubled pharmaceutical market is: Paterson and Karimi, 2005.</p> <p>In most cases, the available information is inadequate, so dedicated studies are required.</p>
<p>Analysing existing pharmaceutical laws, policies and provisions. Are they enforced? Are they enforceable? Are they appropriate, in light of the prevailing conditions?</p>	
<p>Who does what and where in the pharmaceutical area: funding, regulation, procurement, storage, distribution, dispensing and prescribing.</p>	<p>For an example of such an inventory, see Annex 11, pages 325-331, in Pavignani and Colombo, 2009.</p>
<p>Financing, public (internal and external) and private, with respective estimates. Remittances. Prices of marker medicines, by supply channel and retailer. Existing cost-sharing and subsidy regimes.</p>	

PHARMACEUTICALS	
ASPECTS TO BE STUDIED	EXAMPLES, TIPS AND RECOMMENDED READING
Pharmaceutical procurement. Aggregate volumes. Main channels. Is there an import gap? Main reasons for it. What is its size?	
Aid-related pharmaceutical supply channels. Role of vertical / disease-control programmes. Are drug donations important?	
Access to medicines, by condition, population group, setting. Demand- and supply-side barriers. Essential medicines. Circulation, prices and quality of generic vs. brand drugs.	Recommended reading: Bigdeli et al., 2012.
Quality of medicines circulating in the market. Facts vs. rumours. Capacity to detect problems, and consequently to take corrective measures.	QUAMED (or similar) quality assessment? When? Are reports available? See: https://quameddb.org/en/home.aspx .
Domestic pharmaceutical production, public and private. Manufacturing standards. Domestic vs. international prices.	“It is wrong to believe that local pharmaceutical production will necessarily contribute to public health objectives. Rather, it may be easily diverted to serve trade and industry objectives. Also, local production is not necessarily cheaper if economies of scale are not achieved; this may lead to actual higher prices of locally produced medicines, and sometimes lower quality“ (Bigdeli et al., 2012).
Internal distribution (push vs. pull). How fragmented is it? Warehousing and transport. Drug-selling outlets: number, distribution and characteristics.	“The last-mile logistic chain within Somalia is fast. It is almost completely smart-phone based, and demand is known on an almost instant basis. It is also largely cash based, in this case mainly electronic cash through mobile phone. Orders are made by phone, e-cash is paid, and the goods are shipped.” “It does not seem to matter much if frontlines have to be crossed, though that does cause some delays and extra cost. The whole process is almost instantaneous. There are no formal forecasts, no requests for quotations, no contracts, no lengthy administrative procedures. It is a network of almost instant information, cash and goods flows, and very much based on trust “. (Jeene, 2017).
Prescription and dispensing patterns, in light of the respective motivation. Drivers of pharmaceutical operators: health considerations, profit, politics.	

PHARMACEUTICALS

ASPECTS TO BE STUDIED	EXAMPLES, TIPS AND RECOMMENDED READING
Circulation of medicines outside formal channels. Their origins, preparations, conservation, prices. Informal drug vendors.	Recommended reading: Leonard, 2005.
Human resources in the pharmaceutical area. Training and employment. Dual practice.	
Waste. Its main causes along the pharmaceutical supply chain.	
Interventions under way and in the pipeline. Past implementation record. Are they realistic, tested and resourced? Could they exacerbate the existing problems? Relevant lessons from other settings under stress. Critical measures still overlooked?	Remark: whereas most distressed pharmaceutical markets are dominated by private suppliers and financed by households, many interventions are aimed at strengthening public functions. Only limited experience is available about steering private operations towards public goods, in the absence of strong regulatory capacity.
Main knowledge gaps to be addressed by dedicated studies.	

Recommended reading

- Bigdeli M, Jacobs B, Tomson G et al. (2013). Access to medicines from a health system perspective. *Health Policy Plan*; 28, 692-701. Retrieved from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3794462/pdf/czs108.pdf>.
- Bornbusch A, Dickens T Hart C et al. (2014). A stewardship approach to shaping the future of public health supply chain systems. *Glob Health Sci Pract*; 2, 4, 403-9. Retrieved from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4307857/pdf/403.pdf>.
- Caudron JM, Ford N, Henkens M et al. (2008). Substandard medicines in resource-poor settings: a problem that can no longer be ignored. *Trop Med Int Health*; 13, 8, 1062-72. Retrieved from: <https://onlinelibrary.wiley.com/doi/full/10.1111/j.1365-3156.2008.02106.x>.
- Leonard L (2005). Where there is no state: household strategies for the management of illness in Chad. *Soc Sci Med*, 61 229–243.

References

- Abbara A, Rawson TM, Karah N et al. (2018). Antimicrobial resistance in the context of the Syrian conflict: Drivers before and after the onset of conflict and key recommendations. *Int J Infect Dis*, 73, 1-6. Retrieved from: [https://www.ijidonline.com/article/S1201-9712\(18\)34416-3/pdf](https://www.ijidonline.com/article/S1201-9712(18)34416-3/pdf).
- Harpham T (2009). Urban health in developing countries: what do we know and where do we go? *Health & Place*, 15, 107–116.
- Kohler JC, Pavignani E, Michael M et al. (2012). An examination of pharmaceutical systems in severely disrupted healthcare systems. *BMC Intl Health Hum Rights*, 12, 34. Retrieved from: <https://bmcinthealthhumrights.biomedcentral.com/track/pdf/10.1186/1472-698X-12-34>.
- Jeene H (2017) Strengthening affordable access to quality essential medicines in Somalia. Unpublished report, commissioned by the Swiss Development Cooperation, Nairobi.
- Paterson A, Karimi A (2005). Understanding Markets in Afghanistan: a study of the market for pharmaceuticals. Kabul, Afghanistan. Afghanistan Research and Evaluation Unit. Retrieved from: <https://areu.org.af/wp-content/uploads/2015/12/532E-Market-for-Pharmaceuticals-CS-web.pdf>.

7

Cross-cutting domains

A. Health Governance

Key messages

Health governance is rarely confined to forces within a given society. Global and international actors also determine the characteristics of healthcare provision in most settings. New actors and facts on the ground change HG configurations, with new structures put in place in a transient or permanent way.

Governance embraces the whole health system, influencing all its interlinked and dynamic components. Understanding the way HG outcomes materialise requires the consideration of social determinants: values, perceptions and expectations inform healthcare decisions as much as technical considerations.

Appraising HG influence on healthcare provision is difficult, as no indicator can directly capture its multi-dimensional nature; considering outcome-oriented performance measures seems more productive than simply studying the formal functioning of the state administration. Network analysis can be especially useful in fragmented settings, crowded with disconnected actors.

Real-life governance dynamics may be appraised by observing the materialisation or otherwise of adopted policies, regulations and plans. Insights may also be obtained examining overlooked issues, perhaps due to their political consequence. The processes, rather than their contents, through which some health issues get traction while others are shelved, are of interest.

Dodgson et al. (2002) have defined health governance as the “actions and means a society adopts to organize itself for promoting and protecting the health of its population” (quoted in Kickbusch and Gleicher, 2012). This definition captures the social essence of health governance (HG). Moreover, a larger national governance framework (legal, political, societal, cultural, and from national down to the community level) informs the healthcare arena. But HG is rarely confined to forces within a given society. Global and international actors also determine the characteristics taken by healthcare provision in certain settings. This pattern is reinforced by turmoil. Mirroring vastly different societies, HG takes a variety of forms determined by social forces, circumstances and opportunities. Thus, it escapes easy categorisation using across-the-board frameworks.

Governance embraces the whole health system, as the mortar keeping its ‘building blocks’ together (Abimbola et al., 2017). This metaphor calls attention to the links between components, with the proviso that links are dynamic rather than

static (as mortar is). The particular circumstances of each crisis recommend the adoption of a distributed, social view of health governance, taking the form of problem-solving negotiated among multiple stakeholders (Pappas et al., 2008). Actually, the very term ‘governance’ is preferred when describing ambiguous situations, where the official government is challenged, but has not yet being replaced by durable forms of rule.

Conflict changes established HG configurations by bringing in new stakeholders and affecting old ones. Warring parties with their own respective foreign supporters, aid agencies and charities all become prominent players in the healthcare arena. Political and economic decay may reshuffle governance configurations as well. New HG structures may be put in place to offset the crumbling of previous ones, or kept in competition with them. They may be transient or become durable if the turmoil persists. HG may receive particular attention as a means to gain or deny legitimacy, acquiring in this case a strong political connotation (Jackson, 2018).

Stressors may generate novel patterns, spontaneously or purposefully introduced. For example, in Syria home care has expanded (MSF, 2016), a contingent response to violence that might plant a seed of family medicine if supported and developed. The frequently informal nature of such novelties hinders their study, therefore leading to their neglect by superficial observers. On the other hand, responses may become maladaptive as they get entrenched. For instance, under-funded urban facilities expand their offer of high-tech, curative care in order to raise revenues. Once the crisis abates, such resource-thirsty facilities tend to endure and even flourish, to the disadvantage of other healthcare provision outlets, possibly more beneficial in terms of population health. In this way, an unplanned change imposed by circumstances may produce long-term consequences. Shifting the policy discussion from past features to the emerging new patterns is vital. For instance, in many settings the formulation of an essential package of health services remains stuck to old models, with services delivered from static facilities by publicly-employed health professionals, hence missing the new characteristics acquired on the ground.

Appraising HG influence on healthcare provision presents marked difficulties, as no indicator can directly capture the multi-dimensional nature of health governance. Oftentimes, HG assessments drift their attention towards the formal functioning of the state administration (whose exploration tends to be easier), overlooking the forces around and within it, and their influence on its behaviour. Consequently, bureaucratic forms and official statements are mistaken for actual functions and intentions (Andrews et al., 2012).

HG under stress takes shape under assorted forces operating in large part outside official frameworks. The complex way in which these phenomena take place, and the transactions behind their occurrence, are more instructive of HG patterns than depictions derived from official organograms or norms. Crucially, the interpenetration of official and unofficial HG structures and dynamics must be appraised, as brilliantly shown by Jackson (2018) in Afghanistan. "Control is not an all-or-nothing, zero-sum equation; the reality is that parts of government continue to function in areas of Taliban control under a hybrid service delivery arrangement, and

the Taliban encourage government service delivery as long as this is according to their rules. There are no clear dividing lines on where Taliban influence begins and ends, as illustrated by the gradual, creeping quality of Taliban authority described by so many interviewees."

Box 6. Hybrid governance configurations

In North-Eastern Syria (NES), an autonomous (but not officially recognised) region has emerged. The Kurdish "Autonomous Administration of North and East Syria", previously called Rojava, and the Syrian government tacitly coexist in an uneasy peaceful relationship, occasionally interrupted by security incidents. While the Kurdish security forces control most of the region, and exerts therein traditional state functions in a very decentralised model, the government of Damascus ensures its symbolic presence through few strategic assets (the airport, the national hospitals and some public buildings), and by keeping most of the health personnel on its payroll, although at very low salary levels, due to devaluation. Moreover, most health infrastructure still belongs officially to the central government. With Daesh retreating, the announced withdrawal of US troops, several rebel groups still active in Idlib and the aggressive Turkish presence along its border, the political future of NES remains open.

To study real-life HG, a more promising approach is to first consider outcome-oriented performance measures (Fryatt et al., 2017), such as actual workloads, maintenance levels of facilities and equipment, availability and quality of medicines. Then, the HG processes that produced such results can be tracked. Before assuming that some outcomes recurring across vastly different crises are caused by similar dynamics, their contextual determinants should be identified. For instance, healthcare provision is backed by Islamic charities

in many settings, but presents a strong business flavour in Somalia, whereas their political orientation is clearly recognisable in the Levant.

Understanding the way HG outcomes materialise requires the consideration of social determinants: values, perceptions and expectations inform healthcare decisions as much as technical considerations. In fact, “...the values of the system are reflected in resource flows; resources and capacity impact on attitudes and perceptions; and attitudes and perceptions impact on the use of capacity and contribute to enforcing or changing values” (Cleary et al., 2013). In the process, much misunderstanding between health professionals and lay opinion-makers may occur. The struggle over polio immunisation in Pakistan is as instructive a case as any (Taylor, 2015).

The translation of adopted policies into reality depends on the interplay of factors and stakeholders. Policy processes may be spearheaded by donors, or arise in response to domestic pressures. Thus, an internationally-sanctioned model adopted by national health authorities may be amended by providers to become a practice bearing little resemblance to the prototype (Olivier de Sardan et al., 2017). See for an eloquent example family medicine, declared a preferential policy in many healthcare arenas, which has not yet come to fruition due to a convergence of professional, political, business and aid forces favouring hospital care.

Observing the materialisation or otherwise of adopted policies is very instructive of real-life governance dynamics. Insights may also be obtained examining the important issues that are overlooked by stakeholders, perhaps due to their political consequence. The processes, rather than their contents, through which some health policies are carried forward while others do not get enough traction, are of interest. Regarding such policy processes as natural experiments in health governance waiting to be unpacked, may offer precious insights about the factors shaping them, the way they evolve over time, the direction they are heading towards, and the interactions of the main stakeholders.

Influential actors, structures and institutions on the healthcare stage, with their role, power

and influence on the HS and their respective agendas, must be mapped. Network analysis can be especially useful in fragmented settings; it can help identify both actors and structures shaping healthcare provision (Blanchet and Shearer, 2017). The healthcare arena is crowded with actors (often operating outside official channels), who are reshaping the old state system in intricate ways (Reich, 2002):

Actors from outside / above include global health initiatives, international agencies and charities, donors, multinationals, advocacy groups, solidarity networks, political allies.

Actors from within: central ministries, local health authorities (devolved or in opposition), healthcare purchasing bodies, autonomous hospitals, private providers.

Actors from below: healthcare users, migrants, civil-society organisations, faith-based networks, health professionals, local charities, pharmaceutical dealers, smugglers, informal providers.

In distressed healthcare arenas, regulation is rarely studied in depth. HSAs may overlook it in light of the prevailing laissez-faire, or explore it in quite narrow ways, i.e. by looking at the state regulation of private providers. This approach neglects the blurring of the boundaries between public and private provision. The general principle that the two streams are intimately linked and cannot be analysed in isolation (Mackintosh et al., 2016) applies to a greater extent to turbulent healthcare markets. Thus, quality assurance, pricing and user protection should be pursued across the arena, by using similar levers given the commercial orientation of most providers. Such sophisticated regulatory functions are unlikely to be ensured by struggling health authorities, themselves involved in service delivery across the official market divide, and lacking the necessary information.

Another justification for neglecting the analysis of regulation is assuming that most of it has decayed to the point of becoming irrelevant. In reality, many regulations remain in place, offering state agents plenty of room for rent extraction or arbitrary interference. For instance, cumbersome, expensive and demanding licensing requirements

motivate private entrepreneurs to bribe their way out. Under this light, understanding misfiring regulatory provisions becomes essential to make sense of patterns and behaviour easily dismissed as aberrant. The design of the existing regulations must also be appraised, because the cost of their enforcement may exceed their returns (Bloom et al., 2014). Ignoring or bending them would signal good-management practice, rather than disarray.

The third reason discouraging the analysis of the regulation field is the difficulty of introducing effective measures in poorly-studied health markets, the protracted effort demanded, and the political risks implied. Far from melting away as often assumed, health authorities have in many contexts withstood decades of hardship, and learnt to exercise power and extract revenues by delaying, distort or stop operations, rather than promoting them. Such an evolution has been described in detail in the DR Congo (Trefon, 2009), but is recognisable also elsewhere. In Iraq, the central state intervenes with proliferating requirements in most transactions, decentralisation intentions notwithstanding.

The regulatory effects of measures introduced with other aims should be identified and appraised. Funding conditions may raise quality standards, provided the funding body is able to verify compliance and withdraw payments if required. Donors have demanded to NGOs the delivery of a basic package of essential services, in order to tap their funding in opposition-held Syria and Somalia. Third-party verification would be needed to give teeth to such requirement, which is unfortunately inapplicable in many circumstances. Stress-induced experiments fall short of displaying full regulatory features, but may induce the acquisition of skills needed by effective regulatory regimes, such as quality assessment, cost estimation, contract negotiation and fulfilment.

Social franchising has attracted some interest, as a way to harness market forces in the pursuit of public goods. In free-for-all healthcare arenas crowded with informal providers, it offers competitive advantages in exchange for better services. Despite its appeal, in troubled settings social franchising has not expanded beyond promising pilots. In this case as well, obstacles to verification constrain its effectiveness, and shaky enforcement weakens its allure.

In the disease-control field, the conflict between state sovereignty and global demands is made manifest. Embattled states may be insensitive to disease transmission outside their reach. The International Health Regulations (IHR) “...emphasize central capacity-building and institutional oversight in a way that may no longer be practical in Syria, both because government legitimacy is essentially contested and because governance structures are fragmented” (Ismail et al., 2016). Such inapplicability, quite the norm in settings partitioned by frontlines, calls for the establishment of tailored trans-national mechanisms. The recurrent calls for strengthening state structures in order to serve IHR seem missing the point.

A HG remit attracting considerable attention relates to external assistance. In settings seeing conspicuous donor engagement, elaborate coordination structures have been established, and aid management tools introduced. In their analysis, “...the overfocus on the processes of how aid is provided has distracted attention from what aid achieves” (Dodd et al., 2013). The HSA must try to redress this imbalance, through attendance to coordination events, interviews with informants and perusal of the available documentation. Care is needed, however, in identifying absent players alongside participant ones, with the respective motivations. The same evenness applies about eliciting the views of informants about coordination dynamics and worth. Additionally, in partitioned settings aid coordination hubs must be mapped in order to gauge their respective reach and substance. In Syria and Somalia, aid coordination is pursued in several venues, without much interaction among them.

The aid management discourse revolves around frustrated admissions of malfunctioning, generating periodic reform waves. “There is indeed no shortage of coordination mechanisms; the benefits of coordination, however, seem to remain elusive” (Schmidt, 2013). New structures replace old ones, pretending to attain better results. Powerful organisational incentives explain to a large extent the failure of such recurrent reforms (Konyndyk, 2018). “Recurring coordination problems... are produced by a crowded and highly competitive aid market in which multiple organizations compete for contracts from the same donors” (Cooley and Ron, 2002).

One prominent aid-related concern is the relationship between humanitarian and development intervention, recently articulated as a nexus. On the ground, both humanitarianism and development are changing, to the point of coalescing in their purposes, ways of working (and intrinsic limitations). Humanitarian aid is expanding its mandate, commitments and financial turnover, getting entangled in protracted operations in messy settings, where traditional relief models are inapplicable. Development aid is under pressure, due to the diminished / challenged role of governments, the obsolescence of inter-state relationships, and ubiquitous wicked problems, which cannot be addressed by conventional linear programming. The appraisal of such a nexus is more instructive at the service delivery point than at donor headquarters, where these aid streams are kept apart.

The influence of the aid management tools on HG configurations should be assessed. A performing instrument may give leverage to recovering health authorities, whereas an unwieldy one may absorb most of the available capacity, and in turn deny attention to other pressing concerns. The Liberia Health Sector Pool Fund offers a model to be considered in other transitional settings, for its robust design and responsiveness (Hughes et al., 2012). On the other hand, after having been experimented in many distressed settings, multi-donor trust funds have lost appeal. Cumbersome, slow and costly operations inadequately tailored to specific conditions, unresponsiveness to unforeseen events and lack of strategic direction recommend their replacement with nimbler instruments, as the Health Transition Fund introduced in tricky political circumstances in Zimbabwe (Salama et al., 2014).

HEALTH GOVERNANCE	
ASPECTS TO BE STUDIED	EXAMPLES, TIPS AND RECOMMENDED READING
<p>The HG landscape, appraised in its broad contours: main recognisable structures, actors and respective interlinks, as they evolve over time.</p> <p>In most cases, such a landscape criss-crosses official borders, with far-reaching links.</p>	<p>Tip: in most cases, making sense of the HG setup demands a backward analysis, which takes on board long-term determinants. Any interpretation confined to the present situation is likely to be shallow. For instance, without taking into consideration the sanctions applied to Iraq decades ago, the parlous conditions of its present healthcare system cannot be understood.</p>
<p>Zooming-in, to describe local HG setups, valuable for their consequence and/or diversity.</p>	<p>Example: in Lebanon, Hezbollah operates a quite sizeable healthcare network, key component of its political agenda. It is overlooked in most studies of the Lebanese healthcare arena, due to its peculiarity.</p> <p>Recommended reading: Cammett, 2014.</p>
<p>Main HG actors. What are their main concerns? What are their relationships?</p> <p>Actors from outside / above.</p> <p>Actors from within.</p> <p>Actors from below.</p> <p>Different values, perceptions and expectations of the main actors.</p>	<p>Beware: bitter enemies are often forced to collaborate, due to necessity or convenience. For instance, the smuggling of medicines into besieged areas demands the (usually unreported) collaboration of enemies.</p>

HEALTH GOVERNANCE	
ASPECTS TO BE STUDIED	EXAMPLES, TIPS AND RECOMMENDED READING
Informal / underground networks recognisable in the HG arena, which may be of great consequence.	Example: in Afghanistan, interacting with the Taliban is necessary in order to deliver health services. Such interactions are discreetly entertained by isolated providers, because of the legal and funding implications. The gained experience remains under the radar, not discussed nor shared with funding bodies, which prefer to ignore such a crucial issue (Jackson, 2018).
To what degree do stated policies match field realities? Are they appropriate to context (present and future)? Feasible? Realistic? Sustainable in the long term?	Remark: some health policies and plans are not enacted to be enforced, but rather to attract external support. Paying attention only to their implementation would be reductive. To appraise health policies and plans, the checklist proposed by Pavignani and Colombo (2016) in Annex 13.1 might be useful.
Are important health policy initiatives under way or in the pipeline? Are they imported or indigenous?	Remark: relevance, appropriateness and feasibility of such initiatives should be appraised. Their comparative potential in terms of healthcare improvements should be weighed against the attentions and resources they attract.
Regulation capacity, in the past and as it has evolved under stress. Traditions, resources, skills, reputation of regulatory bodies. Interactions between stakeholders in the regulation field. Sound regulations whose enforcement should be encouraged, vs. flawed, harmful ones.	Remark: few studies of regulation in troubled settings have been carried out. See WHO-EMRO, 2014 on Yemen, and Cross et al. (2016) on Afghanistan.
Coordination of external assistance (or otherwise lack of it). Effectiveness and efficiency of the present coordination settings (cluster-like or others). Humanitarian vs. development aid coordination.	Recommended reading: Schmidt, 2013 (on Somalia); Ntembwa and Van Lerberghe, 2015 (on DR Congo).
Aid management tools in place or under discussion.	Remark: aid management tools alter the health governance scene, the interplay of stakeholders, and the relative prominence of policy issues. Appraising only their technical aspects is short-sighted.

HEALTH GOVERNANCE

ASPECTS TO BE STUDIED	EXAMPLES, TIPS AND RECOMMENDED READING
<p>A major issue affecting healthcare provision might be selected for deeper study. Its actors, as well as the contextual forces bearing an influence on it, should be identified. Past intervention attempts should be tracked, trying to gauge their soundness and results.</p>	<p>Examples: in Iraq, a major issue deserving a thorough exploration could be dual practice. In Somalia, privatisation. In Pakistan, decentralisation in the health field.</p> <p>Tip: after consulting the available documentation, a thematic group discussion can help understanding the sequence of events, measures and reactions that led to the present situation.</p>
<p>Main knowledge gaps to be addressed by dedicated studies.</p>	<p>Questions: are key policy issues remaining unrecognised by the main actors? What reasons might explain their neglect? What could be done to raise awareness in their respect?</p> <p>Remark: the HSA process may affect the policy debate, drawing attention on neglected issues. Organisational priorities, such as a flagship delivery model or an ideological posture, may however resist such revision of the policy agenda.</p>

Recommended reading

- Abimbola S, Negin J, Martiniuk AL, Jan S (2017). Institutional analysis of health system governance. *Health Pol Plan*, 32, 1337–1344. Retrieved from: <https://academic.oup.com/heapol/article/32/9/1337/3952584>.
- Bloom G, Henson S, Peters DH (2014). Innovation in regulation of rapidly changing health markets. *Globalization and Health*, 10:53.
- Reich MR (2002). Reshaping the state from above, from within, from below: implications for public health. *Soc Sci Med*, 54:1669–1675.
- Schmidt A (2013). Coordinating development in conflict states: donor networks in Somalia. *IDS Bulletin*, Volume 44 Number 1.
- Van Lerberghe W, Mechbal A, Kronfol N (2018). The collaborative governance of Lebanon's health sector. Twenty years of efforts to transform health system performance. Policy Support Observatory. Retrieved from: <https://www.moph.gov.lb/en/Pages/0/18161/the-collaborative-governance-of-lebanon's-health-sector>.

References

- Andrews M, Pritchett L, Woolcock M (2012). Escaping capability traps through problem-driven iterative adaptation (PDIA). CGD Working Paper 299. Center for Global Development. Retrieved from: https://www.cgdev.org/sites/default/files/1426292_file_Andrews_Pritchett_Woolcock_traps_FINAL_0.pdf.
- Blanchet K, Shearer J (2017). Network analysis: a tool for understanding social network behaviour of a system. In: de Savigny D, Blanchet K, Adam T. *Applied systems thinking for health systems research. A methodological handbook*. Open University Press.
- Cammatt MC (2014). Sectarian politics and social welfare: non-state provision in Lebanon. Chapter 7 in: Cammatt M and MacLean LM. *The politics of non-state social welfare*. Cornell University Press.
- Cleary SM, Molyneux S, Gilson L (2013). Resources, attitudes and culture: an understanding of the factors that influence the functioning of accountability mechanisms in primary health care settings. *BMC Health Serv Res*, 13: 320. Retrieved from: <https://bmchealthservres.biomedcentral.com/track/pdf/10.1186/1472-6963-13-320>.
- Cooley A, Ron J (2002). The NGO scramble. *Organizational insecurity and the political economy of transnational action*. *International Security*, 27, 1, pp. 5–39.

- Cross HE, Sayedi O, Irani L, Archer LC, Sears K, Sharma S (2016). Government stewardship of the for-profit private health sector in Afghanistan. *Health Policy and Planning*, 1–11. doi: 10.1093/heapol/czw130.
- Dodd R, Dickinson C, Hannah E, Young R, Fairfax J, Waddington C (2013). Aid effectiveness: a relevant agenda for the Asia Pacific Region? HLSP Institute.
- Fryatt, R, Bennett S, Soucat A (2017). Health sector governance: should we be investing more? *BMJ Glob Health*, 2:e000343. doi:10.1136/bmjgh-2017-000343. Retrieved from: <https://gh.bmj.com/content/bmjgh/2/2/e000343.full.pdf>.
- Hughes J, Glassman A, Gwenigale W (2012). Innovative financing in early recovery: the Liberia Health Sector Pool Fund. Center for Global Development. Working Paper 288.
- Ismail SA, Abbara A, Collin SM, Orcutt M, Coutts AP, Maziak W, Sahloul Z, Dar O, Corrah T, Fouad MF (2016). Communicable disease surveillance and control in the context of conflict and mass displacement in Syria. *International Journal of Infectious Diseases*, 47: 15–22.
- Jackson A (2018). Life under the Taliban shadow government. ODI. Retrieved from: <https://www.odi.org/sites/odi.org.uk/files/resource-documents/12269.pdf>.
- Kickbusch I and Gleicher D (2012). Governance for health in the 21st century. World Health Organization; Regional Office for Europe. Retrieved from: http://www.euro.who.int/_data/assets/pdf_file/0019/171334/RC62BD01-Governance-for-Health-Web.pdf.
- Konyndyk J (2018). Rethinking the humanitarian business model. CGD Brief. Center for Global Development.
- Mackintosh M, Channon A, Karan A, Selvaraj S, Zhao H, Cavagnero E (2016). What is the private sector? Understanding private provision in the health systems of low-income and middle-income countries. *Lancet*, 388: 596–605.
- Médecins Sans Frontières (2016). East Daraa, Syria baseline assessment. Centre for the Advancement of Humanitarian Medicine. Retrieved from: <https://reliefweb.int/sites/reliefweb.int/files/resources/east-daraa-baseline-syria.pdf>.
- Ntembwa KH, Van Lerberghe W (2015). Democratic Republic of the Congo: improving aid coordination in the Health Sector. World Health Organisation.
- Olivier de Sardan JP, Diarra A, Moha M (2017). Travelling models and the challenge of pragmatic contexts and practical norms: the case of maternal health. *Health Res Policy Sys*, 15, 1, 60. Retrieved from: <https://health-policy-systems.biomedcentral.com/track/pdf/10.1186/s12961-017-0213-9>.
- Pappas G, Ghaffar A, Masud T et al. (2008). Governance and health sector development: a case study of Pakistan. *The Internet J World Health Soc Politics*, 7, 1. Retrieved from: <https://print.ispub.com/api/0/ispub-article/12487>.
- Pavignani E, Colombo S (2016). Strategizing in distressed health contexts. In G. Schmets, D. Rajan, S. Kadandale (Eds.) *Strategizing national health in the 21st century: A handbook*. Geneva, WHO. Retrieved from: <https://www.who.int/healthsystems/publications/nhpsp-handbook-ch13/en/>.
- Salama P, Ha W, Negin J, Muradzikwa S (2014). Post-crisis Zimbabwe's innovative financing mechanisms in the social sectors: a practical approach to implementing the new deal for engagement in fragile states. *BMC International Health and Human Rights*, 14:35.
- Taylor SAJ (2015). Culture and behaviour in mass health interventions: lessons from the global polio eradication initiative. *Crit Public Health*, 25:2, 192-204.
- Trefon T (2009). Public service provision in a failed state: looking beyond predation in the Democratic Republic of Congo. *Review of African Political Economy*, 36: 119, 9-21.
- World Health Organization. Regional Office for the Eastern Mediterranean (2014). *Assessing the regulation of the private health sector in the Eastern Mediterranean Region: Yemen*.

B. Health information and knowledge management

Key messages

Information disperses, and its completeness and quality degenerates, in parallel with the fragmentation of the healthcare arena under stress and the pressures of different actors. Decisions are to be made on the basis of incomplete, imperfect and contested information. Many factors contribute to this recurring pattern, with politics and security playing a critical role in the deterioration of information.

Tools and frameworks for information management, which were conceived for stable settings, are not suitable in crisis environments, where the routine Health Information Systems are usually in disarray. Household surveys face a lot of methodological and logistical obstacles and require time for producing information that can quickly become obsolete in dynamic contexts.

Quantitative data, almost invariably incomplete and of limited quality can be enriched by the qualitative insights of informants, who may offer interpretations that confirm or contradict initial intuitions and provide new information. Through iterative cycles of data collection and analysis, and consultation with informants, the understanding of key HS problems will improve.

“Humanitarian contexts are almost by definition ‘non-ideal’ (Darcy et al., 2013). They are unstable, unpredictable and uncontrollable, and “... render the collection of data difficult or impossible and limit the types of studies that can take place. When data collection is possible, the reliability, representativeness, and generalizability of the data may be limited by questions of access and numerous biases...” (Krystalli and Ott, 2015). Blind spots and omissions are unavoidable.

Just as the healthcare arena fragments under the impact of the crisis and the pressures of different actors, so information and knowledge disperse, and its completeness and quality degenerate: “the poorer and more disrupted the society, the less likely reliable data will be available” (Menkhous, 2004). Decisions are to be made on the basis of incomplete, imperfect and contested information, derived from ‘FUPS’ (Flawed, Uncertain, Proximate and Sparse) routine datasets (Wolpert and Rutter, 2018).

There are multiple and interdependent causes of this pattern. Urgent, competing priorities distract energies from the maintenance of routine information systems, which collapse. Tools for data collection and indicators proliferate, under the thrust of vertical programmes and funding requirements:

their harmonisation becomes difficult, if not impossible. The focus is more on production of data than on their analysis, interpretation and use. The quality of data that are not analysed nor used tends to decay. Surveys multiply: the consolidation of their findings is hindered by their different methods and data collection instruments. Some areas may become inaccessible due to the violence: little or no information about the needs of the population living therein reaches the national authorities and humanitarian agencies. The flight of health workers to more secure areas and the high turnover of humanitarians undermine local contextual knowledge. Medical records are lost or destroyed.

Some information is politically sensitive and is, therefore, not shared. An authoritarian tradition may restrict the circulation of information regardless of its objective sensitivity. In Iraq and Syria, the scrutiny of the pre-conflict situation is hampered by the shaky knowledge of the senior officials remaining in post, compounded by the scarcity of published documents. The true patterns of the pre-conflict healthcare arena, shrouded in a confidentiality cloud, were known only to a restricted elite, difficult to approach and unlikely to collaborate with outside researchers.

Political biases and manipulation of information for partisan reasons – strategic disinformation - become common practice in polarised contexts: they are instrumental in confirming pre-conceived ideas and support established agendas. Competition for funding among humanitarian agencies discourages information sharing (Mills et al., 2005). Information shortcomings should be appraised against the claims of progress raised by programme advocates. Recognising that a system unable to interpret itself is unlikely to be robust raises the suspicion that such information inadequacy is not completely accidental.

The Health Information System (HIS) is idealised as “a set of components and procedures organized with the objective of generating information which will improve health care management decisions at all levels of the health system” (Lippeveld et al., 2000). It should consist of sub-systems, whose data derive from different sources: health activities, health service assessments, surveillance systems, ad hoc monitoring mechanisms of programmes and projects, household surveys, censuses, annual sector reviews, and administrative data. Each sub-system, in turn, comprises different data collection sources and processes, each one with its own elements, tools and channels. A crisis impacts on each of these sub-systems, but with a different intensity. For example, a census is usually not carried out during a conflict: lack of security, population displacements, context dynamics and limited financial resources would make the exercise irrelevant and / or impossible. The same constraints also affect national health surveys, like DHS and MICS.

Completeness and quality of each facility’s routine data suffer enormously from the disruption of service delivery: aggregate data on volume of activities and disease patterns become difficult to interpret and use, or even meaningless. Reviving routine HIS in unstable environments, such as Somalia or opposition areas in Syria, does not yield positive results in the medium-term. In fact, the experience shows that the fragmentation of service provision with multiple providers, the pressure of donors and managers to obtain some indicators, the dynamic context characterised by population movements, turnover of agencies and staff, and changing accessibility of areas, all militate against an effective and standardised collection and use of data on a continuous base. Moreover, the protracted

investment demanded for a routine information system to function satisfactorily postpones its returns into a distant future, whereas information needs are pressing.

Vertical programmes often fund information systems devoted to a subset of conditions, such as maternal and child health and infectious diseases. These new systems tend to introduce new reporting forms and indicators. They result in a heavy burden for the already overstretched health personnel, disinclined to worry about accuracy, and contribute to the fragmentation of information. At the local level, conversely, HIS components may be supported by partners and produce useful indicators, sometimes with the use of innovative technologies and electronic database platforms like the DHIS.2.

Several instruments are available for the assessment of national HIS: the WHO-Health Metrics Network tool (WHO, 2008), the USAID-MEASURE guidance (USAID-MEASURE, 2018), and one module of the Health Systems Assessment Approach (USAID, 2017). The Performance Routine Information System Management (PRISM) framework describes the technical, behavioural and organisational determinants that influence the quality of data produced and their use and, therefore of HS performance and health outcomes (Aqil et al., 2009). The WHO IHP+ M&E framework shows how system inputs and processes, outputs, outcomes, and impact of the monitoring of national strategies are linked in a results-chain model (WHO/IHP+, 2011). A toolkit for assessing the quality of health facility-reported data has been recently published (WHO, 2017). These tools and frameworks, however, were conceived for stable settings, in which HIS are in place and functioning, although with weaknesses in some of their components. In crisis environments, however, HIS are usually in disarray, particularly in their routine components: “War and disasters, however, disproportionately occur in countries where public health information systems are already weak. Crises compound these weaknesses by further disrupting government services” (Checchi et al., 2017).

The analysts of troubled HSs are initially confronted with limited, poor-quality and contradictory information. With persistence, they can gradually

improve their understanding of key HS issues. This can be done by applying filters (discarding irrelevant and/or technically inadequate information); by aggregation (accumulating evidence from multiple sources that present consistent findings); by triangulation (contrasting information from diverse sources, possibly independent of each other, and obtained from different methods, both quantitative and qualitative) and by applying lessons learned from other relevant crisis settings. The assessment will also aim to identify information gaps and confusing issues that require further exploration and study, and will present possible biases and limitations in the reviewed documentation.

A logical though not rigid sequence suggests starting with the analysis of available quantitative information, pulling together data generated by different sources, assessing their quality²⁰, validating them, synthesising them and attempting an initial interpretation of patterns and trends. Methods and standards exist to assess the quality

of nutrition and mortality survey in emergencies (Prudhon et al., 2011) and more generally for public health information services (Global Health Cluster, 2017). Guidelines alone, however, are not enough: information management consistently scores as a poorly performing domain in the evaluations of humanitarian crises.

Emerging issues and patterns will then be enriched by qualitative insights of informants, who may offer interpretations that confirm or contradict initial intuitions, provide new information and encourage the analysts to look again at data and notes from interviews. ‘Snowball’ sampling methods, whereby one informant gives the analyst the name of another informant and so on, is a common way to overcome the challenges of identifying sources of information and, at the same time, to improve the trust of informants (Cohen and Arieli, 2011). Through iterative cycles of data collection and analysis, and consultation with informants the understanding of key HS problems will improve.

HEALTH INFORMATION AND KNOWLEDGE MANAGEMENT	
ASPECTS TO BE STUDIED	EXAMPLES, TIPS AND RECOMMENDED READING
<p>The information environment: what sort of information is generated, by which sources? Harmonisation and integration of various sub-components</p>	<p>Mapping health information should include:</p> <ul style="list-style-type: none"> . census, last date; availability of projections . countrywide population-based surveys (DHS, MICS, other); date, availability of reports . other HH health & nutrition surveys: organisation; date; availability of reports <ul style="list-style-type: none"> - health facility data: what is the status (quality, completeness, timeliness)? Are they used by key actors? <p>HMIS routine data</p> <ul style="list-style-type: none"> . disease surveillance: what is the status (quality, completeness, timeliness)? Are they used by key actors? . administrative data (HRH, finance): what is the status (quality, completeness, timeliness)? Are they used by key actors? . logistic data: what is the status (quality, completeness, timeliness)? Are they used by key actors? . other relevant data?

HEALTH INFORMATION AND KNOWLEDGE MANAGEMENT

ASPECTS TO BE STUDIED	EXAMPLES, TIPS AND RECOMMENDED READING
Sub-national data, covering distressed regions and/or marginalised groups	<p>Remark: protracted, severe stress increases the internal diversity of a healthcare arena. The value of national data decreases accordingly.</p> <p>Remark: territorial partition stimulates the establishment of disconnected data gathering systems.</p>
Description of the institutional framework and partners: Government departments, institutions, and other actors with a role in HI.	
National and sub-national health sector reviews and other M&E processes	Periodicity; scope of reviews; participants; availability of reports.
Description of HIS human resources (qualitative assessment of capacities, main gaps)	Qualitative assessment.
Communication infrastructure and platforms (paper or electronic-based, internet status, use of electronic platforms like DHIS, hardware and software, databases)	Qualitative assessment.
Influence of the available information on policies and decisions. How useful is the information as perceived by key actors and decision-makers? What are the main weaknesses in this area?	<p>Is it ignored because irrelevant? Or is it regarded as flawed? And is it really poor?</p> <p>True story: at an international meeting held in 2018, a participant stated that since 2002 the progress registered in Afghanistan was immense, but information collection and analysis was still inadequate. Privately questioned about this discrepancy, he suggested that information capacity might be intentionally maintained weak, because its strengthening would unveil the many shortcomings conveniently overlooked by the dominant discourse.</p> <p>Recommended reading: Jerven, 2013.</p>
Robustness of widely-held beliefs, regarded as proven facts: are their sources known? Are they founded on solid information?	See Olivier and Wodon (2012), for an illuminating example of an internationally-accepted estimate, which is not based on any thorough measurement.
Main knowledge gaps to be addressed with dedicated studies.	Local capacity to carry out these studies. Their feasibility, given the circumstances. Common study design pitfalls, to be considered.

HEALTH INFORMATION AND KNOWLEDGE MANAGEMENT

ASPECTS TO BE STUDIED	EXAMPLES, TIPS AND RECOMMENDED READING
Main HIS issues recurring in crises.	Recommended reading: Colombo and Checchi, 2018.
Are attempts at reviving the HIS under way, or on the drawing board? If yes, which are the actors/agencies promoting such attempts?	Are such attempts based on global standards, or adapted to the conditions prevailing in the distressed healthcare arena? Should they be supported, or rather discouraged?

Recommended reading

- Darcy J, Stobaugh H, Walker P et al. (2013). The use of evidence in humanitarian decision making. ACAPS operational learning paper. ACAPS; TUFTS University. Retrieved from: http://fic.tufts.edu/assets/TUFTS_1306_ACAPS_3_online.pdf.
- Krystalli R, Ott E (2015). Evidence synthesis in the humanitarian sector: A humanitarian evidence programme guidance note. Oxford/Somerville, MA: Oxfam/Feinstein International Center. Retrieved from: www.alnap.org/help-library/evidence-synthesis-in-the-humanitarian-sector-a-humanitarian-evidence-programme.

References

- Aqil A, Lippeveld T, Hozumi D (2009). PRISM framework: a paradigm shift for designing, strengthening and evaluating routine health information systems. *Health Pol Plan*, 24:217-228. Retrieved from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2670976/pdf/czp010.pdf>.
- Checchi F, Warsame A, Treacy-Wong V et al. (2017). Public health information in crisis-affected populations: a review of methods and their use for advocacy and action. *Lancet*, [http://dx.doi.org/10.1016/S0140-6736\(17\)30702-X](http://dx.doi.org/10.1016/S0140-6736(17)30702-X).
- Cohen N, Arieli T (2011). Field research in conflict environments: Methodological challenges and snowball sampling. *Journal of Peace Research*, 48(4) 423-435. Retrieved from: <https://journals.sagepub.com/doi/abs/10.1177/0022343311405698?journalCode=jpra>.
- Colombo S, Checchi F (2018). Decision-making in humanitarian crises: politics, and not only evidence, is the problem. *Epidemiol Prev*, 42 (3-4), 214-225. Retrieved from: http://www.epiprev.it/materiali/2018/EP3-4/EP3-4_214-art1.pdf.
- Global Health Cluster (2017). Standards for public health information services in activated health clusters and other humanitarian health coordination mechanisms. Retrieved from: <http://www.who.int/health-cluster/resources/publications/Final-PHIS-Standards.pdf>.
- Jerven M, 2013. *Poor numbers. How we are misled by African development statistics and what to do about it.* Ithaca and London: Cornell University Press.
- Lippeveld T, Sauerborn R, Bodart C eds. (2000). *Design and Implementation of Health Information Systems.* Geneva, WHO. Retrieved from: <https://apps.who.int/iris/handle/10665/42289>.
- Menkhous K (2004). *Impact assessment in post-conflict peacebuilding.* Interpeace, Geneva. Retrieved from: http://pdf2.hegoa.efaber.net/entry/content/643/3_Impact_Assessment_in.pdf.
- Mills EJ (2005). Sharing evidence on humanitarian relief. *BMJ*, 331:1485-86. Retrieved from: <https://www.bmj.com/content/bmj/331/7531/1485.full.pdf>.
- Olivier J, Wodon Q. (2012) Playing broken telephone: assessing faith-inspired health care provision in Africa. *Development in Practice*, 22:5-6, 819-834.
- Prudhon C, de Radiguès X, Dale N et al. (2011). An algorithm to assess methodological quality of nutrition and mortality cross-sectional surveys: development and application to surveys conducted in Darfur, Sudan. *Popul Health Metr*, 9;9(1):57. Retrieved from: <https://pophealthmetrics.biomedcentral.com/track/pdf/10.1186/1478-7954-9-57>.
- USAID, MEASURE Evaluation (2018). *Assessing and improving the capacity of monitoring and evaluation and health information systems. Guidance.* Retrieved from: <https://www.measureevaluation.org/resources/publications/tr-18-237a>.

- USAID (2017). Health Systems Assessment Approach: A How-to Manual; version 3.0. Retrieved from: <https://hsaamannual.org/download-the-pdf/>.
- Wolpert M, Rutter H (2018). Using flawed, uncertain, proximate and sparse (FUPS) data in the context of complexity: learning from the case of child mental health. BMC Med, 16: 82. R: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5998597/pdf/12916_2018_Article_1079.pdf.
- WHO (2017). Data quality review: a toolkit for facility data quality assessment: module 1: framework and metrics. Retrieved from: <http://www.who.int/iris/handle/10665/259224>.
- WHO, IHP+ (2011). Monitoring, evaluation and review of national health strategies: a country-led platform for information and accountability. Retrieved from: http://www.who.int/healthinfo/country_monitoring_evaluation/1085_IER_131011_web.pdf.
- WHO, Health Metrics Network (2008). Assessing the national health information system: an assessment tool. Version 4.00. Retrieved from: http://apps.who.int/iris/bitstream/handle/10665/43932/9789241547512_eng.pdf?sequence=1&isAllowed=y.

C. Healthcare provision

Key messages

Modalities of health care provision tend to vary in the diversity of distressed settings, with new actors providing different approaches and models of service delivery, the fragmentation of services, the inequality in standards of healthcare and with the adaptation of the pre-existing HS to the new conditions.

The traditional model of relief based on the provision of PHC in crowded refugee and IDP camps, complementing or bypassing host health services is no longer the norm, given the dispersion of affected communities outside of camps and in towns. HS analysts need to pay attention to the variety of modalities of healthcare provision: cross-border programmes, mobile health units, slum health care, trauma care, etc. that are put in place to respond to health needs in the complex context of present crises.

Assembling a comprehensive picture of a healthcare arena going through difficult times, with its various modalities of healthcare provision, demands protracted effort. Many participants hold pieces of information about discrete elements of the healthcare arena: it is as if they see the plants, animals and rocks, without seeing the ecosystem. Precisely for this reason, comprehensiveness is the central characteristic of a useful HSA. The analysts might start by appraising the whole healthcare landscape (within and without recognised borders), and progressively zoom in to penetrate specific situations of interest. This preliminary overview should identify gradients of violence, diverse health needs, resource differentials, different actors and service delivery models.

In light of the prevailing fragmentation, alongside barriers to communication between the healthcare arena components, some missing aspects are likely, be they related to context, actor or pattern. To guide such an exploration, three dimensions of analysis are proposed below, followed by a grid that looks at their interactions.

A variety of contexts, often coexisting, are recognizable:

- **Refugee / IDP settings**
- **Safe havens:** cities controlled by government, or splinter regions
- **Besieged areas**
- **Rebel-held areas,** where local health systems may have been implanted, or are emerging, with the support of external players, public or private
- **Across frontlines and borders**
- Derelict, violent, fast-growing cities, where most displaced people settle
- **Nomadic populations,** usually neglected by health authorities and international agencies alike.
- **Newly-opened areas and returnees**
- **Peaceful, but remote and poor communities,** deprived of government services, as well as of relief ones.
- **'Complex' disasters,** such as Haiti (with both earthquake and cholera), with a mix of humanitarian and recovery needs
- **Food crises,** with loss of livelihood, population displacement, collapse of institutions.

Healthcare providers are usually multiple and diverse:

- Standard public health services (often partitioned)
- NGOs / charities, local and foreign
- Red Cross/Crescent movement
- Multilateral agencies, like the UN
- Disease-control programmes / Global Health Initiatives
- Army health services (indigenous and foreign)
- Providers affiliated to / supported by political / religious organisations
- Private operators of assorted skill levels (including traditional healers)
- Trans-border healthcare providers.
- Informal health care providers

Certain patterns recur across crises:

- **Fragmentation:** providers, standards, delivery models, supply lines multiply (within and without the country); national/local authorities and coordination mechanisms are powerless to control it.
- **Mindsets, social norms and behaviours are often resistant to change**, despite the fading away of the original conditions that produced them. Thus, many decision-makers in the Levant still conceive of health care as a doctor- and hospital-centred realm, to be mostly the responsibility of the state across the country territory, provided to settled populations via static facilities. The rollback of the developmental state, which started long before the 2011 uprisings, makes such a model anachronistic, whatever its merits. Physicians trained in, and with experience only of, hospital care are mentally not equipped to work in different contexts, such as IDP camps, where a public health, primary health care approach is required.
- **Commoditisation and privatisation** are among the most common responses to stress, but affect also less disrupted contexts. Turmoil makes them more visible. Once entrenched, they may prove resistant to correction.
- **Unevenness.** Against a general decline, islands of quality care emerge in an ocean of under-performing health services; inequality tends to increase.

- **Selectivity of the health services provided;** priority is almost invariably granted to clinical rather than to preventive services. Trauma care gains prominence. Some stand-alone programmes attract more funding and resources
- **Instability of health care provision:** it is the result of the dynamic of the context, with changing power balances and security, brisk turnover of NGOs and national staff, volatile aid flows.
- **Informal or de facto decentralisation / laissez faire:** the lack of capacity, authority and resources make it ineffective.
- **Vast inefficiencies,** inducing high operational costs, mainly due to security, logistics and fragmentation of procurement systems.
- **Adaptation** (always) and innovation (sometimes) tend to be downplayed by insiders and outsiders alike. The former may see new approaches as war-time aberrations to be corrected, the latter may reckon that nothing valuable could be fostered amidst the prevailing disarray.

The following grid maps the three dimensions; an example – Syria - of the application of the grid is then offered, followed by the elaboration of some key issues related to health care provision.

MAPPING HEALTHCARE PROVISION			
CONTEXTS (WITH PEOPLE FREQUENTLY MOVING BETWEEN THEM)	PREVAILING MODALITIES OF SERVICE PROVISION	MAIN SERVICE PROVIDERS	RECURRING PATTERNS
Areas of relative security and stability in a crisis settings / safe havens	<p>Standard services; NGO interventions. Disease-control programmes financed by global health initiatives.</p> <p>Resource shortages may affect quality of care. Barriers may reduce referral options.</p>	Public providers; private-for-profit providers; new NGOs; aid agencies.	Increased demand due to the inflow of IDPs; migration of health workers fleeing insecure areas; crisis management by health authorities, with disruption of investment projects and reduction of sector budget; increase of dual practice; over-utilisation of secondary care.
Refugees / IDPs within camps	New fixed PHC units and mobile health units providing a range of preventive and clinical health services, usually with referral to an external hospital (the traditional relief model).	International NGOs, UN agencies, Red Cross/Crescent Movement, disease-control programmes.	High utilisation; variable scope of services provided and quality of standards, overall higher than outside of camps; high costs; little or no integration with national public health systems, with parallel procurement channels, treatment guidelines, information collection, employment terms.
Refugees / IDPs outside camps	Public and private urban health services, charging fees in most cases.	Aid agencies subsidising user fees, and sometimes directly providing services; NGOs, insurance schemes; charities (sometimes catering for specific groups); unregulated private providers.	Cash-based assistance emerging as an alternative to direct provision. Self-referral prevailing over structured flows.

MAPPING HEALTHCARE PROVISION

CONTEXTS (WITH PEOPLE FREQUENTLY MOVING BETWEEN THEM)	PREVAILING MODALITIES OF SERVICE PROVISION	MAIN SERVICE PROVIDERS	RECURRING PATTERNS
Healthcare supply across frontlines and borders	Sub-contracting of domestic partners; varying modalities, from procurement of medicines and provision of incentives, to more complete support packages, with distance monitoring and training of local staff.	Local NGOs and charities; local health authorities (designated or self-appointed); local health workers; diaspora-supported networks; providers affiliated to / supported by political / religious organisations; armed non-state actors; military health services.	Asymmetry of power, with decision-making and resources controlled by external bodies. Inadequate monitoring of interventions; competition for local partners; poor coordination of interventions. Potemkin-like providers evading recognition, given the shaky contextual knowledge of their backers.
Healthcare demand across frontlines and borders	Hubs of healthcare provision with large trans-national catchment areas. Sophisticated health care usually unavailable in disrupted settings, hence procured elsewhere by users able to travel.	Private and public health facilities, often specialised in responding to demand from far away. Mostly paid by users, with public and charitable subsidies.	Sometimes referral arrangements between health authorities and facilities. More often spontaneous travel over long distance and across many barriers to obtain health care. Variable prices, with healthcare exporters catering for different market segments.
Opposition-controlled areas and communities Beware: territorial and population control do not necessarily overlap. See Jackson, 2018.	Mosaic of interventions, with primacy of clinical over preventive and rehabilitation services; mobile health units; immunisation campaigns. Sometimes 'rebel health services' are propaganda constructs. When they constitute a pillar of a governance project, they deserve closer attention	Former government health personnel living or trapped in the areas or affiliated to opposition groups; military health services; INGOs and local NGOs; Red Cross / Crescent Movement; shadow presence of UN agencies.	Unevenness of services provided, with islands of quality services against underserved areas; extreme variation of scope and quality of services; complex negotiations with 'local' authorities; difficult and expensive procurement mechanisms, with precarious supply lines; limited recruitment of senior professionals, with high turnover; inadequate lessons learning / documentation; security concerns taking precedence over service provision; uncoordinated investments; lack of oversight and supervision.

MAPPING HEALTHCARE PROVISION

CONTEXTS (WITH PEOPLE FREQUENTLY MOVING BETWEEN THEM)	PREVAILING MODALITIES OF SERVICE PROVISION	MAIN SERVICE PROVIDERS	RECURRING PATTERNS
Besieged areas	Collapse of public health services; private-for-profit services (not able to fill the wide gaps); task-shifting.	Former government health personnel living or trapped in the areas or affiliated to the opposition groups, practicing also privately. Health volunteers replacing professionals.	Contraction of health network and rudimentary services; breakdown of procurement channels; low-quality healthcare of reduced scope; military decisions, such as privileging fighters, given precedence.
Newly-opened areas and returnees	Gradual reactivation of services from rehabilitated fixed and mobile health units; health preventive campaigns; private services.	Government health personnel; NGOs, private providers.	Mismatch between demand and supply of services with backlog of health needs; initial investment in infrastructure, seldom coordinated and sustained; fragmentation of interventions. Disease transmission boosted by recovered mobility, calling for epidemiological surveillance.
Urban slums	Informal health provision prevailing. Fees for service, with self-medication widespread.	Private providers, complemented by charities and NGOs. Drug-selling outlets. Folk healers.	Scarcity of formal health facilities, against a proliferation of atypical ones. Mobile users shopping around for services, according to accessibility, reputation, security and cost.
Nomadic populations	Self-medication prevalent. Mix of folk-healing practices and modern ones. Low-cost modern medicines supplied by town vendors or itinerant ones.	Traders. Folk healers. Market-town health services (mostly private) used on occasion.	Few formal health providers engaged with this population group, mostly small-scale pilots. Insufficiently documented, apart from some insights gained in the Horn of Africa.

Mapping healthcare provision for Syrians

Syria places extraordinary challenges onto the health system analyst. For this reason, it is applied to the proposed matrix, below. Any compilation of the tiles composing such a nebulous mosaic will be unsatisfactory, accurate only in some sites at certain points in time. Ambiguities, contradictions or overlaps will be commonplace. Frequent changes will require constant updating. Submitting this matrix to professionals of assorted knowledge will allow for its incremental strengthening. Respect, tact and an understanding of the predicament in which actors have lived and worked over many years will have to back technical skills in order to overcome the prevailing mistrust, which restricts the circulation of the existing documentation.

Despite its small size, Syria was already strikingly diverse even before 2011. The developed West contrasted with the arid, impoverished and under-populated, but oil-rich East. Internal migrations were inflating slums around the main Western cities. Syrian peripheries maintained ancient trans-border links, brought into full light by the civil war. Now the Syrian healthcare arena has acquired a regional dimension, encompassing neighbouring countries where millions of displaced have sought refuge. Making sense of such a fragmented landscape implies the consideration of both the barriers and the links existing between the multiple portions into which Syrian society has splintered.

MAPPING HEALTHCARE PROVISION			
CONTEXTS	PREVAILING MODALITIES OF SERVICE PROVISION	MAIN SERVICE PROVIDERS	RECURRING PATTERNS / REMARKS
Refugees in camps	New fixed PHC units and mobile health units providing PHC services, with contracted-out referrals.	NGOs, UN agencies, Red Cross / Crescent Movement.	Different refugee policies have been adopted and modified over time by neighbouring countries.
Refugees outside camps	Private provision mostly paid for households or subsidised by aid agencies, depending on refugee status.	UNHCR, NGOs, charities, public health services (in Turkey), private providers.	Most refugees are dispersed in urban and peri-urban settings, many of them without proper registration.
Displaced within Syria	Unevenly / inadequately documented, with regular or intermittent delivery through PHC units or mobile health units. Provision dependent on security rather than humanitarian considerations.	Public health providers; the Syrian Red Crescent Society (SARC) mandated by the Government to coordinate external assistance; UN agencies.	Reportedly, most IDPs are scattered across locations, often beyond the reach of relief agencies. Many IDPs coming from informal settlements damaged by the fighting, therefore with improbable return prospects.

MAPPING HEALTHCARE PROVISION

CONTEXTS	PREVAILING MODALITIES OF SERVICE PROVISION	MAIN SERVICE PROVIDERS	RECURRING PATTERNS / REMARKS
Rebel-held areas	Sub-contracting of local partners by external agencies under remote monitoring. Non-communicable diseases and trauma care absorbing most resources and capacity.	Local NGOs and charities; local health authorities; diaspora-supported networks; healthcare offshoots of political / religious organisations; armed non-state actors.	Assorted, disconnected investments paid for public and private supporters. Medicines supplied across borders, complementing surviving local production. Salaries variably paid by supporting agencies. Local and trans-border training of staff aimed at upgrading skills and boost morale. Remote oversight and supervision.
Besieged areas	Basic services provided amidst crushing difficulties: violence, massive destruction, precarious supply, under-skilled workers, shortened staying.	Local health authorities and NGOs supported by aid agencies, diaspora solidarity groups, charities.	Precedence given to trauma care, provided in inadequate and under-supplied facilities, with constrained referral options. Frequent complications, with widespread antibiotic resistance. Inflated cost and uncertain quality of smuggled goods, such as medicines.
Health care demand across frontlines and borders	Referral and self-referral, particularly seeking tertiary care or exams and medicines unavailable within areas of residence. Pharmaceutical supply, including smuggling.	Lebanese, Turkish and Jordanian providers, public and private. Pharmaceutical dealers, war profiteers, fighters.	Mostly paid by households, supported by charities and international assistance.

MAPPING HEALTHCARE PROVISION

CONTEXTS	PREVAILING MODALITIES OF SERVICE PROVISION	MAIN SERVICE PROVIDERS	RECURRING PATTERNS / REMARKS
Nomadic populations	No information found. Health services available in market towns used on occasion (most likely).	Any report of itinerant drug vendors, like in other nomadic settings?	Traditional livelihoods disrupted by the upheavals affecting the East, where most nomadic and semi-nomadic groups live.
Remote and poor communities (such as Rojava)	Struggling health services, facing severe resource and capacity constraints. Health facilities and mobile health units managed by NGOs in agreement with local authorities; different packages of services and modalities according to NGO capacities and preferences.	Local health authorities, sometimes backed by international NGOs.	Rudimentary health care, inadequate supply, precarious referrals. Overall, more focus on curative than preventive services.
Areas spared by violence, under government control	Conventional services of declining quality, provided by static health facilities.	Public and private providers, with the latter expanding their share of the market.	Financial squeeze curtailing both public provision and private payments. Non-communicable diseases, mental health and rehabilitation stand out among the most wanting services.

Critical aspects of service provision

The contextual changes in the humanitarian landscape, characterized by violence and insecurity, have forced agencies to rethink their security management strategies and modus operandi, with approaches that vary largely from one organisation to another, even in the same context (Childs, 2013; Fast, 2013). This variation depends on the greater or lesser risk-taking philosophy of the organisations and also on the fact that decisions on security are often made by distant managers, not well conversant with the local environment.

The traditional model of health relief was the provision of primary health care in crowded refugee and IDP camps, complementing or bypassing host health services. Affected populations were young overall and the main public health conditions to address were communicable diseases and malnutrition (Salama et al., 2004). As contexts and health needs have become more complex, the humanitarian interventions have struggled to anticipate and keep up with these new challenges (Spiegel et al., 2010).

Key aspects to be considered, with regards to the **modalities and platforms of health interventions:**

- **Cross-border humanitarian** programmes have been utilized in the past - e.g. in Afghanistan, Eritrea and Ethiopia in the 1980s, Chechnya in the late 1990s, in Iraq in the early 2000s, etc. (ODI, 2010) - according to the Westphalian principle of respect of state sovereignty. With a progressive shift to a more aggressive 'interventionist' approach, cross-border interventions have resumed in non-government-controlled areas, in contexts of deteriorated security, as in Syria. Cross-border operations require that partnerships are established or negotiations are held between humanitarian agencies and non-traditional actors, such as networks of diaspora-supported organisations, regional NGOs, local councils or committees, faith-based organisations and armed non-state actors. Some international NGOs providing relief have shown unease and reluctance to engage with these 'new' actors, whose political affiliations, principles and modus operandi were

not well known or openly diverged with their own (Whittall, 2014). In Syria, for example, most local organisations were established only after the 2011 uprising, due to the tight control previously exerted by the government on civil society (Haddad and Svoboda, 2017). These grassroots or diaspora organisations have little or no experience in managing humanitarian programmes and delivering health services (Howe and Stites, 2019).

In environments where access to populations in need is hindered due to a reduced humanitarian space, the fortified aid compound – bunkerisation - and remote management have, therefore, become frequent modalities of assistance, with resources and decision-making usually controlled far away from the field (Duffield, 2012; Donini and Maxwell, 2013). With international aid staff operating from a safe distance, the risks of additional obstacles to a real understanding of the context and health needs, of more difficult communication with local counterparts, of inadequate programme monitoring, of corruption and fraud and, often, of a lower quality of programmes are real (Howe and Stites, 2019; Collinson et al., 2013). In addition, ethical concerns have been raised about the transfer of risks from international to national staff (Stoddard et al., 2010).

- In situations where access to populations is limited but not prohibitively so, the intermittent provision of a limited range of health services, on an outreach or campaign basis, through a mobile **health unit (MHU)**, is an option. It should be conceived of as a temporary model of healthcare, until improved security allows for the provision of continuous healthcare with a broader scope, in fixed infrastructures. Itinerant health services make sense also with dispersed and/or nomadic populations.

MHUs are an expensive modality of health service provision in relation to the outputs produced and, contrary to a common misconception about the practice, require broadly trained staff, able to provide quality preventive and curative care

in a constrained environment and with limited means, able to detect medical conditions that require the referral of patients. Strong links between MHUs and their referral facilities are an essential requirement, given the narrow scope of the services that are provided in the field and the need to ensure continuity of care to those patients with chronic diseases.

- **Referral flows** deserve a thorough exploration due to their nature which spans several levels of care and management. They are influenced by demand factors as much as by supply ones. Most HSAs overlook referral, usually on the implicit assumption that it will occur if the right infrastructure is in place, is adequately resourced and managed. Conversely, studying referral patterns may be very instructive of the whole health system, and of the incentives shaping its performance.

There is a paradox inherent in referral systems. Efficient referral systems are needed where primary health units have limited capacity but, at the same time, good referral systems require some capacity at primary level: to screen patients who need higher-level care, organise their safe transport, provide colleagues in referral units with relevant medical information and ensure the follow-up of patients after they are discharged. Referral systems are expensive: the availability of ambulances and good road and communication infrastructure are essential requirements, difficult to satisfy in most humanitarian settings; security is another critical condition. In most crisis situations, when they are in place, referrals are limited to patients requiring urgent, life-saving surgical attentions; different arrangements are established with the referral hospitals for their reimbursement. Patients tend to self-refer, incurring sometimes high transport costs (Levine and Kusnierek, 2019a). In this way, primary care is bypassed, often for conditions that could be treated at primary level. More qualified staff, the availability of medicines, often for free (especially if the hospital is supported by an NGO), and better, real or perceived quality of care are strong incentives for this pattern, not unique to crisis settings.

- **Slum health care.** Official statistics tend to

conflate strikingly different urban realities. The resulting averages suggest an urban advantage, whereas the health status of slum dwellers is often worse than in the countryside. The opaqueness of derelict slums deters most analyses. To national authorities, aid agencies and researchers alike, close-by slums may remain inaccessible and unreadable. In this way, large populations may become visible to authorities only when epidemics flare or riots strike. The Ebola epidemic in West Africa has eloquently demonstrated the vulnerability of slums, and the ineptness of official responses.

“The proliferation of informal drug sellers and itinerant doctors within slum areas can be interpreted as a supply-side response to demand for accessible services. Outside of the regulatory framework, and with minimal financial investment, these providers are able to offer extended hours of services, and can set up and relocate easily as per the needs of the poor urban populations they serve. By contrast, static primary care clinics within slum areas are very few in number ...”. “... so little is known about the underlying business strategies that make the private sector viable in slum settlements. [...] the informal private sector is responding to a lucrative market opportunity.” (Adams, Islam and Ahmed, 2015).

Conflict, environmental deterioration and economic stress have displaced rural populations towards large cities. Over time, these supposedly temporary settlers become permanent ones. Whole rural societies have been subjected to an accelerated, traumatic urbanisation. In the Middle East, most displaced people live dispersed in cities, thus reconfiguring the urban fabric. “The humanitarian response in middle-income countries often intersects with the rising needs of urban poor. Fuelled by increased population mobility, humanitarians are increasingly forced to respond to violence and exclusion from basic services in urban centres” (Whittall, 2014).

Under-governed urban slums pose extraordinary obstacles to orthodox healthcare provision: insecurity, cramped spaces, poor transport, absent utilities, local rackets, diffidence towards outside initiatives, reluctance of health workers to be deployed there, all combine to asphyxiate

health service development. Unsurprisingly, no standard urban healthcare delivery model seems adequate in such messy, hostile environments. With swelling urban populations, no prospect of a reversal in urbanisation trends, and negligible chances that atrophied state authorities manage to gain access to and control these unruly spaces, health care for impoverished urban settlers can only expand organically, largely financed by households.

Slums are spontaneous if problematic laboratories, where a lot of experimentation takes place for better or worse. Given their increasing economic, demographic and political weight, these overcrowded spaces will condition broader healthcare developments, most likely diverging from expected or desired outcomes. Renewed efforts to penetrate these blurred, uninviting, multi-faceted environments are badly needed.

- **Community health care.** Many humanitarian organisations have established community health components in their programmes, usually delivered by community health workers (CHW), particularly in insecure areas. The rationale is to mitigate through task shifting the shortage of qualified health workers who have moved to safer areas, usually limited to health promotion messages, preventive interventions and the delivery of basic health care, particularly for childhood illnesses. Community health care is premised on the supposed capacity of providers to have a better understanding of local health needs and, therefore, of building trust with their members.

The evidence on the effectiveness of community health care in troubled settings is, however, limited, due to the paucity of evaluations and the variability of the scope of these programmes, the diverse training and responsibilities of community providers and the different support they enjoy the NGOs and the formal health system. (Gilmore et al., 2016). In Liberia, trained CHW maintained some levels of case management for childhood pneumonia and diarrhoea during the Ebola epidemic (McPake et al., 2015).

Community health care is not, however, the silver bullet that can turnaround frail health services; to

be effective, CHWs need adequate training and supervision, remuneration and regular supply of consumables, in addition to the involvement and support of the communities, conditions that are difficult to sustain in turbulent contexts. Without these conditions, the attrition of community providers and the lack of community involvement are the common outcome, as documented in Afghanistan, where CHWs face challenges with resource supplies, community recognition and health systems functioning (Najafizada et al., 2014).

- **With regard to the scope and quality of health care:** violence and insecurity, such as that prevailing in vast areas of Syria, have profoundly altered medical practice. An MSF report discusses the manifold consequences of high insecurity on the provision of health services in Syria: the reduced time allocated to the treatment of each patient, resulting in quick clinical decisions, often without adequate diagnostic means; the early discharge of patients with limited post-operative care and follow-up visits; the shift from hospital care to a more secure, but less effective, modality of decentralised and home-based care; the prioritisation of emergency conditions at the expense of chronic diseases; the changed prescription modalities to limit the frequency of contacts, which are potentially risky, and the need for to operate in makeshift, inadequate infrastructures, often underground, to limit the risks of becoming targets of aerial bombing and shelling (Armstrong, 2016).

- **Trauma care** is seldom studied in HSA, despite its increasing importance in crises: “trauma care must be viewed within the broader epidemiology of health needs in conflict settings” (Spiegel et al., 2018). Warfare is changing, with an increased number of civilians caught up in crossfire, or as direct targets of violence. The consequences are dramatic, as again witnessed in Syria.

The recent battles for Mosul in Iraq and Ar-Raqqa in Syria showed how destructive urban warfare is for both civilian populations as well as for traditional armies. Since neither party involved in the conflict assumed the responsibility for treating war-wounded people in Mosul, nor had the capacity to fulfil this obligation, WHO decided

to fill the gap by coordinating a first-of-its-kind trauma response intervention for injured civilians close to the frontline (Spiegel et al., 2018).

Mosul was an exceptional case, but could be a harbinger of things to come. It illustrates not only the ethical challenges faced by humanitarian agencies, but also the wide gap in the human and technical capacity existing in this area. Trauma care is complex because it encompasses different stages: the stabilisation of patients, hospital surgical care and rehabilitation of the injured survivors, with medical evacuation to a higher level of care for the most severe cases. The management of casualties in conflicts is different from that in civilian settings: technical capacity is scarce and working conditions difficult (Manring et al., 2009); “all the circumstances of war surgery thus do violence to civilian concepts of traumatic surgery” (DeBakey, 1947). Further, “war surgery is a surgery of mass casualties”, with a different logic of triage than in normal conditions (Giannou and Baldan, 2010). Surgeons trained in Western countries and used to sophisticated technologies need to be re-trained to be effective in the different context of a crisis. The medical component needs to be integrated into a logistics system, which is essential to save life. However, the lack of readily available and adequate transport for injured people, of functioning life-saving equipment and other vital supplies are common findings in crisis settings.

Few international agencies²¹ have trained personnel and the logistical capacity to deliver trauma care in humanitarian crises, and they cannot deploy in very insecure contexts. For example, WHO had to subcontract, at a high cost, a medical for-profit private company for the trauma response in Mosul. In usual circumstances, local professionals take the lion’s share of surgical activities; task shifting, with less trained cadres has been tested in Somalia and other countries (Chu et al, 2011). An exception was Haiti in the aftermath of the 2010 earthquake: the severity of the emergency, the proximity of the island to the US and its geopolitical strategic importance attracted generous funding and allowed for the deployment of several field hospitals, with more than forty foreign teams providing surgery (Gerdin et al., 2012) The usual weaknesses of routine

data collection systems are exacerbated as far as surgical activities are concerned, partly because patients move through complex referral pathways and there is no consensus on key indicators for documenting the quantity and quality of care provided in a crisis setting.

- **The Essential Package of Health Services** (EPHS) has been promoted in crisis and transition settings as an effective, efficient and standardised way of scaling up service delivery and improving the quality of care. A recent review of eight EPHS in humanitarian crises showed the flaws in the design process, including the costing, and observed that the packages assessed largely reflected the health services already provided: the qualifier essential has become meaningless. It also confirmed the obvious fact that EPHS packages “can be successful only if the health system requirements for their implementation are met, a rare condition in crisis contexts, where capacity constraints and inadequate funding prevail” (Mòdol and Colombo, 2017). The review also noted that “One of the advantages of the EPHS in stable contexts – i.e. their standardisation - can become a drawback in crisis-affected countries where flexibility of approaches, context-sensitivity and adaptation to changing conditions are more effective strategies”. The lack of feasibility analysis and implementation planning were other drawbacks of the reviewed EPHS. Since the expansion of services driven by the packages seems, in the reviewed EPHS, marginal, the impact on delivery modalities is difficult to identify, with the exception of countries where a radical reform was implemented, as with the purchaser-provider split and the introduction of contracting arrangements in Afghanistan and Liberia.
- **The changed burden of disease**, with non-communicable diseases, mental health problems and disability adding to infectious diseases and neonatal disorders, has forced humanitarian agencies, local governments and countries hosting refugees to reconsider their modalities of interventions. A longer-term approach to ensure continuity of care for these conditions and more complex medical treatment imply much higher and sustained costs and technical and logistical capacity than in the traditional relief modality in poor countries, which is used

to a focus on communicable diseases. For most NGOs, the process of adapting the modalities of their interventions to this new 'landscape of aid', raising the standards of assistance and interaction with staff often more qualified than their own personnel and working beyond the primary care level has been difficult: "this is not Africa" was a cogent remark about MSF interventions in Syria (Whittall, 2014). Few NGOs and other agencies have the human resource and financial capacity to support hospitals in a management, clinical and surgical capacity.

Weaknesses in how to effectively address NCDs affect all components of humanitarian programmes, from the identification of needs, to the prioritisation of interventions and the strategies and modalities of implementation (Garry et al., 2018). As a result, services for NCDs, mental health problems and disability in most crisis settings are inadequate: delays and interruptions of treatment, as well as complications, due to the lack of diagnostic capacity and irregular procurement of medicines are frequent. In a recent survey of non-camp Syrian refugees in Jordan, 22% of adults reported to be suffering from at least one NCD; of those, 23% did not seek healthcare, citing cost as the main barrier (Rehr et al., 2018).

Continuity of care and integration of services are essential health system dimensions for the effective management of NCDs. The gap between chronic health needs and the capacity to address them in a crisis will not be filled soon and easily: the obstacles are enormous. In order to overcome them, a number of complex and expensive measures are needed, including the strengthening of the health systems of host countries with a balanced integration of care across all levels, sustainable funding sources and innovative financial mechanisms, functioning referral systems and, last but not least, improved competence of health workers through sustained re-training and skill upgrading.

- **The most widely known tools for assessing service provision and resource availability** at facility level are the Service Availability and Readiness Assessment (SARA)²² and the Health Resources Availability Monitoring System (HeRAMS),²³ the latter one applied mainly in emergency settings. They suffer, however, from severe limitations.
- SARA requires expertise, is data-demanding and, therefore, time-consuming, therefore it has a high opportunity cost: it is unlikely that it could be applied to a reasonable sample of health facilities. In healthcare arenas dominated by atypical facilities it needs thorough adaptation, without which its results will be misleading.
- HeRAMS is of uncertain reliability, as it is based on self-reporting. More importantly, data become quickly obsolete in a dynamic crisis context, as experienced by the authors of this document: the picture that emerges from the data collection risks becoming irrelevant in most circumstances, when the data are finally circulated. In addition, their narrow focus on facilities should be complemented by information on population access, utilization and coverage, information difficult to obtain (as discussed previously). As has been argued, input data can lose usefulness for planning due to their quick obsolescence and the fragmentation of tools and indicators: "globally funded facility surveys overmeasure inputs that provide inadequate value for accountability" (Kruk et al., 2018).

Recommended reading

- Armstrong J (2016). Changes in medical practice in Syria. Dilemmas and adaptations in medical facilities continually threatened by attack. MSF. Retrieved from: <https://www.msf.org.uk/sites/uk/files/syria-report-final.pdf>.
- McPake B, Witter S, Ssali S et al. (2015). Ebola in the context of conflict affected states and health systems: case studies of Northern Uganda and Sierra Leone. *Confl Health*, 9:23. Retrieved from: <https://conflictandhealth.biomedcentral.com/track/pdf/10.1186/s13031-015-0052-7>.
- Whittall J (2014). The 'new humanitarian aid landscape' – Case study: MSF interaction with non-traditional and emerging aid actors in Syria 2013–14. MSF. Retrieved from: https://www.msf.org.uk/sites/uk/files/humanitarian_aid_landscape_-_syria.pdf.

References

- Adams AM, Islam R, Ahmed T (2015). Who serves the urban poor? A geospatial and descriptive analysis of health services in slum settlements in Dhaka, Bangladesh. *Health Policy Plan*, 30:i32–i45. Retrieved from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4353891/pdf/czu094.pdf>.
- Child A (2013). Cultural Theory and Acceptance-Based Security Strategies for Humanitarian Aid Workers. *J Strat Sec*, 6, 1, 64-72. Retrieved from: <http://scholarcommons.usf.edu/jss/vol6/iss1/9>.
- Chu KM, Ford NP, Trelles M (2011). Providing surgical care in Somalia: A model of task shifting. *Confl Health*, 5, 12. Retrieved from: <https://conflictandhealth.biomedcentral.com/track/pdf/10.1186/1752-1505-5-12>.
- Collinson S, Duffield M, Berger C, et al. (2013). Paradoxes of presence: risk management and aid culture in challenging environments. ODI Humanitarian Policy Group. Retrieved from: <https://www.odi.org/sites/odi.org.uk/files/odi-assets/publications-opinion-files/8428.pdf>.
- Corburn J, Sverdluk A (2016). Urban informal settlement upgrading and health equity. In: Corburn J, and Riley L. *Slum health, from the cell to the street*. University of California Press.
- Donini A, Maxwell D (2013). From face-to-face to face-to-screen: remote management, effectiveness and accountability of humanitarian action in insecure environments. *Intern Review Red Cross*, 95(890), 383–413.
- Duffield M (2012). Challenging environments: danger, resilience and the aid industry. *Secur Dialogue*, 43,5, 475-92.
- Ezeh A, Oyebode O, Satterthwaite D et al. (2016) The health of people who live in slums 1. The history, geography, and sociology of slums and the health problems of people who live in slums. *Lancet*. Published Online October 16, 2016 [http://dx.doi.org/10.1016/S0140-6736\(16\)31650-6](http://dx.doi.org/10.1016/S0140-6736(16)31650-6).
- DeBakey M E (1947). Military surgery in World War II – A backward glance and a forward look. *NEJM*, 236: 341 – 350.
- Fast LA, Freeman F, O'Neill M et al. (2013). In acceptance we trust? Conceptualising acceptance as viable approach to NGO security management. *Disasters*, 37, 2, 222-243.
- Garry S, Checchi F, Cislighi B (2018). What influenced provision of non-communicable disease healthcare in the Syrian conflict, from policy to implementation? A qualitative study. *Confl Health*, 12, 45. Retrieved from: <https://conflictandhealth.biomedcentral.com/articles/10.1186/s13031-018-0178-5>.
- Gerdin M, Wladis A, von Schreeb J (2012). Foreign field hospitals after the 2010 Haiti earthquake: How good were we? *Emerg Med J*, 30:e8.
- Giannou C, Baldan M (2010). War surgery. Working with limited resources in armed conflicts and other situations of violence. ICRC. Retrieved from: <https://www.icrc.org/en/doc/assets/files/other/icrc-002-0973.pdf>.
- Gilmore B, Adams BJ, Bartoloni A et al. (2016). Improving the performance of community health workers in humanitarian emergencies: a realist evaluation protocol for the PIECES programme. *BMJ Open*, 6:e011753. doi:10.1136/bmjopen-2016-011753.
- Haddad S, Svoboda E (2017). What's the magic word? Humanitarian access and local organisations in Syria. ODI, HPG Working Paper. Retrieved from: <https://www.odi.org/sites/odi.org.uk/files/resource-documents/11353.pdf>.
- Howe K, Stites E (2019). Partners under pressure: humanitarian action for the Syria crisis. *Disasters*, 43(1), 3-23.
- Kruk ME, Gage AD, Arsenault C, Jordan K et al. (2018). High-quality health systems in the Sustainable Development Goals era: time for a revolution. *Lancet Glob Health*. Retrieved from: [https://www.thelancet.com/journals/langlo/article/PIIS2214-109X\(18\)30386-3/fulltext](https://www.thelancet.com/journals/langlo/article/PIIS2214-109X(18)30386-3/fulltext).
- Levine S, Kusnierek A (2019a). Counting the cost: assessing the cost of ill-health in West Darfur, Sudan. HPG Report. ODI.

- Lilford RJ, Oyebode O, Satterthwaite D et al. (2016). The health of people who live in slums 2. Improving the health and welfare of people who live in slums. *Lancet*. Published Online October 16, 2016 [http://dx.doi.org/10.1016/S0140-6736\(16\)31848-7](http://dx.doi.org/10.1016/S0140-6736(16)31848-7).
- Manning MM, Hawks a, Calhoun JH et al. (2009). Treatment of war wounds. A historical review. *Clin Orthop Relat Res*, 467, 2168-91. Retrieved from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2706344/pdf/11999_2009_Article_738.pdf.
- Mòdol X, Colombo S (2017). The Essential Package of Health Services in Humanitarian Crises: A review. WHO internal document (available on request).
- Najafizada SAM, Labonté R, Bourgeault IL (2014). Community health workers of Afghanistan: a qualitative study of a national program. *Confl Health*, 8:26.
- Overseas Development Institute (2010). Operational Security Management in Violent Environments. Good Practice Review. 8. Humanitarian Practice Network, ODI, London. Retrieved from: https://odihpn.org/wp-content/uploads/2010/11/GPR_8_revised2.pdf.
- Rehr M, Shoaib M, Ellithy O, Ariti C et al. (2018). Prevalence of non-communicable diseases and access to care among non-camp Syrian refugees in northern Jordan. *Confl Health*, 12, 33. Retrieved from: <https://conflictandhealth.biomedcentral.com/articles/10.1186/s13031-018-0168-7>.
- Salama P, Spiegel P, Talley L et al. (2004). Lessons learned from complex emergencies over past decade. *Lancet*, 364, 9447, 1801-13.
- Spiegel PB, Garber K, Kushner A et al. (2018). The Mosul trauma response. A case study. John Hopkins Center for Humanitarian Health. Retrieved from: http://hopkinshumanitarianhealth.org/assets/documents/Mosul_Report_FINAL_Feb_14_2018.pdf.
- Spiegel PB, Checchi F, Colombo S et al. (2010). Health-care needs of people affected by conflict: future trends and changing frameworks. *Lancet*; 375: 341–45.
- Stoddard A, Harmer A, Renouf JS (2010). Once removed. Lessons and challenges in remote management of humanitarian operations for insecure areas. Humanitarian outcomes. Retrieved from: <https://aidworkersecurity.org/sites/default/files/RemoteManagementApr2010.pdf>.
- van de Vijver S, Oti S, Oduor C et al. (2015) Challenges of health programmes in slums. *Lancet*, 386: 2114–16.

8

Organising and synthesising the collected information

Key Messages

The information collected is regularly incomplete and uneven, with certain aspects of healthcare provision well documented and others obscure and contradictory which require further analytical efforts. At the end of the exploration, more information has usually been gathered than what was expected at the beginning. It becomes critical, therefore, to organise and condense the most relevant and useful information, while flagging up the main gaps.

To avoid getting lost in the abundant information collected, it may be useful to keep in mind some recurrent themes and problems that are listed in this short chapter.

Ideally, the HSAs should aim to both identify and explain key HS issues that need to be addressed, and the interconnections between them. They should also inform a discussion about policy and operational options to expand coverage and quality of health services, whilst strengthening the health system. The collected information must be assembled into a patchwork, which will regularly be uneven, with some issues documented in detail (as in the case of donor fads), and others remaining undefined. The same applies within territories or populations of interest. To exemplify in relation to Syria: the information about health care in western opposition areas is much richer than that related to eastern ones. Analogously, the health status and needs of refugees are much better known than those of IDPs. Thus, the picture proposed by the HSA will have to condense the abundant information, while flagging up the remaining gaps, and proposing ways to fill them.

Box 7. Making sense of massaged data

An example of such ability refers to the unveiling by some Western demographers, towards the end of the Cold War, of a crisis devastating the then USSR. Looking at official Soviet figures, they detected an important rise in infant mortality, despite the tight control of publications and the interruption of circulation of health demographic data (Davis and Feshback, 1980). Such statistical prowess was based on the patient perusal of years of official figures, adjusted for the data forged and the omissions introduced by Soviet authorities in an effort to disguise the harsh reality. In the Cold War climate, the report was rebutted by Soviet authorities as “a fundamental part of the anti-Soviet campaign” (Davis, 2006). A graduate student foresaw that the trend of deteriorating health conditions (due to unhealthy lifestyles, poverty, environmental pollution and declining quality of health, care) might have portended a collapse of the society, which was dramatically proven right a few years later (Eberstadt, 2006; Davis, 2006).

Second, making sense of the picture also demands shrewdness in reading between the lines, i.e. inferring the existence of consequential facts from the omission of related data (see Box 7). A careful analysis – ‘reading against the grain’ of the source – may reveal more than the author intended, and tells his/her assumptions and the reasons why some relevant aspects are not mentioned nor discussed. Questioning the untold part of the story is, therefore, important.

As a way to sharpen the HSA, some issues that recur across troubled HS and some questions that may help the analysts remain focused on priority problems and possible solutions are suggested.

- Is a new ‘geography of healthcare provision’ becoming recognisable? Internal diversity of the healthcare arena, and trans-border links (if any). Fragmentation of healthcare provision. Different standards and modalities of service provision.
- Prevalent health-seeking behaviours. Role of the unregulated private-for-profit sector. Dual practice. What are their features?
- Main systemic distortions affecting healthcare provision. What are their causes? Feasibility of remedial interventions in the short and long term. Were they changing during the period studied? In which direction?
- Vulnerabilities unveiled by past stressors. Response capacity, as demonstrated by shocks. Are other shocks likely to occur in the future? Realistic measures to be taken to forestall serious disruptions or outright collapse.
- Recognisable trends (spontaneous and/or induced by deliberate interventions). Which trends will endure and which ones might be reversed, once turmoil abates?
- Resource constraints, in relation to health needs and healthcare provision settings. What are the resource availability prospects, according to foreseeable political settlements?
- Capacity constraints. Soft determinants of performance (beyond resource scarcity). What was / is being done to address capacity

shortcomings? Are these interventions likely to succeed? What could be done complementarily or differently?

- Were the adopted policies appropriate? Were they realistic, in light of the situation on the ground and of existing resource and capacity constraints? Were they implemented, or remained on paper? Are some sidelined policy proposals worth being considered anew?
- Were key issues overlooked, or inadequately addressed? What are the main information gaps? Which studies were / are needed to address such gaps? Is there local capacity to conduct these studies, or the expertise needed has to be imported?
- Which realistic measures could be introduced to improve the situation? By whom? In which timeframe and sequence of priority? Where within the health system would interventions bear more promise / encounter less resistance?

- In light of present and foreseeable determinants, which interventions would be needed to steer it in a favourable direction, given resource and capacity constraints?
- Which relevant lessons can be drawn from other troubled settings? How can they be conveyed to recalcitrant insiders (usually convinced that the turmoil they lived through is unique)?

A first, incomplete, working draft should be the output of this phase, with placeholders and annotation for aspects that need to be explored more in depth or are contradictory, and for important missing information. Useful documents should be collected and key informants listed: they will become helpful during the following phases. The organisation of materials and ideas becomes essential when more than one analyst is involved in the HSA: with countless documents, only a small proportion of which is relevant and informative, it is easy to get lost.

References

- Davis C (2006). Commentary: The health crisis in the USSR: reflections on the Nicholas Eberstadt 1981 review of Rising Infant Mortality in the USSR in the 1970s. *International Journal of Epidemiology*, 35:1400–1405.
- Davis C, Feshbach M (1980). Review of Rising Infant Mortality in the USSR in the 1970s. United States Bureau of the Census. Series P-95, No 74.
- Eberstadt N (2006). The health crisis in the USSR. *International Journal of Epidemiology*, 35:1384–1394.

9

“Validating” the findings

Key Messages

A wide, but focused, consultation is essential to confirm the preliminary findings of the HSA, find ways to improve it and engage stakeholders in the discussion. The initial analysis can produce uncontroversial findings, backed by data and opinions of key informants, hunches on key issues that require confirmation, controversial opinions that are challenged by the available information and gaps on critical aspects that need to be filled.

A passive circulation of the initial findings usually results in limited, disappointing feedback. Well prepared meetings with participants selected on the basis of their knowledge and interests are more productive.

References

- Andreas P, Greenhill KM (2010). Introduction. The politics of numbers, in: Andreas P, Greenhill KM (eds). Sex, drugs and body counts. The politics of numbers in global crime and conflict. Ithaca and London: Cornell University Press.

This short section explores the consultations required for checking the soundness of the preliminary analysis, promoting the interest of stakeholders and deciding how to improve the analysis.

The draft document should be circulated as soon as deemed sufficiently mature by the analysts, in order to induce a productive discussion among stakeholders on its main findings.

It may be useful to split the findings of the HSA into different groups, to be handled accordingly:

- 1.** Uncontroversial findings, sufficiently supported by data, on which the opinions of knowledgeable people converge. For instance, the mass outmigration of Iraqi and Syrian doctors is beyond doubt, a fact to be considered in any recovery scenario, and in relation to the post-conflict healthcare provision model to be adopted.
- 2.** Hunches on important issues only partially demonstrated, which should be brought to the attention of experts, to verify their plausibility and discuss ways to confirm their actual existence. A case in point is antibiotic resistance in the Levant, whose increase is persuasively suggested by available data, enough to recommend countermeasures wherever possible. Another case relates to doubts on the quality of immunisation in some areas of Northern Syria.
- 3.** Beliefs widely-held by the majority of informants, not supported by data or even challenged by the available information. They have been ironically dubbed as 'social facts', i.e. "...things that are deemed to be 'true' because they are widely believed to be true" (Andreas and Greenhill, 2010). For example, the ubiquitous complaint about staff shortages often remains unproven. Thematic meetings might help clarify the issue, pointing to measures to be taken to shed light on it, and encourage stakeholders to revisit their perceptions.
- 4.** Black holes related to critical aspects, calling for devoted studies. To take the previous example forward, as workloads are usually unknown, only their estimation would confirm or disprove the claim of staff shortages.

A passive circulation of the draft document will elicit few responses, and/or delayed ones. Instead, focused meetings, organised either around the groups above or around specific HS areas, may yield useful results. Each meeting needs to be prepared in advance, selecting those participants according to their expertise and role in the subjects to be discussed, sharing key material (status of the ongoing process and analysis, draft document, key questions to be answered, etc.) The revised draft document, integrating useful feedback from the meetings, should be circulated promptly, to maintain the momentum.

Two main categories of participants should be requested to participate in the informal peer-review process:

- Technical experts, who can challenge some findings of the analysis, bring new insights and suggest new information to be collected;
- Decision-makers (government, key agencies, private operators, politicians etc.), whose endorsement of the findings and recommendations is critical for the afterlife of the document.
- The two categories usually overlap only marginally and the meetings should be organised sequentially, starting with the technical experts, who can grant credibility (hopefully) to the findings and advise on inaccuracies that may impact the assumptions. Only after some level of consensus on key issues has been reached, a workshop can be held, to broaden the discussion and promote the circulation of the analysis. Different draft versions of the document will see the light of day, incrementally refining the analysis and the recommendations.

Some findings may encounter resistance from some stakeholders, due to prevailing sensitivities, entrenched beliefs and corporate agendas. This is the fate of any serious policy discussion: unanimity is rarely achieved when perspectives (and vested interests) diverge on issues that are by their nature controversial, as they have important technical, financial and political implications and have no clear-cut solutions. Only a frank discussion, looking critically at the facts and pros and cons of proposed recommendations, can convince either the most stubborn champions of the status quo or those advocates of unrealistic, ineffective or harmful measures.

10

The necessary follow-up

Key Messages

Producing a technically sound document which presents the findings of the analysis and the recommendations is not enough. Without a follow-up, agreed at the beginning of the process, the risk of the HSA becoming another document adding to the pile of reports that are superficially read, not adequately absorbed and quickly forgotten is high.

Not to waste the work done, it is critical to identify the actors who can build on the analysis, ensuring that it is updated and refined as new information becomes available and new events unfold, and that its recommendations are acted upon. This task requires continuous networking, monitoring of the context, and access to information and intelligence.

As mentioned in chapter 2, HSAs often remain under-utilised or altogether ignored, despite the substantial resources and time spent in their production. This is often the case when the findings of an HSA are deemed to be not robust, or misaligned with the mainstream policy directions of key actors.

The production of a technically good document may be wrongly perceived as the final leg of the journey: the implicit assumption is that if the collected data are solid, the interpretations sound and the recommendations sensible and feasible, that alone will be enough to find ears that listen and legs ready to walk. In reality, unless from the beginning adequate follow-up is conceived of and concrete steps to ensure it are agreed and included in the final report, the HSA will end up keeping the company of other dusty and worm-eaten documents in the bookshelves of MoH and agencies. This critical aspect is frequently overlooked by the HSA sponsors, and the investment in the exercise is thus lost. Part of the problem lies in two facts: first there is not a unique decision-making centre; instead, some important decisions are made by different stakeholders independently from one another. Secondly, HS experts and decision-makers often use different languages, have differing concepts of evidence and knowledge and have diverse agendas, the former keen to produce robust knowledge, the latter inclined to reconcile evidence with personal experience and well-established beliefs (Cairney and Oliver, 2017).

Once the final product is handed over to those who have financed it, the HS analysts will probably leave the country and embark on other HSAs. It is important, therefore, to identify actors who can build on the analysis, ensuring that it is updated and refined as new information becomes available and new events unfold, and that its recommendations are acted upon. This task requires continuous networking, monitoring of the context, and access to information and intelligence. Ideally, local professionals who have been involved in the HSA and are part of a large network of influential actors and enjoy a good reputation among peers should be the candidates for this task. Their agencies should be aware of the importance of this role and ensure that enough time and resources are allocated to the

task. The case study below on Somalia illustrates the importance of ensuring a proper follow-up to an exercise that has involved many professionals and managers, at a high cost and for several months.

The follow-up should consider the following aspects:

- a. Which sort of recommendations resulting from HSAs are usually adopted? And which ones are actually implemented? How can this be improved? Too often, HSAs list an excessive number of demanding recommendations, without prioritising or sequencing them, and ignoring their political and capacity / resource implications and feasibility. This flaw is often associated with a neglect of the examination of past recommendations, and the reasons behind their lack of implementation.
- b. What factors facilitate the HSA's utilisation, or otherwise impede it? How can its use be promoted, and in turn inform interventions and their relationships with the HS at large? It helps to devote substantial efforts to discussing the HSA findings with stakeholders, through informal encounters before and after official meetings. This work would benefit from the circulation of short thematic notes, written in accessible but compelling terms, so that the contours of the main issues to be tackled can be scanned by busy decision-makers.
- c. Which priority studies should be undertaken to shed light on issues that were not elucidated by the HSA, due to lack of information, time and resources? Which agencies could sponsor these studies? Are there opportunities to include opportunistically these studies in other initiatives (e.g. the formulation of a new sector strategy, the development of a new programme)?
- d. The HSA report should be explicit in unpacking the implications (financial, political and managerial) of the measures identified, and of the hurdles to be expected once they are introduced. A roadmap should be negotiated with stakeholders, both those already committed and others still uncertain about their posture. Additionally, provisions for revisiting the findings of the HSA should be made. Given

the fast-moving character of many crises, the rounds of work should be frequent, in order to update findings but also to revise the proposed actions in light of the gained experience, while new entrants are briefed and the adhesion of stakeholders is pursued.

- e. Post-HSA developments, related the proposed measures and to the broader context, have to be monitored. The limitations of conventional indicators produced by routine information systems and surveys must be highlighted, and alternative monitoring strategies suggested.

References

- Cairney P, Oliver K (2017). Evidence-based policymaking is not like evidence-based medicine, so how far should you go to bridge the divide between evidence and policy? *Health Res Policy Syst*, 15:35. Retrieved from: <https://health-policy-systems.biomedcentral.com/articles/10.1186/s12961-017-0192-x>.

Case study 4.

The health component of the Somali Joint Needs Assessment 2005-7

The complex interactions of international actors, and the forces that shape high-profile, high-cost exercises intended to rationalise aid delivery could not be on more eloquent display than those seen during the Somali Joint Needs Assessment 2005-7 (JNA). The formulation of its health component is copious with insights, which are summarily sketched here.

The JNA start was promising. WHO took the initiative and, well in advance of the JNA official launch, it made provisions aimed at collecting the key sector-wide information available at the time, and at discussing issues and incipient transitional strategy with committed stakeholders. Data collection, validation and collation, and the ensuing discussion of the emerging findings, were given the necessary time to proceed smoothly and successfully. The Health Sector Committee (HSC) of the Somali Aid Coordination Body (SACB) fully endorsed this initiative, providing a forum for the discussions, as well as crucial inputs and feedback.

Once the JNA proper started, work in the healthcare arena was already fairly advanced. The draft health chapter had been discussed and revised several times, so that in the end it reflected the perceptions, concerns and aspirations of most committed Western stakeholders based in Nairobi. Barring the inadequate participation of Somali actors (a constant shortcoming of SACB-centred dynamics), the process had been exemplar in more than one aspect.

The final health chapter enjoyed a wide circulation, and was (mostly informally) endorsed by a broad spectrum of concerned agencies. It attracted the interest of many stakeholders because of its modest objectives, the frank recognition of the daunting challenges faced by participants, the sector-wide and incremental approach, and the emphasis on putting in place badly-needed components of a functioning health system. The proposed programme was in fact preparatory to future recovery, when and if this would start.

The JNA findings and recommendations were expected to contribute to the formulation of the Reconstruction and Development Programme (RDP), a multimillion-dollar exercise carried out by external consultants and coordinated by UNDP. When many months later the overarching RDP draft report was circulated, it caused uproar among the health actors who had been involved in the formulation of the JNA health chapter. Nothing of the latter had survived. The original health analysis and strategy had been replaced by three interventions of questionable relevance, given the low-priority of one of them and the unenforceability of the other two. Such choices spoke volumes about the disconnection of the RDP team from real life. International priority-setting had blatantly taken precedence over any other, better informed concern. A painful negotiation between the RDP top team and HSC health actors ensued, and eventually the JNA original contents were reinstated.

The demise of the whole JNA exercise, linked to the serious difficulties met by the peace process, pushed the contents of its report to the margins. Interestingly, the health chapter was spared the oblivion visited on the JNA. Despite its limitations, the health chapter filled for a while a strategic gap, recognised as such by health stakeholders. Its reading of the situation was incorporated and further developed in later programming, promoted by agencies other than those originally behind the rise and fall of the JNA. The outcome of such a tortuous process confirms the point that a sustained policy discussion may pay off, despite intrusions and setbacks.

Reference: Joint Needs Assessment Somalia (2006). Cluster: Social Services and Protection of Vulnerable Groups. Sub-Cluster: Health. Draft.

11

Some conclusions and recommendations

Key Messages

It has been agreed that, once this document has integrated the feedback received in the peer review into a new version, the guidance will be applied to selected distressed settings, to reveal its strengths and weaknesses and identify how to improve it. The final version of the guidance should be widely circulated and its use promoted and supported, including its use in training.

As the saying goes, the proof of the pudding is in the eating: the next step, after the draft guidance has undergone peer review and the received feedback is integrated into a new version, will be to test it in crisis contexts; the pilot will reveal the guidance's strengths and weaknesses and show the way forward for strengthening it.

The test should be carried out in a variety of crisis contexts, with sufficient security conditions to allow field visits. A genuine interest by key stakeholders in candidate countries in a HSA, with one or more champions able to rally the engagement of other stakeholders in the exercise, support it during its conduct and ensure the follow-up, would be a favourable condition. Opportunities, such as using initiatives under way, or the decision to assess the HS performance with a view to formulating a national strategy, should be considered. One or more potential HS assessors with the adequate profile must be identified, possibly mid-career health professionals with HS interest and experience, but devoid of previous practice in HSA, who could be supported by HS senior experts, familiar with crisis environments.

The final version of the guidance, in booklet and digital formats, should be widely circulated and its use promoted and supported by WHO and other interested agencies. Ways of supporting users of the guidance and monitoring its application could be conceived, provided that dedicated, adequate resources are made available: for example, a webpage regularly updated with relevant documents/papers/HSAs and, possibly, an e-discussion forum.

The demand for training in HSA seems not to be abating, as the ADHS and the Health Systems through Crisis and Recovery courses show, several years after they were launched. The discussion around the new guidance may stimulate ideas that

have been already aired, but never put into effect, on advanced training, or blended courses (online and residential). The guidance will also offer new training materials, to be adapted according to the training needs.

Concluding with the map metaphor proposed in the introduction of this guidance, the scale of the map and the level of details should remain manageable, to allow for a light journey unencumbered with over-detailed suggestions. The guidance-as-map needs to be portable: further information and in-depth analysis have to be studied in the rich bibliography included, and in the 2009 handbook, which is still a valid reference. Jorge Luis Borges, the famous Argentinean writer, appreciated the same point about scale and usefulness when he wrote, in a one paragraph story: "...the Cartographers Guilds drew a Map of the Empire whose size was that of the Empire, and which coincided point for point with it.... The following Generations, who were not so fond of the Study of Cartography as their forebears had been, saw that that vast map was useless..." (Borges, 1946).

As an epilogue, an excerpt from the poem Map, by Szymborska, who warns us about the deceiving side of maps:

Flat as the table
It's placed on
...
Everything here is small, near, accessible
...
Nations' borders are barely visible
As if they wavered -to be or not.
I like maps, because they lie.
Because they give no access to the vicious truth.
Because great-heartedly, good-naturedly
They spread before me a world
Not of this world.

References

Borges JL (1946). Del rigor en la ciencia (On exactitude in science), apocryphal quotation attributed to Suárez Miranda, Viajes de varones prudentes (1658). Retrieved from: <http://www.mi.sanu.ac.rs/~kosta/O%20strogosti%20u%20nauci.pdf>.

- Szymborska W (2016). Map. In: Map. Collected and last poems. Cavanagh C, Barańczak S (transl.), Cavanagh C (ed.). Boston, New York, Mariner Books.

Annex 1. Recommended reading

de Savigny D, Adam T (eds.) (2009). **Systems thinking for health systems strengthening. Alliance for Health Policy and Systems Research. World Health Organization.**

Retrieved from: http://apps.who.int/iris/bitstream/10665/44204/1/9789241563895_eng.pdf.

Clear and readable introduction to a demanding field, this book highlights the increasing complexity of health interventions, but also their cross-cutting effects on the healthcare arena, and beyond it. By acknowledging that behind successes and constraints there are actors and constituencies with different and sometimes divergent interests, it broadens the scope of health systems analysis, in turn stressing the need to adequately engage with the parties involved and to learn by doing.

Dewachi O, Skelton M, Nguyen V-K, Fouad FM, Abu Sitta G, Maasri Z, Giacaman R (2014). Changing therapeutic geographies of the Iraqi and Syrian wars. *Lancet*, 383: 449–57.

This landmark paper analyses two lasting transformations on health and health care produced by armed conflict: militarisation and regionalisation of health care. Only the cases of Iraq and Syria are examined but these reflections and conclusions can be applied to other protracted crises of transnational consequence, such as in the Horn of Africa or the Great Lakes. In fact, the events that occurred in the Levant after the publication of this article have exposed to a further degree "... the geographic reorganization of health care within and across borders under conditions of war". So far, the transnational effects of protracted crises on health systems have not been adequately studied, nor have they been adequately incorporated in the analysis of health systems and in the resulting decisions. In today globalised world, this issue will become more and more important. State-centric approaches are becoming a hindrance to understanding and action. New paradigms are needed.

Freedman L (2017). *The future of war. A history*. London, Penguin Books.

According to the UN, today 80% of the humanitarian caseload is driven by conflicts. Understanding how the nature and direction of conflicts has evolved, and may evolve is, therefore, of interest to the readers of the guidance.

In this unorthodox study of warfare from the 19th century to now, Freedman argues that "the future of war has a distinctive and revealing past". The author draws on the rich narrative of journalists, novelists, film-makers, political leaders, military strategists and amateurs to analyse how future wars were predicted, too often on the basis of flawed assumptions: 'history is made by people who do not know what is going to happen next'. Moving from the fixation on the "decisive battle" to the "total war" of last century to the border-blurring civil conflicts of our era, cyber-terrorism and what he calls "hybrid wars"²⁴, with advances in technology always in the mind of political and military leaders, the author warns against the pervasive optimism: the Nobel Peace Prize laureate Norman Angell published a book claiming that the 'economic futility of war would ensure it never occurred again', only a few months before the First World War erupted. Of particular relevance for the guidance is the chapter on failed states, whose "borders had become less relevant" a feature that has been repeatedly highlighted in this guidance. Civil wars in these settings have only recently attracted the interest of researchers; referring to these contexts, Freedman argues against "statistics with a powerful political impact but also without sources", another issue highlighted in the guidance.

The overall message of the book is that history matters and it is possible to learn from past predictions that did not materialise. As Hannah Arendt wrote "Predictions of the future are never anything but projections of present automatic processes and procedures, that is, of occurrences that are likely to come to pass if men do not act and if nothing unexpected happens."

Jackson A (2018). Life under the Taliban shadow government. ODI.

Retrieved from: <https://www.odi.org/sites/odi.org.uk/files/resource-documents/12269.pdf>.

Engaging with non-state armed groups controlling sizeable populations is essential for those humanitarian agencies that are willing to work therein. Understanding the principles and methods of governance of those armed groups and their attitudes towards government and aid agencies is a prerequisite for an effective engagement. Little is known on how health services are delivered in areas of Somalia controlled by Al-Shabaab, or by ISIS in Iraq and Syria. This study, based on a substantial number of interviews, debunks myths about Taliban's shadow government, too often portrayed as closed to any form of collaboration with state authorities and donors. Quite the contrary, the study shows that the Taliban's governance system has evolved over time, correcting some of the initial shortcomings and adapting to the changing military context and availability of resources. One of statements of the report "The Taliban have established a sophisticated system of parallel governance" may meet with some scepticism, but the analysis is convincing. In the absence of technical expertise in health (like in many sectors), the Taliban do not interfere in service delivery with NGOs and local government counterparts, maintaining, however, some form of control, establishing some rules, monitoring and advocating for more health resources to their areas. Hybrid service delivery arrangements are negotiated at local level between the two parties.

Interestingly, the complex picture that emerges from this breakthrough study is not reflected at all in the analysis of HS performance that was included in the HSAs' review (World Bank, 2018): an example of scotoma?

The study concludes that negotiation with the Taliban is difficult, but open and cannot be neglected, when one considers the immense needs of millions of people living in their areas. In fact, field aid workers are discreetly engaging with the opposition, without acknowledging it, nor coordinating with peers. Complex realities defy the black-and-white representations often used as

excuses by politicians and humanitarians averse to understanding and in turn engaging.

Rajkotia Y (2018). Beware of the success cartel: a plea for rational progress in global health. BMJ Glob Health, 3:e 001197. doi:10.1136/ bmjgh-2018-001197.

Retrieved from: <https://gh.bmj.com/content/bmjgh/3/6/e001197.full.pdf>.

A provocative editorial on the 'dark side' of the global health development initiatives which goes against the received wisdom and rhetoric in global health. Rajkotia warns that the rush to show improvements of health indicators can backfire. For fear of political or reputational negative reactions and financial penalties if the targets are not achieved, countries and aid agencies feel the pressure to embellish their data. Or the same countries and agencies are tempted to sell the progress of some health indicators as the direct result of their policies and programmes. The aid competitive market and the insufficient scrutiny of data reinforce each other in this 'cosmetic' race. The editorial claims that the health targets should be pragmatically considered as aspirations rather than norms, that the access to national data should be ensured to allow for their verification, and that 'intelligent failure', resulting from exploration and experimentation (and not from inadequate processes or lack of attention) should be rewarded: we can learn from fiascos as well as from successes.

Olivier de Sardan J.-P, Diarra A, Moha M (2017). Travelling models and the challenge of pragmatic contexts and practical norms: the case of maternal health. Health Res Policy Sys, 15, 1, 60.

Retrieved from: <https://health-policy-systems.biomedcentral.com/track/pdf/10.1186/s12961-017-0213-9>.

The article is a witty and convincing critique of 'travelling models' - i.e. standardised health interventions developed and promoted by international agencies and introduced across numerous countries without the necessary adaptations to the different contexts. Using as examples the three well-known tools and mechanisms of partograms, focused ANCs and PBF

as implemented in West Africa, the article analyses their “unexpected, invisible and perverse effects” and their causes, such as the concrete obstacles to their provision that were not considered in their design. For example, service providers may find some ‘models’ cumbersome and too heavy to use, and prefer to rely on their experience without going by the book.

Starting as success stories, the three tools/ mechanisms analysed face critical implementation failures, because blind to the context, to the HS complexities and to the hurdles of application to the ‘real world’. Travelling models survive despite their failures and criticisms, because they are among the core business of many international health agencies and rely on long established narratives and procedures that are difficult to dismantle (e.g. path dependency). The article resonates well with some leitmotifs of the guidance, in particular the importance of studying the context, in order to understand what measures are feasible and have a chance to successfully address some of the problems affecting the HS.

Kahneman D (2011). Thinking, fast and slow. London, Penguin Books.

This brilliant and thought-provoking book deserves to be included among the top recommendations. Based on decades of research on cognitive psychology (for which the author was awarded the Nobel Prize in economic sciences), it analyses the way people think and make decisions, often apparently irrational, distracted by irrelevant information and driven by impulsivity, emotions and cognitive laziness. The book goes against the conventional wisdom of logical thinking and deliberate reasoning (the rational agent model), showing the limits of subjective judgment and expertise, including the strong tendency to misinterpret probabilities and rely on intuitive choices, those that come first to mind. Overconfidence and an exaggerated sense of optimism influence decision-makers when they take to forecasting, for example on the feasibility and affordability of some public health interventions.

People, argues Kahneman, are prone to cognitive biases that lead them to flawed thinking and to resist reasonable arguments. When people have to

address complex problems, they often substitute a hard question with an easier, intuitive, off-the-shelf and imperfect one that it is easier to answer: “Do we still remember the question we are trying to answer? Or have we substituted an easier one?” This is an example of ‘heuristic’ strategy that can lead to severe, systematic errors; this guidance offers several examples of how health policy makers often fall into this trap, choosing easy, intuitive shortcuts or applying strict, simple rules and procedures when confronted by ‘wicked’ problems. The influence of the framing information (that is, the different ways it can be presented) on decision-making is illustrated by various examples from research. The negative consequences of dominant narratives - or frames - on strategies and practices have been eloquently shown in the DR of Congo by Autesserre (2012). As we have stressed in the guidance, uncertainty can stem from how data are faultily framed, not just from their absence.

To conclude this short review, one quote picked from a wealth of insights: “We are prone to blame decision makers for good decisions that worked out badly and to give them too little credit for successful moves that appear obvious only after the fact.”

Reference: Autesserre S (2012). Dangerous tales: Dominant narratives on the Congo and their unintended consequences. *African Affairs*, 111, 443: 202-222.

Pavignani E, Colombo S (2016). Strategizing in distressed health contexts. In Schmets G, Rajan D, Kadandale S (eds.). *Strategizing national health in the 21st century: A handbook*. Geneva, WHO.

Retrieved from: <http://www.who.int/healthsystems/publications/nhpsp-handbook-ch13/en/>.

A review of the difficulties faced in conceiving policies and plans where the available information is shaky, enforcement capacity is limited, the implementing environment is fluid and results are ambiguous. Such healthcare arenas affected by conflict, poverty, misrule, and frequently a mixture of such stressors, are crowded with autonomous actors with different agendas. Rather than falling back on comfortable blueprints (bound to fail),

stakeholders should study and understand the local context and its likely evolution, as the first necessary step towards formulating policies, strategies and plans.

Humble short-term, iterative approaches coupled with strong monitoring, continuous analysis and progressively deeper understanding are to be preferred to grand planning exercises of dubious impact. Realistic, localised interventions stand better chances of success than country-wide plans formulated from a distant capital, and sometimes from abroad. Given the daunting complexity of “crisis complexes”, abandoning traditional (but flawed) binary distinctions, such as private/public, foreign/domestic, traditional/modern, legal/illegal, will help understanding.

Ramalingam B (2013). Aid on the edge of chaos: rethinking international cooperation in a complex world. Oxford: Oxford University Press.

Drawing on complexity theory and systems thinking for a thorough critique of traditional aid policy and practice, this brilliant book is recommended reading for a wider audience, including the users of this guidance. The HS analyst will benefit from the exposure to the multidisciplinary approaches and analytical tools that Ramalingam applies to aid and development, with examples from different sectors, including health. At the end of the book, the analyst will concur with the author that a reductionist approach to HS is ill-suited in the complex and dynamic environment of development, and, for extension, even less effective in the chaotic context of a crisis: “Some problems are so complex that you have to be highly intelligent and well informed just to be undecided about them”. To paraphrase Ramalingam in his conclusion, HS analysts should move from being people who know the answers to people who know what questions to ask: questions that will not satisfy donors and decision-makers who expect ready-made solutions to the complex problems affecting HS.

Slim H, Trombetta L (2014). Syria crisis common context analysis. Co-ordinated accountability and lessons learning (CALL) Initiative. IASC Inter-Agency Humanitarian Evaluations Steering Group, New York.

Retrieved from: https://interagencystandingcommittee.org/system/files/syria_crisis_common_context_analysis_june_2014.pdf.

This study was sponsored by the UN with the aim of providing the humanitarian sectors with a common understanding of the crisis, its historical origins, the spill-overs into the neighbouring countries and the regional humanitarian impact. Moreover, the report identified the new challenges placed by the Syrian cataclysm, and the emerging new responses. Two renowned scholars were contracted by the UN to carry out the study, which explains the breadth and depth of their analysis. In the extremely contentious context of Syria, this report managed to strike a fair balance, while maintaining a high analytical power. Not a small achievement, particularly in the UN system. The actual impact of this precious instrument on decision-making across political frontlines should be investigated.

Van Lerberghe, W. Mechbal, A. Kronfol, N. (2018) The collaborative governance of Lebanon’s health sector. Twenty years of efforts to transform health system performance. Policy Support Observatory.

“This paper describes how Lebanon pursued universal coverage over the past two decades: by regulating the public purchase of inpatient care for the uninsured, improving quality and access of ambulatory care; and reducing the weight of out-of-pocket payments. These measures were not the result of a blueprint-reform, but of incremental strategies orchestrated by the Ministry of Public Health (MoPH) as it took advantage of (or created) opportunities to move in the direction of universal coverage.”

Since the end of the civil war, the healthcare arena, populated by a complex mosaic of mainly private, confessional health providers, has grown out of control. “With increased supply came supply-induced demand.” The unplanned growth of hospitals, the proliferation of high-tech diagnostic devices, the uncontrolled market of medicines, the low profile and little funding for promotive and preventive medicine, had all contributed to rising health expenditures, shouldered by households and the Treasury. Such situation, vividly described in this

report, was considered as beyond repair by many observers. “Lebanon’s health sector was a textbook example of market failure.”

Lebanon offers an unusual planning lesson. Thinking strategically is much more important than rushing to write ‘strategic’ plans. It entails identifying key weaknesses and vulnerabilities, selecting those that can realistically be addressed, mobilizing stakeholders adequately, raising resources to that effect and focussing sustained efforts in the chosen measures. In this documented case, strategic planning has unfolded through the decisions made by participants, usually through messy and informal interactions, which acquire a system-wide sense only with hindsight. This remarkable progress has been attained “by persuasion, contagion and dissemination, rather than by administrative command-and-control.”

de Waal, A (2018). The end of famine? Prospects for the elimination of mass starvation by political action. *Political Geography*, 62, 184-195.

Retrieved from: <https://www.sciencedirect.com/science/article/pii/S0962629817302871>.

This article is a synopsis of a book on famines²⁵, both publications combining passion with scholarly rigour. The author is not new to the topic: in his controversial book *Famine Crimes*²⁶ of twenty years ago, he criticized humanitarian agencies for ignoring the political causes of starvation, limiting their action to immediate responses, which also served their own fundraising needs, and doing more harm than good, by fuelling conflict and undermining democratic accountability.

In the recent article and book, de Waal claims that the spectacular decline in the occurrence of famines and in the decrease of mortality is the result of improvements in agricultural productivity, transport infrastructure and communication, spread of democracy and human rights and humanitarian and public health efforts (particularly in primary health care, nutrition, water and sanitation). By the first decade of this century, famine had almost been conquered. But then the progress was reversed, first in Somalia in 2011, and in the last three years with a high threat of famine in South Sudan, Somalia, North-Eastern Nigeria and Yemen,

the latter one the epitome of a politically-induced starvation. Conflicts and famines are intimately linked.

After debunking the myths of the Malthusian imbalance between population growth and resources or of the food shortage as a result of a natural disaster, de Waal argues that among the different factors that combine to produce a famine, the political ones carry much of the responsibility. Famine is essentially a political phenomenon, with “deep connections between the politics of persecution, dictatorship, conquest and genocide, and the occurrence of mass starvation.” In the last century, the Nazi Hunger Plan, the Holodomor in Ukraine under Stalin, the ‘Great Leap Forward’ famine in Mao Zedong’s China and the Khmer Rouge’s forced starvation are the most illustrious examples, with several million people paying with their suffering and life for deliberate policies, true political crimes.

If the main causes of today’s famines are political, political are the solutions: “there is nothing inevitable about these calamities. What politicians have created, politicians under pressure from their publics can remedy”. A conclusion that applies also to other consequences of the conflicts that affect hundred million people worldwide and that makes this article and the companion book by de Waal a compulsory reading for all humanitarians.

Whittall J (2014). The ‘new humanitarian aid landscape’ – Case study: MSF interaction with non-traditional and emerging aid actors in Syria 2013–14. MSF.

Retrieved from: https://www.msf.org.uk/sites/uk/files/humanitarian_aid_landscape_-_syria.pdf.

A perceptive, refreshingly frank exploration of the dramatic shift of the humanitarian aid landscape caused by the Syrian implosion, and its strong reverberations in the whole Levant region and beyond. Humanitarian healthcare agencies have been brought out of their comfort zone, and have struggled to find satisfactory ways of engagement, “swinging between a principled approach which resulted in ideological caution and a pragmatic approach which in some cases resulted in over proximity” with aid actors guided by political and military agendas.

Time-honoured relief strategies have proven unsuitable to the new extreme context, and in need of considerable adaptation. Such radical rethinking of humanitarian health care is not confined to Syria and MSF, but is mandatory for every organisation involved in 'strong-state' crises, where cherished principles mean nothing to key actors. It might however prove beneficial to the humanitarian enterprise if it takes on board its requirements: increased flexibility, context sensitivity, innovation and further professionalization.

Bertone MP, Jowett M, Dale E, Witter S. (2019) Health financing in fragile and conflict-affected settings: what do we know, seven years on? *Social Science & Medicine*, 232: 209–219.

Purposeful review of the literature, updating a precedent study published in 2012. In the elapsed period, "...the field has continued to grow, and is skewed towards countries with a large donor presence (such as Afghanistan). Aid coordination remains the largest single topic within the themes, likely reflecting the dominance of external players, not just substantively but also in relation to research. Many studies are commissioned by external agencies and in addition to concerns about independence of findings there is also likely a neglect of smaller, more home-grown reforms."

Research gaps remain in relation to issues of consequence, such as domestic financing and the regulation of pluralistic healthcare arenas. Trans-national financing flows fuelling health care provision, such as remittances, are ignored by researchers. Overlooked are also the equity and efficiency of resource allocation, as well as the utilisation of funding.

Decision-makers believing that the advice that they receive is evidence-based should think twice after reading this article. To become useful, research must be reoriented away from the aid industry and its fashions. Independent funding sources are needed to give researchers opportunities to explore neglected issues.

Annex 2. A glossary of concepts and definitions

NB: This glossary updates and complements the more comprehensive one included in the WHO handbook (Pavignani and Colombo, 2009), to which the interested reader is referred, with selected terms relevant to HSAs.

TERM	Definition	SOURCES
Accuracy (also validity)	"The degree to which a measurement or an estimate based on measurements represents the true value of the attribute that is being measured."	Porta M, ed. (2014). A dictionary of epidemiology. 6th ed. New York, Oxford University Press.
Aid-in-kind	"Flows of goods and services with no payment in money or debt instruments in exchange. In some cases, 'commodity aid' goods (such as grain) are subsequently sold and the receipts are used in the budget or, more commonly through a special fund, for public expenditure."	International Monetary Fund (2007). Manual on fiscal transparency. Available online at: http://internationalmonetaryfund.com/external/np/pp/2007/eng/051507m.pdf , accessed 30 September 2008.
Allocative efficiency	The capacity of a system to distribute resources among competing activities, in a way that no alternative reallocation offers improvements in returns. Related to the comparative efficacy of interventions and to priority setting. An aggregate concept, referring to competing options, inside or outside the health sector, and to the scale of programmes. Allocative efficiency assumes that competing options work at the same level of technical efficiency.	
Assessment	"A formal process of evaluation of a process or system, preferably quantitative, but sometimes necessarily qualitative."	Last JM (2007). A dictionary of public health. Oxford University Press.
Attribution (see also counterfactual, excess mortality & morbidity)	Attribution aims to answer the question of why something happens (e.g. the effects of a crisis on the health of affected populations). It conveys the concept of causation without, however, fulfilling strict epidemiologic criteria of causality. In epidemiology, associations are defined as 'causal' "when are such that they allow for accurate prediction of what would occur under some intervention or manipulation". Causality (i.e. the demonstration of the existence of a factor, such as a crisis, without which an effect, such death or disease would not have happened) is almost impossible to demonstrate in a crisis, given its multiple effects on health, the many factors at play, and the exposure to several biases of any study or survey. More prudently, one speaks of contribution rather than attribution.	Vandenbrucke J, Broadbent A, Pierce N (2016). Causality and causal interference in epidemiology: The need for a pluralistic approach. <i>Int J Epidemiol</i> , 1-11.
Benchmark	"A slang or jargon term, usually meaning a measurement or point of reference taken at the beginning of a survey or project, used for comparison with subsequent measurements of the same variable; sometimes it means the best or most desirable value of the variable".	Porta M, ed. (2014). A dictionary of epidemiology. 6th ed. New York, Oxford University Press.
Bias	"Deviation of results or inferences from the truth, or processes leading to such deviation. An error in the conception and design of a study—or in the collection, analysis, interpretation, reporting, publication, or review of data—leading to results or conclusions that are systematically (as opposed to randomly) different from truth".	Porta M, ed. (2014). A dictionary of epidemiology. 6th ed. New York, Oxford University Press.
Cherry-picking	"Selecting from the data what serves to prove one's point and ignoring disconfirming elements".	Taleb NN (2012). <i>Antifragile. Things that gain from disorder</i> . London, Penguin Books.
Cognitive bias	"Systematic patterns of deviation from norm or rationality in judgment".	Haselton MG, Nettle D, Andrews PW (2005). The evolution of cognitive bias. In: Buss DM (Ed.). <i>The Handbook of Evolutionary Psychology</i> , John Wiley & Sons Inc. pp. 724–746.

TERM	Definition	SOURCES
Complexity	"A dynamic and constantly emerging set of processes and objects that not only interact with each other, but come to be defined by those interactions".	Cohn et al. (2013), cited in: Greenhalgh T, Papoutsis C (2018). Studying complexity in health services research: desperately seeking an overdue paradigm shift. BMC Medicine, 16:95; https://bmcmedicine.biomedcentral.com/track/pdf/10.1186/s12916-018-1089-4 .
Complex emergency	<p>1. A complex emergency is "a humanitarian crisis in a country, region or society where there is total or considerable breakdown of authority resulting from internal or external conflict and which requires an international response that goes beyond the mandate or capacity of any single and/or ongoing UN country programme" (IASC).</p> <p>2. "Complex political emergency: A situation with complex social, political and economic origins which involves the breakdown of state structures, the disputed legitimacy of host authorities, the abuse of human rights and possibly armed conflict, that creates humanitarian needs. The term is generally used to differentiate humanitarian needs arising from conflict and instability from those that arise from natural disasters" (ALNAP).</p>	WHO. https://www.who.int/hac/about/definitions/en/ .
Contracting-out	"The practice of the public sector or private firms of employing and financing an outside agent to perform some specific task rather than managing it themselves."	WHO Task Force on Health Economics (1995). Glossary.
Cost-effectiveness	"A measure of the comparative efficiency of discrete strategies and methods for achieving the same objective."	The Joint Learning Initiative (2004). Human Resources for Health. Overcoming the Crisis. Global Equity Initiative, Harvard University.
Counterfactual (see also attribution, excess mortality & morbidity)	An event or condition that did not happen, and is used to contrast the health outcomes registered in the situation under scrutiny. It helps imagine alternative scenarios to the one that actually occurred. Example: what would have been the mortality caused by the 2011-12 famine in Somalia, if relief had arrived earlier?	Adapted from Porta M, ed. (2014). A dictionary of epidemiology. 6th ed. New York, Oxford University Press.
Coverage	"A measure of the extent to which the services rendered cover the potential need for these services in a community. It is expressed as a proportion in which the numerator is the number of services rendered and the denominator is the number of instances in which the service should have been rendered".	Porta M, ed. (2014). A dictionary of epidemiology. 6th ed. New York, Oxford University Press. A classic discussion of the concept is: Tanahashi T (1978). Bulletin of the World Health Organization, 56(2):295-303.
Crisis	"Time of danger or greater difficulty, decisive turning point." Crisis describes a situation that is perceived as difficult. Its greatest value is that it implies the possibility of an insidious process that cannot be defined in time, and that even spatially can recognize different layers/levels of intensity. A crisis may not be evident, and it demands analysis to be recognized. Conceptually, it can cover both preparedness and response ("crisis management").	WHO. https://www.who.int/hac/about/definitions/en/ . Oxford Pocket Dictionary (1992).
Data	Raw material - facts and figures, not analysed. "A collection of items of information."	Porta M, ed. (2014). A dictionary of epidemiology. 6th ed. New York, Oxford University Press.
Data saturation	<p>"The point when additional data fails to generate new information.... the point at which new data stop generating any substantially new ideas....what you want to make sure is that you have enough data to tell a rich story, but not too much that it precludes deep, complex engagement with the data in the time available".</p> <p>There are uncertainties in the literature as to how saturation is conceptualized and inconsistencies in its use.</p>	Braun V, Clarke V (2013). Successful qualitative research. Sage Publications. Saunders B, Sim J, Kingstone T et al. (2018). Saturation in qualitative research: exploring its conceptualization and operationalization. Qual Quant, 52, 1893-1904. Retrieved from: https://doi.org/10.1007/s11135-017-0574-8 .

TERM	Definition	SOURCES
Dictionary definitions	<p>"Accounts of how words are and have been used. Some people treat the dictionary as the ultimate judge on questions of meaning... To treat the dictionary as the arbiter in debates is to give it an inappropriate authority".</p> <p>For example, to use the definitions of this glossary blindly would be inappropriate; the glossary can only help reduce the ambiguity of some definitions and improve their understanding by providing concrete examples, whenever possible.</p>	Warburton N (2007). Thinking from A to Z (3rd edition). London and New York, Routledge.
Equality and equity	<p>Value-laden concepts, difficult to operationalize and measure. Health inequities are defined as "avoidable inequalities that are unfair and unjust, where inequalities refer to differences in both health experience and status between countries, regions, socio-economic groups". Health equity implies a fair distribution of both the benefits and burdens of health services among groups and individuals. Horizontal equity means equal treatment or equal access to health care for equal needs. Vertical equity is unequal treatment for unequal needs or allocating resources to take account of differences among population groups or individuals (i.e. more serious health problems require more resources than trivial ones and more disadvantaged groups/individuals require more health support, i.e. financial equity). The most common way to measure equity is to estimate utilization by using routine data of healthcare interventions (immunizations, out-patient consultation, etc) and relating them to different population groups (on geographical basis, by gender, age-groups, etc). Equity and efficiency are often at odds, and a fully equitable health system cannot be wholly efficient: choices have to be made.</p>	<p>Leon DA, Walt G, Gilson L (2001). International perspectives on health inequalities and policy. <i>British Medical Journal</i>, 322:591–594.</p> <p>Kawachi I, Subramanian S, Almeida-Filho N (2002). A glossary for health inequalities. <i>Journal of Epidemiology and Community Health</i>, 56:647–652.</p> <p>Ranson K et al. (2007). Promoting health equity in conflict-affected fragile states. London, London School of Hygiene and Tropical Medicine.</p>
Escapist budgeting	<p>It occurs when "...the government knowingly authorizes significant public spending that it knows will not occur so as to create the impression that it is responding to demands for social improvement".</p>	Schick A (1998). A contemporary approach to public expenditure management. World Bank Institute.
Excess mortality and morbidity (see also attribution, excess mortality & morbidity)	<p>Indicators of severity of the crisis: "Morbidity and mortality that occur directly or indirectly because of the crisis, i.e. that would not have occurred had the crisis not taken place, may be considered in excess of the norm". Excess mortality and morbidity are therefore considered as 'attributable' to the crisis, compared to the counterfactual pre-crisis level. In epidemiological terms, crisis is the exposure, and pre-crisis the baseline. The baseline mortality and morbidity are frequently unknown.</p> <p>The excess death toll for a certain period of time equals to (actual death rate x actual population) – (baseline death rate x baseline population).</p> <p>Excess morbidity is a vaguer concept, since the crisis results in the increase of several diseases, whose pre-crisis incidence is invariably unknown.</p>	<p>Checchi F, Gayer M, Grais RF et al. (2007). Public health in crisis-affected populations. A practical guide for decision-makers. ODI, HPN, Network paper 61. Retrieved from: http://www.atha.se/sites/default/files/public_health_in_crisis-affected_populations-_a_practical_guide_for_decision-makers.pdf</p>
Evaluation	<p>"A process that attempts to determine as systematically and objectively as possible the relevance, effectiveness, and impact of activities in the light of their objectives."</p>	Porta M, ed. (2014). A dictionary of epidemiology. 6th ed. New York, Oxford University Press.
Evidence	<p>"Any form of knowledge, including, but not confined to research, of sufficient quality to inform decisions."</p>	Buse K, Mays B, Walt G. (2005). Making health policy. Open University Press.
Famine	<p>"A crisis of mass hunger that causes many people to die over a specific period of time"</p>	de Waal A (2018). Mass starvation. The history and future of famine. Polity Press.
Fiduciary risk	<p>"The risk that funds are not used for the intended purpose, do not achieve value for money, or are not properly accounted for."</p>	DFID (2004). Managing fiduciary risk when providing poverty reduction budget support. DFID Briefing.
Fiscal space	<p>"...the capacity of government to provide additional budgetary resources for a desired purpose without any prejudice to the sustainability of its financial position."</p>	Heller PS (2006). The prospects of creating 'fiscal space' for the health sector. <i>Health Policy and Planning</i> , 21, 2:75-79.

TERM	Definition	SOURCES
Foresight	"Foresight is the capacity to anticipate alternative futures, based on sensitivity to weak signals, and an ability to visualize their consequences, in the form of multiple possible outcomes. It is a means to visualize, rehearse and then refine in the mind, actions that would otherwise have to be tested against reality, where the consequences of error are irrevocable. As a factor in governance, the purpose of foresight is to enhance the ability of decision-makers to engage and shape events at a longer range and, therefore, to the best advantage of the citizens they serve."	Fuerth, L.S. (2009) Foresight and anticipatory governance. <i>Foresight</i> . Vol. 11 No. 4, pp. 14-32.
Framework	"A basic structure underlying a system, concept, or text"	Oxford dictionary online; https://en.oxforddictionaries.com/definition/framework .
Fungibility	The exchangeability of funds across competing expenditures. The presence of fungible funds limits the effectiveness of earmarking certain financing lines to specific purposes. For example, the generous support provided by donors to social sectors may permit the reduction of state funding to them, to benefit other sectors, like the army. Proponents of general budget support as the main form of aid see the fungibility of donor funds as a cornerstone of their argument. Fairly effective public expenditure management systems must be in place to make donor contributions fully fungible.	
Ghost workers	Workers included in the payroll, but no longer active, because of death, dismissal, retirement, etc., while their salaries continue to be regularly paid. Sometimes they result from active forgery, i.e. by the introduction of fictitious entries in order to benefit of their salaries. In disrupted public sectors, "ghost workers" may attain significant proportions (and, defying multiple exorcisms, perpetually return!).	
Gross domestic product (GDP)	"The value of all goods and services provided in a country by residents and nonresidents without regard to their allocation among domestic and foreign claims."	World Health Organization (2003). Guide to producing national health accounts: with special applications for low-income and middle income countries.
Hazard	"The inherent capability of a natural or human-made agent or process to adversely affect human life, health, property, or activity, with the potential to cause a disease, epidemic, accident, or disaster".	Porta M, ed. (2014). A dictionary of epidemiology. 6th ed. New York, Oxford University Press.
Health insurance	"A contract between the insured and the insurer to the effect that in the event of specified events (determined in the insurance contract) occurring the insurer will pay compensation either to the insured person or to the health service provider. There are two major forms of health insurance. One is private health insurance, with premiums based on individual or group risks. The other is social security, whereby in principle society's risks are pooled, with contributions by individuals usually dependent on their capacity to pay."	WHO, 2003. Hsiao WC, Shaw RP (2007). Social Health Insurance for Developing Nations. WBI Development Studies. The World Bank Institute.
Health system resilience	"Health system resilience can be defined as the capacity of health actors, institutions, and populations to prepare for and effectively respond to crises; maintain core functions when a crisis hits; and, informed by lessons learned during the crisis, reorganise if conditions require it"	Kruk, ME, Myers, M Varpilah, ST, Dahn, BT (2015). What is a resilient health system? Lessons from Ebola. <i>Lancet</i> , 385(9980), 1910–2. https://doi.org/10.1016/S0140-6736(15)60755-3
Heuristic	"A method of reasoning that relies on a combination of empirical observations and unproven theories to produce a solution that may be approximately correct, useful, and defensible, but cannot be proven sound under the given conditions of application". "Simple, practical, easy-to-apply rules of thumb that make life easy. These are necessary...but they can get us in trouble as we do not know we are using them when forming judgements"	Porta M, ed. (2014). A dictionary of epidemiology. 6th ed. New York, Oxford University Press. Taleb NN (2012). Antifragile. Things that gain from disorder. London, Penguin Books.

TERM	Definition	SOURCES
Implementation research	"Implementation research is the scientific inquiry into questions concerning implementation—the act of carrying an intention into effect, which in health research can be policies, programmes, or individual practices (collectively called interventions)."	Peters DH, Adam T, Alonge O; 2013. Implementation research: what it is and how to do it. BMJ 2013;347:f6753; https://www.bmj.com/content/bmj/347/bmj.f6753.full.pdf .
Inappropriate precision	"Giving information or figures to a greater degree of apparent accuracy than suits the context". Example: 97.8% of refugees worldwide complain that the quality of water is inadequate. Without providing information on how these data were obtained and their limitations, nor the confidence interval, this level of precision is inappropriate.	Warburton N (2007). Thinking from A to Z (3rd edition). London and New York, Routledge.
Indicator	"An attribute that can be used to measure and/or record an event, process, or phenomenon. Indicators are tools for quantifying, through direct or indirect measures, a significant aspect of a health issue."	Porta M (2006). A Dictionary of Public Health. Oxford University Press
Internally displaced persons (IDPs)	"persons or groups of persons who have been forced or obliged to flee or to leave their homes or places of habitual residence in particular as a result of or in order to avoid the effects of armed conflicts, situations of generalized violence, violations of human rights, or natural or man-made disasters and who have not crossed an internationally recognized State border."	United Nations (1999). Guiding principles on internal displacement. Available online at http://ap.ohchr.org/documents/alldocs.aspx?doc_id=1160, accessed 3 November 2008.
Logical Framework Analysis (LFA)	"A method of project or program planning that uses a matrix of the goal, purpose, expected results, and activities on the vertical axis and the performance indicators, means of verification, and assumptions on the horizontal axis. The matrix can be used also for project monitoring and evaluation and may be updated in response to changes in the timetable, performance, or feasibility of component activities". Its formulaic application in crisis settings is problematic: activities may change, outputs are modified by factors external to the project, the estimation of performance indicators may be difficult or impossible, cause-and-affect attributions may be invalid, assumptions may multiply given the overall uncertainty and in response to contextual changes, etc. Rather than keeping an ill-adapted project monitoring tool in troubled contexts, managers should drop the project format altogether, as unfit-for-purpose.	Porta M, ed. (2014). A dictionary of epidemiology. 6th ed. New York, Oxford University Press.
Metadata	"A set of data that describes and gives information about other data". For example: date of data collection, place, agency, method, etc.	Oxford Dictionary online.
Mixed methods	"Mixed methods is an evaluation approach that involves the systematic integration of different methodologies and methods at all stages of an evaluation. The mixed methods approach normally refers to evaluation designs that combine quantitative and qualitative methods."	Bamberger M. The mixed methods approach to evaluation. Social Impact Concept note series, No. 1. 2013. Available from: https://www.alnap.org/system/files/content/resource/files/main/mme613.pdf .
Narrative fallacy	"Our need to fit a story, or pattern, to a series of connected or disconnected facts. The statistical application is data mining".	Taleb NN (2012). Antifragile. Things that gain from disorder. London, Penguin Books.
On-/Off-budget funding	Term denoting the capture (or lack of it) of some funds by the budget process, usually of the recipient government. The funds considered as on- or off-budget may be conceded by international assistance, but may also be internal revenues, as user charges or fines. The term is often used loosely. In fact, additional funds may be inscribed on-budget in one phase of the cycle, and remain off-budget in another one. To study the issue properly, the whole budget cycle must be monitored.	
Opportunity cost	"The value of the next best alternative forgone as a result of the decision made."	Wonderling D, Gruen R, Black N (2005). Introduction to health economics. Maidenhead, Open University Press.

TERM	Definition	SOURCES
Outlier	"Observations with values differing widely from the rest of the data. This may suggest that an error was committed in their measurement or recording, or that the values come from a population different from that giving rise to the bulk of the observations. Yet, the values may be valid and precise."	Porta M, ed. (2014). A dictionary of epidemiology. 6th ed. New York, Oxford University Press.
Path dependence	"Path dependence is the idea that decisions we are faced with depend on past knowledge trajectory and decisions made, and are thus limited by the current competence base. In other words, history matters for current decision-making situations and has a strong influence on strategic planning. Competences that have been built in the past define the option range for today's moves".	Financial Times Lexicon online; http://lexicon.ft.com/Term?term=path-dependence .
Performance based financing (also referred to as pay-for-performance and output-based aid).	"Performance based financing (PBF) schemes typically aim to improve health services by providing bonuses to service providers (usually facilities, but often with a portion paid to individual staff) based on the verified quantity of outputs produced, modified by quality indicators".	Bertone MP, Falisse J-B, Russo G, Witter S (2018). Context matters (but how and why?) A hypothesis-led literature review of performance-based financing in fragile and conflict-affected health systems. PLoS ONE, 13(4): e0195301. Retrieved from: https://doi.org/10.1371/journal.pone.0195301 . Recommended readings: Bertone MP, Jacobs E, Toonen J et al. (2018). Performance-based financing in three humanitarian settings: principles and pragmatism. Confl Health, 12:28. Retrieved from: https://doi.org/10.1186/s13031-018-0166-9 . Paul E, Albert L, Bisala BN'S, et al. (2018). Performance-based financing in low-income and middle-income countries: isn't it time for a rethink? BMJ Glob Health, 1-7. Retrieved from: https://gh.bmj.com/content/bmjgh/3/1/e000664.full.pdf .
Population pyramid	"A double bar-chart showing the age-sex structure of a population".	Harper S (2018). Demography. A very short introduction. Oxford University Press.
Precision	"The quality of being sharply defined through exact detail. Relative lack of random error. In statistics, the measure of precision is the inverse of the variance of a measurement or estimate". See random error below.	Porta M, ed. (2014). A dictionary of epidemiology. 6th ed. New York, Oxford University Press.
Proxy	"Indicator of something which is, by its complex nature, inherently unmeasurable."	Green, 2007.
Purposive (or convenience) sampling	Common (non-probabilistic) sampling modality in qualitative studies, where participants are selected based on accessibility and assumption that will have certain characteristics, rather than some other criterion.	Adapted from: Braun V, Clarke V (2013). Successful qualitative research. Sage Publications.
Random (sampling) error	"Random error is the difference between a sample estimate and the true population value that is due to the chance variation of multiple samples".	Daniel J (2012). Sampling essentials. Sage Editions.
Realist review	"Realist review is a relatively new strategy for synthesizing research which has an explanatory rather than judgemental focus. It seeks to unpack the mechanism of how complex programmes work (or why they fail) in particular contexts and settings".	Pawson R, Greenhalgh T, Harvey G, Walshe K; 2005. Realist review: a new method of systematic review designed for complex policy interventions. Journal of Health Services Research & Policy, 10: p. 21-34.

TERM	Definition	SOURCES
Refugee	Person who "owing to a well-founded fear of being persecuted for reasons of race, religion, nationality, membership of a particular social group or political opinion, is outside the country of his nationality and is unable or, owing to such fear, is unwilling to avail himself of the protection of that country; or who, not having a nationality and being outside the country of his former habitual residence as a result of such events, is unable or, owing to such fear, unwilling to return to it".	United Nations High Commissioner for Refugees (2006). Collection of international instruments and other legal texts concerning refugees and others of concern to UNHCR. Geneva.
Regulation	" ... the imposition of external constraints upon the behavior of an individual or an organization. As such, it is the exercise of authority by some entity over those individuals or organizations, forcing a change from their preferred behavior. Thus, a key element of regulation (as against direct military-style command-and-control) is that the individual or organization to be regulated must be structurally capable of at least some degree of autonomous or independent decision-making. Otherwise, there is no preferred behavior to change."	Saltman RB (2002). Regulating incentives: the past and present role of the state in health care systems. <i>Social Science and Medicine</i> , 54:1677–1684.
Resilience	See Health system resilience above.	
Risk	"The probability of an adverse or beneficial event in a defined population over a specified time interval." Not to be confused with hazard (see definition above). A risk is the product of hazard and vulnerability.	Porta M, ed. (2014). <i>A dictionary of epidemiology</i> . 6th ed. New York: Oxford University Press.
Sampling bias	"Systematic error due to the study of a non-random sample of a population." Lack of "generalizability: the degree to which results of a study may apply, be relevant, or be generalized to populations or groups that did not participate in the study".	Last, 2001. Porta M, ed. (2014). <i>A dictionary of epidemiology</i> . 6th ed. New York, Oxford University Press.
Selection bias	"The introduction of bias into the results of a study because those selected differ from those not selected in some systematic way".	Webb P, Bain C (2011). <i>Essential epidemiology</i> . Cambridge University Press.
Sensitivity analysis	"A 'what-if' type of analysis to determine the sensitivity of the outcomes to changes in parameters. If a small change in a parameter results in relatively large changes in the outcomes, the outcomes are said to be sensitive to that parameter."	International Monetary Fund (2007). <i>Manual on fiscal transparency</i> . Washington, DC.
Shorthand	"Indication of something which one could in theory measure, but measuring which would be very costly."	Green, 2007.
Shadow alignment	"Shadow alignment is a state-avoiding approach but one that is 'future-proof'. It does not give an authority or government control over resources, but does use structures, institutions or systems which are parallel but compatible with existing or potential organisation of the state. It aims to avoid creating a diversionary institutional legacy that can undermine or impede the development of a more accountable and legitimate future relationship between the people and their governments."	Sondorp E et al. (2004). Achieving the health millennium development goals In difficult partnerships. Background document for the High-level Forum on the Health MDGs. DFID Health Systems Resource Centre.
Shock	A disruption in an otherwise continuous trajectory. The induced disruption may be controlled, or induce fundamental change. Usually, responses to shock are control-oriented, rather than geared at managing change (which is often unavoidable).	Leach, M. Scoones, I. Stirling, A. (2010) <i>Governing epidemics in an age of complexity: Narratives, politics and pathways to sustainability</i> . <i>Global Environmental Change</i> . Volume 20, Issue 3, Pages 369-377.
'Soft intelligence'	"Soft intelligence is usefully understood as the processes and behaviours associated with seeking and interpreting soft data -of the kind that evade easy capture, straightforward classification and simple quantification- to produce forms of knowledge that can provide the basis for intervention".	Martin GB, McKee L, Dixon-Woods M (2015). Beyond metrics? Utilizing 'soft intelligence' for health care quality and safety. <i>Soc Sci Med</i> , 142: 19-26

TERM	Definition	SOURCES
Standard	"Something that serves as a basis for comparison." In public health in emergencies, a standard is often the result of consensus among experts.	Porta M, ed. (2014). A dictionary of epidemiology. 6th ed. New York, Oxford University Press.
Stress	An enduring and pervasive change, such as under-resourcing or population growth. It can induce disruption or not, depending on the response. A resilient health system will reconfigure itself in order to respond to stress. A vulnerable one would become disrupted, responding in ill-adaptive ways.	Leach M, Scoones I, Stirling A (2010). Governing epidemics in an age of complexity: Narratives, politics and pathways to sustainability. Global Environmental Change, Volume 20, Issue 3, Pages 369-377.
Sunk costs	Sunk costs are a special type of fixed costs, representing those that have been irrevocably committed and cannot be recovered: for example, the costs of training a health professional who later emigrates.	Pavignani E, Colombo S (2009). Analysing disrupted health sectors. A modular manual. WHO. Retrieved from: https://www.who.int/hac/techguidance/tools/disrupted_sectors/adhsm.pdf .
Survey	"An observational investigation, usually descriptive, in which information is systematically collected".	Porta M, ed. (2014). A dictionary of epidemiology. 6th ed. New York, Oxford University Press.
Survivor bias	"The exclusion from the sample of households of which all members have died or that have disintegrated following displacement), which results in the underestimation of mortality, attack rate of an out-break or prevalence of acute malnutrition."	Boerma JT, Sommerfelt AE, Bicego GT (1992). Child anthropometry in cross-sectional surveys in developing countries: an assessment of the survivor bias. Am J Epidemiol, 135(4):438-49.
Sustainability	"Sustainability is the capacity to create, test, and maintain adaptive capability."	Holling CS (2001). Understanding the complexity of economic, ecological, and social systems. Ecosystems, 4: 390–405. DOI: 10.1007/s10021-001-0101-5.
System thinking	"Systems thinking is an approach to problem solving that views "problems" as part of a wider, dynamic system. It demands a deeper understanding of the linkages, relationships, interactions and behaviours among the elements that characterize the entire system".	de Savigny D, Adam T (2009). Systems thinking for health systems strengthening. Retrieved from: http://apps.who.int/iris/bitstream/10665/44204/1/9789241563895_eng.pdf .
Technical (or Operational) Efficiency	"Maximising output for a given set of physical inputs, or minimizing the physical inputs required to produce a given output."	Hensher M (2001). Financing health systems through efficiency gains. CMH Working Papers Series. Paper No. WG3: 2. Available online at: www.emro.who.int/cbi/pdf/FinancingHealthSystems.pdf , accessed 30 September 2008.
Transaction costs	"Any use of resources required to negotiate and enforce agreements, including the cost of information needed to facilitate a bargaining strategy, the time spent haggling, and the costs of preventing cheating by the parties to the bargain."	Cotter in: Eatwell J, Milgate M, Newman P, eds. (1989). Allocation, information and markets. New York, Norton (New Palgrave series).
Transition	"The period between the immediate aftermath of crisis and the restoration of pre-crisis conditions (recovery) or their improvement to a satisfactory level (development)".	Joint Meeting of the Executive Boards of UNDP / UNFPA, UNICEF and WFP, January 2006.
Vulnerability	"Vulnerability can be defined as the diminished capacity of an individual or group to anticipate, cope with, resist and recover from the impact of a natural or man-made hazard. The concept is relative and dynamic. Vulnerability is most often associated with poverty, but it can also arise when people are isolated, insecure and defenceless in the face of risk, shock or stress".	IFRC. What is vulnerability? https://www.ifrc.org/en/what-we-do/disaster-management/about-disasters/what-is-a-disaster/what-is-vulnerability/ .
Wicked problem	A "class of social system problems which are ill-formulated, where the [available] information is confusing, where there are many clients and decision makers with conflicting values, and where the ramifications in the whole system are thoroughly confusing... [such that] proposed 'solutions' often turn out to be worse than the symptoms".	Xiang WN (2013). Working with wicked problems in socio-ecological systems: awareness, acceptance, and adaptation. Editorial. Landscape and Urban Planning, 110 1–4.

Annex 3. Review of HSAs

A review of selected HSAs from different crisis settings and periods was carried out with the aim of identifying common approaches, contents, flaws and challenges that could help develop the guidance. A reading grid was prepared to ensure a uniform appraisal across the chosen case studies (see Annex). For some of the HSAs, carried out a while ago, the appraisal was able to take advantage of the benefit of hindsight. The reviews were conducted by the authors of this report and health systems (HS) experts, requested for collaboration in view of their familiarity with the healthcare arenas analysed. Some distance interviews were also conducted with analysts to explore more in depth some issues about the assessments, encompassing also Liberia and Somalia. The following HSAs were appraised²⁷:

- Northern Iraq (2017)
- North-Eastern Nigeria (2018)
- Afghanistan (2015 and 2010)
- Sierra Leone (no date and 2017)
- South Sudan (2007 and 2012)

The main shortcomings identified through the review are presented in the four sections reflecting the carrying out of a HSA, from start to finish. Obviously, they are linked, so that a flawed preparation jeopardises data collection and analysis.

Some remarks do not stem straight from the assessed HSAs, but are nonetheless integrated in this review due to their importance.

MAIN FINDINGS

1. Conceptualisation / methods / approaches

Inadequate contextualisation. The historic, social, economic, geographical background of the country was often not duly taken into consideration as having any impact on HS, or was discussed shallowly (e.g. for Sierra Leone and Nigeria). The role, links, networks and power of official and informal actors was seldom mapped or analysed, despite their influence on health developments, particularly in politically contested settings. There was also no discussion of potential future

scenarios, following key events, which probably reflected political prudence from the analysts in the uncertain context and their technical, narrow focus on health issues. Another shortcoming, particularly evident in the NE Nigeria HSA was the description of healthcare provision without exploring the changes caused to it by the crisis and the ensuing humanitarian response.

Neglect or insufficient consideration of the past. Most of the appraised HSAs provide a 'frozen' picture of the HS, without considering how previous healthcare patterns informed the current one. For instance, the South Sudanese healthcare arena was regarded as new because it belonged to a new state, instead of being the fuzzy result of the merging of two mutually-segregated healthcare provision systems, with very different characteristics. "Actions reflect invisible historical and cultural forces" (Chia and Holt, cited in Freedman, 2013): it is important to look at the past, as historical choices in health determine future options, as the theory of path dependence underscores. But the evolution (and in some case the revolution) of the healthcare arena is rarely appraised: it would offer precious indications about the likely direction of the present setup, in the absence of deliberate interventions. A related shortcoming of the appraised HSAs is the failure to take stock of previous similar exercises, and to explore the changes that occurred in the interval.

Insufficient conceptualisation of key issues. An example is the poor understanding of 'governance', narrowly conceived of as the description of structures of government and state administration, rather than the analysis of 'the rules that distribute roles and responsibilities among societal actors and shape the interaction among them' (Brinkerhoff and Bossert, 2008). A serious flaw, affecting many HSAs, is the uncritical acceptance of official descriptions (such as the referral pyramid) or standards (such as ratio health facilities / population) without adequately exploring the underlying reality, which regularly diverges from these idealised constructions.

Key aspects are recurrently neglected. Critical

aspects or sector components were frequently overlooked, or superficially covered, despite their importance, due to the scarcity of related information or the inadequate expertise of the analysts. From the appraised HSAs, it appears that the pharmaceutical sub-sector and health financing were particularly neglected. Critical issues can, however, be identified and analysed also when solid data are in short supply, if the right questions are asked to the right informants: the absence of data is usually a good indicator of the malfunctioning of a sub-sector. Other aspects, frequently neglected, probably because they did not fit into the utilised framework of analysis, included:

- underlying trends (e.g. urbanisation, environmental degradation);
- trans-border healthcare provision, which in some crisis clusters is conspicuous; thus, NE Nigeria was studied without embracing the affected regions of neighbouring countries, and the linkages between them;
- internal partition, with mutually segregated health systems (as presently witnessed in Syria);
- privatisation, official and informal;
- healthcare provision to marginalised population groups, such as slum settlers or nomads;
- external assistance other than official Western aid: remittances, charities, 'new' donors;
- hospital care;
- the perspectives of NGOs, even in contexts where they are key service providers, and consequently acquire substantial knowledge and expertise;
- the views of users of health services.

Critical events are not adequately analysed.

Often, the analysis of important events (such as an outbreak, the sudden departure of a big healthcare provider, the introduction of a new policy like the abolition of user fees or a new modality of financing) and their consequences on HS are not thoroughly assessed: they might, however, shed light on critical underlying aspects, such as spare capacity of the system, trust of users towards health authorities and overall resilience.

Overall, most HSAs appear to be inadequately prepared. Consequently, the data-collection phase was not guided by rigorous concepts and clear objectives. In this way, the HSA eventual outcome is sometimes the presentation of the data that

could be collected, rather an exploration of the main issues at stake. Thus, most HSAs remain descriptive (and incomplete in that respect), without becoming analytical or explanatory (Berman and Bitran, 2011).

2. Uncritical adherence to rigid / static frameworks

None of the appraised HSA formally espouses a precise conceptual framework. However, the Building Blocks Framework (BBF) proposed by WHO in 2007, which deal separately with each of the blocks and provide specific recommendations for them, underlies most analyses. This preference is probably due to the popularity of the framework, widely used to describe HS (Hoffman et al., 2012). It has been observed, however, that this framework has several weaknesses, which mainly derive from its organisation around a supply model (Mounier-Jack et al., 2014).

Below, the inadequacies of the BBF model are highlighted, as demonstrated by the HSAs under scrutiny. The dangers of a framework prone to be misused need to be stressed. Future analysts must learn to be much more sophisticated in their approach to health systems belonging to societies under severe stress. Perhaps this is the most serious side-effect of the BBF mechanical application: the overlooking of the turmoil that surrounds healthcare provision, and determines its patterns.

By breaking a complex system into separate components, the users of this model miss the dynamic interactions and interdependence between the actors and the elements of the system. Or, rather, the model itself misses that fact that real building blocks hold up or sit on other blocks. In fact, changes in one part of the system, say health financing, affect other parts - e.g. human resources, supply of medicines, quality of services, etc.-, often with unintended consequences.

The demand-side elements of HS are missing in the building blocks model. For example, the analysis of health needs is omitted, despite differences in the epidemiological profile and in expectations and demands for health care among crisis settings. The same applies to the political and social factors informing healthcare provision, which tend to be overlooked by analysts merely concentrating on the technical aspects of health care.

People, who as managers or providers represent the supply side of the system, are not represented in the WHO model, nor are the users - the demand side. Health systems consist of heterogeneous groups of actors (policy-makers, managers, health care providers, patients) with different power and functions, who interact at different levels in complex ways. An evolution of the building blocks framework focuses on the role of population, context, values and goals in shaping health systems through the power relations of the stakeholders (van Olmen et al., 2012).

In crisis settings, the complexity of the environment and its various influences on the HS tend to increase, as new actors intervene and new obstacles and risks amplify the challenges and constraints of the system. For these reasons, a mechanical view of the blocks has been increasingly challenged by new models, which recognise the diversity and complexity of HS, and their sensitivity to abrupt changes, which can lead to unplanned developments. Most of these models and related tools are based on systems thinking (de Savigny and Adam, 2009; de Savigny et al., 2017).

Finally, all the blocks in the model have the same importance; without weighting their relative significance for HS performance, the recommendations cannot be easily prioritised and sequenced over time.

The preference in most of the appraised HSA for the building blocks framework probably reflects a silos view of health services, with informants knowledgeable about their sub-sectors, but lacking an overview of the whole health system and its main issues. No off-the-shelf framework, however, even a general one such as the building blocks model, is valuable – without alteration - for studying vastly different HSs and contexts: whatever is chosen needs considerable adaptation.

Other flaws caused by adhering to rigid approaches, ill-suited to the blurred reality under exam, include:

- the adoption of binary categories, customarily used to describe the architecture of the studied country and of its healthcare arena: private/public, formal/informal, foreign/domestic, state / civil society, qualified/unqualified, traditional/modern,

legal/illegal, violent/peaceful, coherent/incoherent. In reality, most situations fall somewhere in between the tails of fuzzy spectra, and need nuanced descriptions.

- The respect for the territorial / administrative partition, which in many cases does not reflect actual health-seeking behaviour and in turn provision. Thus, the NE Nigeria HSA presents its findings split by six states, offering too detailed a description that obscures the overall picture.

• 3. Inadequate data collection and analysis

The use of information, more specifically of health data, indicators and estimates, in the appraised HSAs was, overall, poor and inconsistent. Weaknesses concerned the retrieval of information, the selection of sources, the choice of data and their interpretation. The sample of HSAs shows a great variation in this area: at one extreme, some HSA are devoid of data (e.g. Sierra Leone, ReBuild); at the other end, data are plentiful, but their interpretation and use are weak or inexistent (e.g. Nigeria).

As far as documentation is concerned, preference is mostly given to official documents (from the MoH, government, UN), at the expense of independent analyses published in peer-reviewed journals, or parts of grey literature or posted on the web. This pattern results in partial pictures of the health system, limited to its public segment operated by the state administration and supported by aid agencies: the private sub-sector is generally ignored, despite its often large size and important role in healthcare. While the information on the for-profit part of this sub-sector is generally scanty, particularly in crisis settings, the documentation on the 'non-profit'- component, particularly on the NGOs' interventions, is often abundant, though fragmented and with a limited dissemination.

When a country is partitioned because of a conflict, information is usually provided only for Government-controlled areas, for which access to data is generally easier, even when opposition groups hold control over a large part of the territory and its population: the resulting map has, therefore, information deserts. Prudence in dealing with controversial political issues may reach extreme levels, as in the case of government documents

ignoring the existence of health services controlled by the opposition. In the HSAs of Afghanistan and north-eastern Nigeria, populations and health services out of the control of the government are not reflected in the analysis.

The use of the available documentation is sometimes selective, to the point that key papers are neglected. For example, the comprehensive sector review conducted by the EU in Afghanistan in 2015 does not appear in the extensive bibliography of the World Bank's study of 2018. A narrow organisational perspective sometimes leads to the consideration of the aspects in which the sponsoring agency is engaged.

Overall, it seems that not much effort has been spent in searching the available documentation. Searches in the bibliographic electronic databases (e.g. Medline / PubMed, Scopus, Google Scholar, WHO, the World Bank, etc.) and, for the contextual information, in the websites of research institutes and think tanks (e.g. ODI, ICG, IRIN, GDC, etc.) or in specialized online journals (e.g. Disasters, Conflict & Health, etc.) seem not to be carried out regularly, despite the accessibility of most of these resources. Lack of searching skills, poor motivation, political biases and/or caution in addressing contentious issues, and information overload are all obstacles to the retrieval and use of valuable information. However, a survey of the literature, both published and grey, always yield useful documents.

Obtaining information is not enough: it must be relevant to the objectives of the analysis. If these are unclear, data collectors will lose track. Furthermore, its sources and quality need to be assessed and its limitations acknowledged before proceeding to its interpretation and use. One issue that strongly emerges from this HSA review is the over-reliance on quantitative data (often unrelated to the issues under scrutiny), to the detriment of qualitative insights.

The misuse / abuse of health outcome indicators to summarise the health situation or to document the progress of strategies and plans towards targets is a common flaw. From the review of selected HSAs, it appears that MMR, IMR, U5MR, as well as health service coverage indicators, are frequently accepted at face value. Baselines referring to periods when

carrying out proper country-wide surveys was plainly impossible are accepted for comparison.

Most of the appraised HSAs do not include a discussion of data and methodological limitations. This is due to the complexity of methods used in the production of estimates, which, generated far from the local context, are not fully understood by national authorities. In addition, outsider measurement experts too often fail to engage with national counterparts to discuss assumptions and country-level adjustments (AbouZahr, 2011; Pisani and Kok, 2017). There may also be the concern that acknowledging data limitations might have negative consequences with politicians and donors alike. In some cases, different values for indicators related to the same period, but from diverse sources, are reported side by side, leaving their differences unexplained, with the risk of creating confusion and scepticism. For example, the Sierra Leone HSA presents two IMR for 2010: 107 per 1,000 live births according to the UN and 128 per 1,000 according to the MICS: a 20% difference; the discrepancy for the under 5 mortality rate is even bigger: 160 per 1,000 live births for the UN and 217 for the MICS, a 35% disparity (MoHS, Sierra Leone, 2016).

The USAID-supported Demographic and Health Surveys -DHS- (MEASURE, 2012) and the UNICEF-supported Multiple Indicator Cluster surveys -MICS- (UNICEF, 2012) are expensive and time-consuming exercises, which cannot be replicated every year. In dynamic contexts, such as countries affected by violent conflicts (e.g. Yemen, Syria), large-scale epidemics (e.g. Sierra Leone) or famine (e.g. Somalia), once the data become available, they may already be obsolete and, thus, irrelevant.

Often, indicators are presented at national level, without geographical/administrative disaggregation: the sampling methods and the sample size of the surveys can make it impossible to obtain sub-national estimates or achieve meaningful precision. These national estimates represent country average levels; as such, they are not useful for local planning. In addition, they can mask sub-national or other characteristics (wealth, ethnic origin, urban-rural, etc.) with widening inequalities (Gwatkin, 2005). In countries affected by humanitarian crises, these differences, which are not captured by national

averages, can be relevant, but difficult to measure. In fact, methodologies for small area estimates are still at their infancy (AbouZahr et al., 2017).

“Data do not speak for themselves—they need context, and they need skeptical evaluation” (Allen Wilcox, quoted in Garcia-Marques et al., 2014). Without an analysis of the context and the sector, combined with local knowledge and awareness of past trends, the indicators are mute and their patterns cannot be interpreted correctly. In the appraised HSAs, any comments on the indicators are usually limited to the description of improvement or worsening, without attempts to make sense of the data and explain the trends.

Qualitative information is not always used to better understand what the data show; insights from informants seems to be disconnected from quantitative analyses. Furthermore, examples of qualitative hints associated with recommendations on which to undertake structured studies to prove or disprove the initial intuition could not be found. The two streams of information appear to proceed in parallel.

Another common pattern is the ‘central bias’: information is sought primarily from national informants (MoH officials, donors, experts, all at the central level), who may not know well key aspects of the reality in the field, whereas voices at peripheral level -be they front-line health workers or NGOs staff- are often ignored. Field visits, to collect these views and combine them with direct observations of health care delivery, seem not to be an integral component of most HSA.

The acknowledgment of the overall limitations of the analysis is often cursory: lack of data and time are the recurring explanations, while technical shortcomings and political pressures are not recognised as constraints. Moreover, as with the insights above, the acknowledged limitations are not linked to recommendations for follow-up studies, in order to shed light on important aspects that could not be analysed in depth in the HSA first round.

4. Utilisation and follow-up

The following weaknesses emerged in the appraisal of HSAs:

Inadequate distillation of findings into summaries, which limits the absorption of the main identified issues by the intended users. Very detailed descriptions of specific health services, usually integrated into the HSA just because they are available, dilute the content and distract the attention of the reader, thus impeding the recognition of the main issues. Moreover, too much association between the HSA and its sponsor agency may jeopardise its acceptance by other stakeholders.

Insufficient prioritisation/sequencing of HS issues/problems, resulting in long lists - with related recommendations, which without defined responsibilities and specific timeframes, are not useful to the decision-makers. In addition, the feasibility of the recommendations, as well as their cost and implications, are frequently overlooked by HSAs.

Inadequate attention is given to follow-up. The measures intended to disseminate the HSA findings and discuss the decisions suggested by them are recurrently omitted. Additionally, the main knowledge gaps are rarely identified, and the steps intended to fill them are in turn not suggested.

Proposing a roadmap for follow-up, needed studies and implementation is not enough if the environment is not favourable, as demonstrated by the Northern Iraq HSA, which was not disseminated nor discussed, as the host of issues it raised would have demanded.

Acknowledgments: Barbara Profeta, Barni Nor, Chiara Scanagatta, Mark Beesley, Muriithi Catherine Wangechi, Jacob Hughes, Jarl Chabod, Xavier Modol.

Health systems studies appraised

- Note: as the titles of the following documents suggest, not all of them are fully-fledged HSAs. Some were selected due to the lack of better alternatives for settings of interest. All the appraised reports are of system-wide scope / aspiration. Some interviews complemented the appraisal of the listed documents.
- Colombo S, Pavignani E (2017). Exploring the healthcare arena in northern Iraq, in a recovery perspective. Unpublished report. World Health Organisation.
- Downie R (2012). The state of public health in South Sudan. Global Health Policy Center. Center for Strategic and International Studies.
- Rajkotia Y, Boulenger S and Pressman W (2007). Southern Sudan health system assessment. Health Systems 20/20 project, Abt Associates Inc.
- Government of Sierra Leone. Ministry of Health and Sanitation (2017). Annual Health Sector Performance Report 2016.
- ReBUILD Consortium. (no date) Country Situation Analysis. Sierra Leone.
- World Bank (2018). Progress in the face of insecurity. Improving health outcomes in Afghanistan.
- Modol X (2015). Afghanistan joint health sector review and strategic plan implementation assessment. Ministry of Public Health and European Union.
- [Anonymous] (2018) Health system assessment. North eastern Nigeria. Draft.

References

- AbouZahr C (2011). New estimates of maternal mortality and how to interpret them: choice or confusion? *Reproductive Health Matters*, 19:37, 117-128, DOI: 10.1016/S0968-8080(11)37550-7.
- AbouZahr C, Boerma T, Hogan D (2017). Global estimates of country health indicators: useful, unnecessary, inevitable? *Global Health Action*, 10: 1290370. <http://dx.doi.org/10.1080/16549716.2017>.
- Berman P, Bitrán R (2011). Health systems analysis for better health system strengthening. *Health, Nutrition and Population (HNP) Discussion Paper*. The World Bank.
- Brinkerhoff DW, Bossert TJ (2008). *Health Governance: Concepts, Experience, and Programming Options*. Bethesda, MD: Health Systems 20/20.
- Freedman L. *Strategy* (2013). A history. New York: Oxford University Press.
- Garcia-Marques LG, Garcia-Marques T, Brauer M (2014). Buy three but get only two: The smallest effect in a 2 × 2 ANOVA is always uninterpretable. *Psychon Bull Rev* DOI 10.3758/s13423-014-0640.
- Gwatkin DR (2005). How much would poor people gain from faster progress towards the Millennium Development Goals for health? *Lancet*, 365: 813–17.
- Hoffman SJ, Røttingen JA, Bennett S, Lavis JN, Edge JS, Frenk J (2012). Background paper on conceptual issues related to health systems research to inform a WHO Global strategy on health systems research. *Health Systems Alliance* Available: http://www.who.int/alliance-hpsr/alliancehpsr_backgroundpaperhsrstrat1.pdf.
- Mounier-Jack S, Griffiths UK, Clooser S, Burchett H, Marchal B (2014). Measuring the health systems impact of disease control programmes: a critical reflection on the WHO building blocks framework. *BMC Public Health*, 14:278. Available: <http://www.biomedcentral.com/1471-2458/14/278>.
- van Olmen J, Criel B, Bhojani U, Marchal B, Chengé F, Van Damme W, Hoeree T, Pirard M, Kegels G (2012). The Health Systems Dynamics Framework. *Health, Culture and Society*, 2(1):1–12.
- Pisani E, Kok M (2017). In the eye of the beholder: to make global health estimates useful, make them more socially robust, *Global Health Action*, 10:sup1, 1266180, DOI: 10.3402/gha.v9.32298.
- de Savigny D, Adam T (2009). *Systems Thinking for Health Systems Strengthening*. WHO Geneva.
- de Savigny D, Blanchet K, Adam T (2017). *Applied systems thinking for health systems research*. Open Univ. Press.
- UNICEF. *Statistics and Monitoring: Multiple Indicator Cluster Survey*. Available: http://www.unicef.org/statistics/index_24302.html.
- USAID-MEASURE DHS Demographic and Health Surveys. Available: <http://www.measuredhs.com/>.
- WHO (2007). *Everybody's Business. Strengthening Health Systems to Improve Health Outcomes. WHO's Framework for Action*.

Annex 4. Grid for the review and synthesis of health system assessments

Issues to be considered	EXAMPLES, REMARKS AND REFERENCES
Country, administrative / political / geographical area (sub- or trans-national), whose HS was assessed	
Year(s) of the HSA. Repeated over time, so that two or more HSAs can be compared and the HS evolution be followed?	
Assessor(s) and their affiliation(s). Degree of participation, as gauged from the text or reported from informants	
Organisation(s) that commissioned the HSA. Context in which the exercise was carried out. Is the HSA part of a broader endeavour, or a stand-alone exercise?	HSAs are sometimes commissioned during a transition (actual or hoped for) from war to peace
Rationale and objectives of the HSA (summarised). Main purpose (stated or otherwise) of the HSA: fund-raising, planning, advocacy, research, other?	Descriptive, analytical, explanatory? See Berman and Bitran (2011) for a definition of such terms
Limitations of the HSA, as mentioned in the report, or inferred through the text / from other sources	
Methods: summarise as per description. Rapid vs. detailed assessment. Static (analysing the present setup), or extended over time, in order to capture the HS evolution?	Highlight discrepancies between methods and practice, if recognisable
Did the HSA take stock of previous similar exercises?	Did previous HSAs reach similar conclusions? Were similar recommendations tabled? To what effect? If discordant findings are recognisable, do they reflect actual changes on the ground?
Context: is the analysis relevant to the HSA? Match/mismatch of contextual and healthcare analysis? Is the contextual analysis solid/ deep, or formulaic?	
Was a framework developed or used for the assessment? If yes, which one? Was it appropriate to the context under scrutiny? Was it aptly applied? Was the chosen analytical unit right, given the issues to be explored?	Re. the analytical unit: the official territorial partition might be upheld, despite its scanty relevance for healthcare provision.
Which HS components were assessed? Which were omitted or inadequately analysed? Were the inter-relations between the different components sufficiently analysed? Stronger vs. weaker sections of the HSA.	Appraise whether imbalances between HS components are due to the uneven information available, or rather reflect policy priorities, analytical biases, funding agendas.
Was the healthcare arena analysed uniformly, or split down by region?	Critical issue, if the healthcare arena is highly diverse.
In general, was the assessment carried out in a technically sound way? Was it internally coherent?	Examples of internal incoherence: a) proposed indicators unrelated to the aspect(s) under scrutiny or aimed at. b) concluding with policy proposals weakly supported by the analysis.
Did the assessment and discussion clearly identify key issues/problems that affected HS performance? If yes, which were they? Which key aspects were overlooked?	Highlight key issues raised by other studies, if relevant.
Can key issues be read between the lines (perhaps not mentioned because of political sensitivities)?	
Were the findings of the HSA backed by 'solid' data and/or opinions of interviewees?	A common flaw consists in preferring quantitative data (because regarded as 'solid' over qualitative ones.

Issues to be considered	EXAMPLES, REMARKS AND REFERENCES
Which types of data were presented? Were their limitations discussed?	Pay attention to shaky data, uncritically included because available, or because supporting desired conclusions.
Which were the recommendations / suggestions proposed? Were they specific? Realistic? Prioritised? Sequenced? Did the HSA alert prospective implementers about the hurdles ahead, and of the implications of the proposed measures?	
To whom are the recommendations addressed, explicitly or implicitly?	Unrealistic recommendations include technical ones failing to take the context into consideration. See Olivier de Sardan, J.-P. Diarra, A. and Moha, M. (2017) Travelling models and the challenge of pragmatic contexts and practical norms: the case of maternal health. <i>Health Research Policy and Systems</i> . 15(Suppl 1):60.
Was the report submitted to a peer-review process? If yes, describe	Consider also informal reviews.
Was a follow-up recommended (workshop, dissemination of the report, new assessment and/or specific studies, other)? If yes, which ones?	Informants might be instrumental in tracking the HSA actual follow-up.
Quality of the bibliography: did it consist of grey literature, published references or both? Were the references useful (i.e., valuable in order to deepen / support the analysis)?	Check whether essential references are missing, and irrelevant ones are included.
Were annexes included? If yes, which ones? Were they relevant?	
Communications value of the HSA: clear, synthetic, exhaustive, accessible for decision-makers, journalists, donors?	

Annex 5. Selected qualitative methods, relevant to a HSA: a short description

METHOD	SHORT DESCRIPTION	KEY REFERENCES
Case study (CS)	"A detailed analysis of the occurrence, development, and outcome of a particular problem or innovation, often over a period of time" (Porta, 2014). A CS is an empirical inquiry strategy for answering "how" or "why" questions, when there is little control over the events under study and the boundaries between them and the context are not clearly evident (one wants to cover contextual conditions). A CS relies on multiple sources of evidence and copes with situations characterized by many more variables of interest than data points. In addition to explanatory, CSs can be exploratory and descriptive.	Yin, 2003
Mixed methods	"The combination of different methods of data collection and/or data analysis within a single study, frequently combining qualitative and quantitative approaches. Often conducted within a Realist framework" (Braun & Clarke, 2013). Most HS analysts already use both quantitative data and qualitative information; the mixed methods inquiry differs in that it aims at integrating both types of information in the analysis, often transforming one type of data into the other. It requires expertise in the methodology of both type of information, with professionals from different disciplines.	Tariq, 2013; Bamberger, 2013
Realist review	A strategy for synthesizing evidence on complex interventions, with an explanatory focus on questions like 'How?', 'Why?', 'For whom?', 'To what extent?' and 'In what circumstances?' It is been used for interventions that have multiple components and are highly dependent on the context in which they take place, which helps understand how the interventions work, while 'traditional', Cochrane-like systematic reviews tend to strip out the context.	Pawson et al., 2005
Subjective information / measures	HS analysts rely on subjective information in many instances: when reliable and valid data are missing or incomplete, there is uncertainty in the context and in HS dimensions, the understanding of some issue is limited, there is need for assessing aspects that are not tangible or reflect the experience, thoughts and feelings of informants, e.g. their perceived needs. When it is possible to obtain 'objective' measures, there is always some degree of subjectivity in the choice of indicators, in the modalities of measurement and in the interpretation of the results. Subjective information is usually not immediately verifiable and there are risks of misinterpretations. On the other hand, subjective information and 'soft' intelligence can provide precious clues, to deepen the understanding of some issues. Subjective information has been used in humanitarian work for measuring food insecurity, the severity of a crisis and the perceived needs (HESPER scale). Expert judgment is particularly important in HSA: to find information, to validate or contradict initial interpretations, to suggest actions to address problems.	Benini, 2018
Rapid needs assessments	Rapid needs assessments rely substantially on the expertise of professionals, who in the different sectors, have to collect fragmented, poor quality information and make sense of it, usually in a short-time and in a complex and dynamic context. The limited applicability of standard epidemiological methods to most circumstances, the destruction of information, the population displacements and the quick obsolescence of data make qualitative information particularly relevant to the purpose of assessment. Subjectivity plays an important role in the interpretation of the information collected: excessive reliance on experience and cognitive factors can prevent the assessor from understanding the reality. There are, therefore, high risks of flawed processes and findings: the use of different data collection tools make the consolidation of information into an overall picture difficult or impossible, only accessible areas, often those better-off, can be visited, which results in a partial assessment of the situation, outsider assessors are confronted by language barriers and challenges in understanding new contexts, the exposure to different biases is unavoidable.	Darcy and Hofmann, 2003; Colombo and Pavignani, 2003

Recommended reading

Bamberger M (2013). The mixed methods approach to evaluation. Social Impact Concept note series, No. 1. Available from: <https://www.alnap.org/system/files/content/resource/files/main/mme613.pdf>.

- Tariq S, Woodman J (2013). Using mixed methods in health research. *Journal of the Royal Society of Medicine. Short reports*; 4(6), 1-8. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3697857/>.

- References

- Benini A (2018). Subjective measures in humanitarian analysis. A note for ACAPS. https://www.acaps.org/sites/acaps/files/resources/files/20180115_acaps_technical_note_subjective_measures_full_report.pdf.
- Braun V, Clarke V (2013). Successful qualitative research. London: Sage Publications.
- Colombo S, Pavignani E (2003). Lost behind desert mirages? Considerations about rationale, aims and flaws of rapid needs assessments in health, as witnessed during the Iraq crisis. Unpublished manuscript, available on request.
- Darcy J, Hofmann CA (2003). According to need? Needs assessment and decision-making in the humanitarian sector. ODI, HPG Report 5. <https://www.odi.org/sites/odi.org.uk/files/odi-assets/publications-opinion-files/285.pdf>.
- Pawson R, Greenhalgh T, Harvey G, Walshe K (2005). Realist review: a new method of systematic review designed for complex policy interventions. *Journal of Health Services Research & Policy*, 10, 21-34; http://pram.mcgill.ca/realist_review/Pawson-2005-Realist-Review-Essay.pdf.
- Porta M (2014). *Dictionary of epidemiology*. Oxford University Press.
- Yin RK, (2003). *Case study research. Design and methods*, 3rd edition; Sage Publications.

Annex 6. On the use of health outcome indicators in health system assessments

A recurrent observation from the review of Health Systems Assessments (HSAs) is the misuse / abuse of health outcome indicators to summarise the health situation or to document the progress of strategies and plans towards targets. This fallacy is partially due to the increasing emphasis by global health institutions and donor governments on quantitative evidence to inform decision-making and justify aid budgets. Numbers have ended up playing a crucial role in policy debates, due to their semblance of certainty and objectivity and their apparent capacity, when transformed into indicators, to summarise complex phenomena into arguably neutral, standardised measures that allow comparison over time and space. They also “serve as a common numerical language among a wide range of experts, advocates, and bureaucrats working in the arena of health policy” (Wendland, 2016). On the other hand, this simplification has inherently reductionist consequences: health events are much more complex than the indicators that aim to represent them (Fukuda-Parr and Yamin, 2013).

It has been observed that the donor-driven demands for quantitative evidence combined with the focus on global development targets in data-poor countries have had serious consequences. On the one hand, aid agencies are under pressure to over-attribute the progress of health indicators to their programmes: “In today’s do-or-die market environment, development contractors (NGOs for-profit, non-profit organisations) cannot afford to report poor results” (Rajkotia, 2018). On the other hand, aid agencies and governments alike too often take doctored statistics at face value, without proper data verification (ibidem).

In addition to the pressures above, the challenges in measurement have contributed to the shift of responsibility and capacity for producing, analysing and using health data from national to global institutions²⁸ and international experts (Storeng and Béhague, 2017). The dearth of data in some countries has encouraged the development of new measurement approaches, like the sisterhood method²⁹, (WHO and UNICEF, 1997) for estimating

maternal mortality. These methods aim at mitigating the huge sample size requirements and are used in combination with complex regression models to input missing data elements and with corrections - e.g. adjustments, weighting and smoothing³⁰ - to compensate for suspected under- or over-reporting biases. Techniques commonly used for data ‘smoothing’³¹ to fit models may not be valid in unstable contexts, where acute episodes of violence determine abrupt changes in mortality levels (Wendland, 2016).

These statistical methods lay in a ‘grey’ zone: the assumptions underlying the models and the corrections introduced are not usually exposed in the public domain and, therefore, are not the object of debate at country level. As these methods become more and more sophisticated in the absence of explicit data audit trails, national ownership and country engagement falls. (AbouZahr, 2011).

In poor countries, particularly in those affected by conflicts, civil registration is non-existent or has a limited coverage, censuses are not carried out on a regular basis (and their data soon become outdated) and health information systems collapse, while mass population displacements and frequent changes make it impossible to determine the denominators. As a result, health outcome indicators cannot be estimated on a routine basis and with sufficient validity in “the statistical vacuum of political collapse”(Redfield, 2006).

In these contexts, USAID-supported Demographic and Health Surveys – DHS - (MEASURE, 2012) and the UNICEF-supported Multiple Indicator Cluster surveys - MICS - (UNICEF, 2012) are the main sources of national-level data of maternal, newborn and child health indicators, such as IMR, MMR, etc. These surveys also provide the primary data that are used, with some adjustments, by other agencies - like the UN - for building estimates. DHS and MICS are expensive and time consuming, involving the sampling of around 15,000 and 10,000 households respectively; therefore, they cannot be replicated

every year. In countries affected by violent conflicts (e.g. Yemen, Syria), large-scale epidemics (e.g. Sierra Leone) or famine (e.g. Somalia), once data become available they may already be obsolete.

A review of aggregate statistics and survey data in the DR Congo demonstrates how shaky many figures are (Marivoet and De Herdt, 2014), warning against their uncritical acceptance. GDP per capita official estimates, produced by different sources with different methods and assumptions, showed substantial differences. In addition, the income produced by informal economic activities was ignored. Using a statistical model to adjust for this gap, GDP per capita almost doubles, with a much smaller decline over time. The conclusion is that “GDP seems to be a list of negotiated figures based on information coming from an obscure estimation process”. The situation was better for household surveys. However, important differences in estimated under-5 mortality rates, both in terms of level and trend, were found between MICS data and World Development Indicators. In addition, all surveys under-sampled in conflict-affected areas, obviously a fatal bias. The limited accessibility to raw data, the absent or fragmented metadata³² and sampling problems limit the validity of survey data, which are collected at high cost, but “have only been used to write a descriptive report on some main observations before they end up at the back of a drawer, gathering dust”.

Such uncritical acceptance of MMR, IMR, U5MR is confirmed by the review of selected HSAs. They are reported without a thorough discussion of data and methodological limitations. Worse, they tend to be misinterpreted, by overlooking their retrospective nature, which rules out their significance vis-à-vis present mortality patterns. Particularly misleading are the comparisons between maternal-mortality ratios estimated at time intervals, when such figures provide indications of events occurring over many years of recalling (WHO and UNICEF, 2007).

Critical issues concerning data quality and analysis techniques, such as uncertainty / precision, biases and assumptions, which affect the validity of these estimates, are ignored, probably because the complex methods used in their production are not grasped by users. Non-statisticians will be at a loss when confronted with the assumptions and

equations embedded in a given model, even if all its elements have been made transparent in the public domain (which is not always the case). There may also be the concern that acknowledging data limitations would have negative consequences for the politicians and the donors.

Often, indicators are presented at national level, without geographical / administrative disaggregation: the sampling methods³³ and the sample size of the surveys can make it impossible to obtain sub-national estimates or achieve meaningful precision. Substantial differences exist both in health outcomes and in data collection capacity; without disaggregation it is impossible to examine the variance in the indicator across the population groups being analysed. In countries affected by humanitarian crises, these differences, which are not captured by national averages, are relevant: not only the point estimates, but also the improving or worsening trends of the indicators are obscured.

“Data do not speak for themselves—they need context, and they need skeptical evaluation” (Allen Wilcox, quoted in Garcia-Marques et al., 2014). Without an analysis of the context and the sector, the indicators are mute and their patterns and trends cannot be interpreted. In the appraisal of HSAs the comments to the outcome indicators are usually limited to the description of improvement or worsening, without trying to explain the trends. On the other hand, any causal judgement of attribution on trends should be cautious in crisis settings, due to the interplay of several dynamic factors, external or internal to the health sector, which can influence health outcomes.

Cross-section mortality surveys carried out at local level in humanitarian settings are affected by several biases and precision issues (Checchi et al., 2017). Even if a standard methodology is available³⁴, how correctly the survey process has been followed is relevant: quality, coverage and comparability challenges make it difficult to consolidate the findings of different surveys into an overall picture of the humanitarian crisis (Prudhon and Spiegel, 2007).

Estimates are by definition imprecise (and may also be biased): they should always be accompanied by the level of uncertainty (confidence interval).

Particularly when these surveys have a regional or national scope, the estimates are imprecise, due to their limited sample size, which results in a large sampling error. This limitation is well illustrated by the controversial findings of the 2003 Iraq mortality survey, which estimated the excess mortality in the 18 months after the invasion as 98,000, with a 95% confidence interval of 8,000-196,000 deaths. (Roberts et al., 2004). Most of the HSAs appraised do not specify the level of uncertainty with ranges or confidence intervals.

Comparability of data is a complex and often controversial issue, particularly with regards to advocacy and political arguments. In fact, differences in the estimates of indicators may have substantial implications in terms of advocacy and prioritisation of government and donor budgets: they may raise doubts about the quality of measurements and scepticism on the results of large amount of funds invested. Different values for the same indicator are sometimes presented without discussion. The inconsistencies between successive DHS surveys, or between DHS surveys and other sources reflect statistical issues, such as sampling errors, sample designs, direct vs. indirect estimations, use of adjustments, full or truncated histories (Pullum et al., 2017).

In 2010 a heated debate broke out about the level of maternal mortality and its rate of decline. The IHME published a paper in *The Lancet* showing a small but steady decline in maternal deaths worldwide between 1980 and 2008 (Hogan et al., 2010). A few months later the UN and the World Bank published data that showed a steeper decline still in the indicator, and starting from a worse baseline (WHO et al., 2010). Globally the differences were small, but were important at individual country levels; the discrepancies concerned mainly the uncertainty ranges and the rates of change. Several explanations for these discrepancies were put forward: differences in the underlying empirically available data; the diverse data adjustment procedures; the way deaths among HIV-positive pregnant women were dealt with; the use of different estimates of total deaths in women of reproductive age, and the specifications of the statistical models used to generate missing values (Abouzahr, 2011). A recent review of methods for estimating maternal mortality in humanitarian crises

identified various sources of potential biases in the assesses studies and concluded that: “The variation in methods and tools applied suggest that maternal mortality estimates are more likely to be markedly different from the true unknown level” (Morgan and Ali, 2018).

Also, for under-5 mortality, the estimates published in 2011 by the UN Inter-agency Group for Child Mortality Estimation (UN IGME) and IHME presented important differences at country level, explained by the construction of databases and modelling procedures, including trend fitting, inclusion and exclusion of data series, and additional adjustments (Alkema and You, 2012). As for disease-specific mortality, an important controversy was raised in 2010 by the IHME’s estimate of mortality due to malaria: it estimated 1.3 million malaria deaths (Murray et al., 2012), double that which WHO had previously estimated (WHO, 2011). Again, differences in the adjustments utilised, to correct for misclassification of verbal autopsies (for which few studies are available) and in the proportion of deaths in people older than 5 years in Africa seem to be at the basis of these gross discrepancies.

In conclusion, only the awareness of data limitations and of the underlying methods permits a correct interpretation of levels and trends of indicators and their use for decision making. Caution is always required, as the UN team involved in the estimation of maternal mortality acknowledged: “However, it is also important to be modest and honest about the limitations of our knowledge in this area. ... Improved methods are surely possible as well but cannot overcome the inherent limitations imposed by the underlying data. For better or worse, all existing estimates of levels and trends in maternal mortality provide no more than an image of a reality that may have been” (Wilmoth et al., 2012).

Recommended reading

- AbouZahr C (2011). New estimates of maternal mortality and how to interpret them: choice or confusion? *Reproductive Health Matters*, 19:37, 117-128, DOI: 10.1016/S0968-8080(11)37550-7.
- Alkema L, You D (2012). Child Mortality Estimation: A Comparison of UN IGME and IHME Estimates of Levels and Trends in Under-Five Mortality Rates and Deaths. *PLoS Med*, 9(8): e1001288. doi:10.1371/journal.pmed.1001288.
- Rajkotia Y (2018). Beware of the success cartel: a plea for rational progress in global health. *BMJ Glob Health*, 3:e 001197. doi:10.1136/bmjgh-2018-001197. Retrieved from: <https://gh.bmj.com/content/bmjgh/3/6/e001197.full.pdf>.

References

- Checchi F, Warsame A, Treacy-Wong V, Polonsky J, van Ommeren M, Prudhon C (2017). Public health information in crisis-affected populations: a review of methods and their use for advocacy and action. *Lancet*, 390(10109):2297-2313. doi: 10.1016/S0140-6736(17)30702-X.
- Fukuda-Parr S., Yamin A E (2013). The power of numbers: A critical review of MDG targets for human development and human rights. *Development*, 56(1), 58–65.
- Garcia-Marques LG, Garcia-Marques T, Brauer M (2014). Buy three but get only two: The smallest effect in a 2 × 2 ANOVA is always uninterpretable. *Psychon Bull Rev*, DOI: 10.3758/s13423-014-0640.
- Hogan MC, Foreman KJ, Mohsen Naghavi AB, et al. (2010). Maternal mortality for 181 countries, 1980–2008: a systematic analysis of progress towards Millennium Development Goal 5. *Lancet*, 375(9726): 1609–23.
- Marivoet W, De Herdt T (2014). Reliable, challenging or misleading? A qualitative account of the most recent national surveys and country statistics in the DRC. *Canadian Journal of Development Studies / Revue canadienne d'études du développement*, 35:1, 97-119, DOI: 10.1080/02255189.2014.877381.
- MEASURE DHS Demographic and Health Surveys. Available at: <http://www.measuredhs.com/>.
- Morgan SA, Ali MM (2018). A review of methodology and tools for measuring maternal mortality in humanitarian settings. *Health Pol Plan*, 1–11; doi: 10.1093/heapol/czy092.
- Murray CJL, Rosenfeld LC, Lim SS, et al. (2012). Global malaria mortality between 1980 and 2010: a systematic analysis. *Lancet*, 379: 413–31.
- Prudhon C, Spiegel P. (2007) A review of methodology and analysis of nutrition and mortality surveys conducted in humanitarian emergencies from October 1993 to April 2004. *Emerg Themes Epidemiol*, 4:10. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1906753/pdf/1742-7622-4-10.pdf>.
- Pullum T, Assaf S, Staveteig S (2017). Comparisons of DHS estimates of fertility and mortality with other estimates. *International Health and Development, ICF; USAID DHS Methodological Reports 21*. Available: <https://dhsprogram.com/pubs/pdf/MR21/MR21.pdf>.
- Redfield P (2006). A Less modest witness: collective advocacy and motivated truth in a medical humanitarian movement. *American Ethnologist*, 33(1): 3–26.
- Roberts L, Lafta R, Garfield R, Khudhairi J, Burnham G (2004). Mortality before and after the 2003 invasion of Iraq: A cluster sample survey. *Lancet*, 364:1857-1864.
- Storeng KT and Béhague DP (2017). “Guilty until proven innocent”: the contested use of maternal mortality indicators in global health. *Critical Public Health*, 27:2, 163-176, DOI: 10.1080/09581596.2016.1259459.
- UNICEF. Statistics and Monitoring: Multiple Indicator Cluster Survey. Available: http://www.unicef.org/statistics/index_24302.html.
- Wendland CL (2016). Estimating death. A close reading of maternal mortality metrics in Malawi. In: Adams V. *Metrics: what counts in global health*. Duke University Press.
- WHO (2011). World malaria report. http://www.who.int/malaria/world_malaria_report_2011/.
- WHO, UNICEF, UNFPA, World Bank (2010). Trends in maternal mortality: 1990 to 2008.
- WHO and UNICEF (1997). The sisterhood method for estimating maternal mortality. Guidance notes for potential users. Retrieved from: http://apps.who.int/iris/bitstream/handle/10665/64007/WHO_RHT_97.28.pdf;jsessionid=2C665FFDE87C0A628F2CD7D264B32A99?sequence=1.
- Wilmoth JR., Mizoguchi N, Oestergaard MZ et al. (2012). A new method for deriving global estimates of maternal mortality. *Statistics, Politics, and Policy* 3(2).

Annex 7. Some aphorisms (on the limitations of human knowledge)

A selection of aphorisms reckoned to be relevant to working on HS, by: Nassim Taleb, a master of intelligent provocations and paradoxes, Daniel Kahneman, Nobel prize laureate and the author of one recommended reading, Yuval Noah Harari, a “guru for our times”³⁵, and Henry David Thoreau, the famous nineteenth century polymath.

- “An erudite is someone who displays less than he knows; a journalist or consultant, the opposite” **Taleb, 2010**
- “Bureaucracy is a construction designed to maximize the distance between a decision-maker and the risks of the decision” **Taleb, 2010**
- “There are a thousand hacking at the branches of evil to one who is striking at the root.” **Thoreau HD, 1854**
- “Our comforting conviction that the world makes sense rests on a secure foundation: our almost unlimited ability to ignore our ignorance.” **Kahneman, 2011**
- “The problem with experts is that they do not know what they do not know” **Taleb, 2011**
- “Occam’s razor. Keep it simple.” **Matson, 2013**
- “A system that overcompensates is necessarily in overshooting mode, building extra capacity and strength in anticipation for the possibility of a worse outcome, in response to information about the possibility of a hazard” **Taleb, 2013**
- “With regular books, read the text and skip the footnotes; with those written by academics, read the footnotes and skip the text; and with this guidance, skip both the text and the footnotes” **adapted from Taleb, 2010**
- “Protective actions, whether by individuals or by governments, are usually designed to be adequate to the worst disaster actually experienced....Image of even worse disaster do not come easily to mind” **Kahneman, 2011**
- “Questions you cannot answer are usually far better for you than answers you cannot question.” **Harari, 2018**
- “Regular minds find similarities in stories (and situations; finer minds detect differences)” **Taleb, 2010**
- “To understand how something works, figure out how to break it” **Taleb, 2010**
- “If you have built castles in the air, your work need not be lost; that is where they should be. Now put the foundations under them.” **Thoreau HD, 1854**
- “Our predilection for causal thinking exposes us to serious mistakes in evaluating the randomness of truly random events.” **Kahneman, 2011**
- “For the robust, an error is information; for the fragile, an error is an error” **Taleb, 2010**
- “One of the greatest fictions of all is to deny the complexity of the world and think in absolute terms.” **Harari, 2018**
- “The problem of knowledge is that there are many more books on birds written by ornithologists than books on birds written by birds and books on ornithologists written by birds” **Taleb, 2010**
- “Amos liked the idea of an adjust-and-anchor heuristic as a strategy for estimating uncertain quantities: start from an anchoring number, assess whether it is too high or too low, and gradually adjust your estimate by mentally “moving” from the anchor. The adjustment typically ends prematurely, because people stop when they are no longer certain that they should move farther.” **Kahneman, 2011**
- “A reliable way to make people believe in falsehoods is frequent repetition, because familiarity is not easily distinguished from truth. Authoritarian institutions and marketers have always known this fact.” **Kahneman, 2011**

- “Humans think in stories rather than in facts, numbers, or equations, and the simpler the story, the better.” **Harari, 2018**
- You need a story to displace a story.” **Taleb, 2011**
- “We are prone to overestimate how much we understand about the world and to underestimate the role of chance in events.” **Kahneman, 2011**
- “we can be blind to the obvious, and we are also blind to our blindness.” **Kahneman, 2011**
- “It is perplexing but amusing to observe people getting extremely excited about things you don’t care about; it is sinister to watch them ignore things you believe are fundamental” **Taleb, 2010**
- “Unfortunately, history does not give discounts.” **Harari, 2018**
- “A mathematician starts with a problem and creates a solution; a consultant starts by offering a ‘solution’ and creates a problem” **Taleb, 2010**
- “One of the failures of ‘scientific approximation’ in the nonlinear domain comes from the inconvenient fact that the average of expectations is different from the expectation of averages” **Taleb, 2010**
- We humans are the victims of an asymmetry in the perception of random events. We attribute our successes to our skills, and our failures to external events outside our control, namely to randomness.” **Taleb, 2011.**

References

- Harari YN (2018). 21 lessons for the 21st century. London, Penguin Books.
- Kahneman D (2011). Thinking, fast and slow. London, Penguin Books.
- Matson K (2013). Occam’s razor. In: This explains everything, Borckman J (ed.). New York, Harper Collins Publishers.
- Taleb NN (2013). Hormesis is redundancy. In: This explains everything, Borckman J (ed.). New York, Harper Collins Publishers.
- Taleb NN (2010). The bed of Procrustes. London, Penguin Books.
- Taleb NN (2011). The Black Swan: The Impact of the Highly Improbable. London, Allen Lane.
- Thoreau HD (2016) [1854].Walden, or Life in the Woods. London, Penguin Classics.

Annex 8. Considerations on carrying out a remote HSA

In several circumstances, a desk HSA is indicated. It should be carried out with the awareness of its limitations, which should be countered with practical measures. The starting consideration is that a desk HSA may be even more demanding than a field-based one, needing experience and acumen to compensate the lack of exposure to reality. Otherwise, shallow results have to be expected. A desk HSA must be robust in order to look credible, and hence be considered by stakeholders. But a cautionary word is needed in relation to the difference between a desk HSA and one carried out in country. The latter takes place often within fortified compounds, as far-flung from the service delivery as any desk HSA. The rare and short outings to accessible sites – more often than not, laden with biases – offset only in part such remoteness.

1. When physical access to the settings to be studied is precluded to analysts due to security, political or bureaucratic reasons, a desk study may be the only option (bar working without its support). Increased attacks on health care, foreigners, widespread violence and/or high health risks (e.g. in an Ebola outbreak) make aid organisations risk-averse. Negotiating health and life insurance packages for their staff may not be feasible. The host government as well, keen to limit the access to politically sensitive information, may restrain the movement of researchers through bureaucratic impediments and surveillance.

2. Time constraints may also hamper a fully-fledged HSA, for example when a donor reconstruction conference will take place at short notice. To inform donor decisions, a summary analysis must be urgently prepared. In its absence, pledges will follow fashions or rumours. In these circumstances, a detailed analysis is not needed: in the time-lag between pledges and disbursement of funding it is possible to complete and refine the assessment and provide more specific financing recommendations. In these cases, the HSA must focus on issues of great future consequence, like the service gap of certain neglected regions or population groups, or the poor quality of care provided by faltering services, or the inefficiency of prevailing delivery models.

3. In certain crowded settings, aid agencies multiply studies and interventions, proceeding in isolation from each other. Collating the multiple pieces of information into a (usually incomplete) mosaic may be preferable to a rush to the field that does not take the available information into due account. Such exercise would identify the main issues to be addressed, alongside the most serious knowledge gaps to be filled. A discussion among stakeholders could be encouraged, and measures to complete the picture envisaged. Field rounds would be later planned with a clearer appreciation of the aspects needing a deeper study.

In some contexts, where the access to the field is prevented, it is still possible to conduct the HSA from a neighbouring country, which is often a coordination hub for aid organisations (e.g. Nairobi, Kenya for Somalia; Gaziantep, Turkey for north-western Syria, and Dohuk, Iraq for north-eastern Syria). These locations offer the advantage of concentrating potential informants. Screening the true knowledgeable persons from the crowd, however, demands good judgment and persistence. Many professionals stationed in such hubs suffer from access limitations as well, and recycle rumours, prejudices and wishful thinking in place of factual observations.

A desk HSA has trade-offs: the broad contours of the healthcare arena may be identified, without gathering enough details about its internal variety. A recurrent risk is privileging aid-related aspects, just because documents and informants are relatively abundant. The analysis will be uneven, and leave aside inadequately-studied issues. Without the opportunity of validating data on the ground, extra effort and a measure of prudence are needed in collecting written information and interviewing knowledgeable persons. The resulting interpretations must be regarded as such, and frequently revisited. More time needs to be allocated to data collection, to allow for an expanded range of sources, and frequent delays in obtaining the needed inputs. Gaining the trust of remote informants demands also a sustained engagement.

Extracting information from informants demands caution and discernment, particularly when they

are linked in professional and personal networks, which may become echo chambers: “..there are strong incentives for interviewees to express false preferences or inaccurate narratives in wartime, for their own security and protection but also for reasons of self-interest and self-image. Respondents may misremember or mistake widely circulated rumours for fact and recount them as such” (Jackson, 2018).

A desk exploration may produce an initial canvas that serves as a foundation for future deeper analyses. Provisions should be made for several exploration rounds, interspersed with reviews by knowledgeable people of the insights gained at each stage. The ToR should reflect the modest objectives, the need for an open-ended approach and flexibility in jointly reviewing the scope of the exercise after the initial exploratory steps. In addition, a desk analysis can be conducted at a reduced cost, as compared to a field exercise.

An intermediate modality between a full, field-based HSA and a desk analysis consists of coupling external analyst(s) working from a distance with local expert(s). A local counterpart, who enjoys some freedom of movement, is familiar with the context and has a network of contacts and access to relevant ‘grey’ documents, is always a critical asset, provided his/her selection is made on merit and commitment. Local public health professionals are often asked to gather data to be used by distant analysts, an activity demanding a mutual effort over several iterations, lest it amasses disparate inputs of dubious value. On the other hand, when the alchemy between the parties works, such collaboration may be reciprocally beneficial.

Local HS analysts are even scarcer than international ones, owing to several factors, including emigration, fear, ill-adapted public-health training, competing duties. In most cases, the selected local counterparts need initial training, and continuous backstopping as data collection proceeds. The working language constitutes a common hurdle to be overcome. Clarifying objectives, process and methodology of analysis to the local experts can be done remotely or, preferably in a common location, when the team of analysts can meet.

Today’s communication means and IT applications allow easy exchanges between people in distant countries at almost no cost, provided that connectivity is adequate. Internet-based interviews and conferences can partially replace physical meetings. Interactions, however, always suffer from lack of direct exchanges; the gathered information is often less granular and technical hiccups are a common occurrence.

A desk HSA follows the same process of a fully-fledged HSA. The search for relevant informants and documents is usually more challenging and requires perseverance in ‘nagging’ the initial contacts, until the HSA objectives have been made clear and trust has been established. The ‘chain referral’ of informants willing to collaborate, on the basis of mutual acquaintance, may help harvesting many interviews. The diversity of the informants is however more important than their number.

The initial list of the documents gathered should be circulated to informants, with the request of reviewing it, adding other ones that are relevant to the exercise and singling out those that are irrelevant, uninformative or biased. It is possible, thus, to build up an annotated bibliography that will be helpful to all stakeholders. If the organisation that has sponsored the HSA has an office in the country, the initial phase of contacts and search for documentation can be substantially facilitated.

Internet-based conferences require a careful preparation, even more than for face-to-face meetings. A realistic agenda should be circulated in advance, with some flexibility for relevant issues that can emerge during the discussion and possible technological problems. Testing the IT system should be performed before the conference; IT assistance, when available, can save time and avoid embarrassing situations. Most teleconference platforms allow for sharing slides and documents between participants and recording the exchanges for later review. An effective ‘administrator’ of the teleconference can make a difference, in terms of managing the allocated time, probing interesting hints, coordinating the various inputs and giving space to the various participants. Because some issues risk being misunderstood, due to the low quality of communication, it is important to produce a summary of the key points discussed and share it

with the participants, with the request of amending or clarifying topics that were misconstrued. This should be done as soon as possible, when the memory of the discussion is still fresh.

Email questionnaires distributed without adequate backup are rarely effective. Many informants abstain from reacting in writing, particularly in environments marked by suspicions and mistrust, where email exchanges may be dangerous. Moreover, without an introduction to the questions and a discussion of the resulting remarks, misunderstandings and shallow answers are common. Additionally, the sharpness of the questions influences the reactions of potential informants: if they denote a good grasp of the situation, and focus on issues perceived as relevant, valuable answers are more likely to be elicited.

Email questionnaires may be used before remote interviews, to prepare informants about the topics to be covered. A first contact for explaining the objectives of the analysis and soliciting collaboration should be attempted before sending the questionnaire. The issues explored should be initially limited and the questions should be formulated in a way to obtain precise answers, but the structure of the questionnaire should not be too rigid, which could result in just 'ticking the boxes'. On the other hand, too open a questionnaire can capture more information, but of more difficult analysis. A second set of questions can be prepared if the first round of exchanges has been promising. Informants should be requested to suggest the names of other people to be contacted and to provide relevant documents.

References

- Jackson A (2018). Life under the Taliban shadow government. ODI. Retrieved from: <https://www.odi.org/sites/odi.org.uk/files/resource-documents/12269.pdf>.

Annex 9. How to formulate and negotiate ToR for a HSA

Strong incentives for performance and clear definition of responsibilities and accountability are among the key tenets of 'New Public Management', which has come to shape the aid industry. As part of this trend, the ToR for HSAs in 'fragile' contexts may follow a standard format, with defined tasks, deliverables and timeframe, forming the base for a contractual engagement with consultants. This model mirrors contractual documents for the performance of specific tasks or the production of specific outputs that can be defined in a precise manner.

Detailed requirements may include the report structure, down to the number of pages of each chapter, without paying adequate attention to the main issues likely to be explored. Form takes precedence over substance, in a misguided pretence of professionalism. Such fallacy is particularly striking when the HSA is motivated by soft issues, such as governance and/or capacity, whose study demands an exploratory stance and is likely to lead to further action research, rather than to firm conclusions triggering self-contained interventions.

This guidance has stressed the point that analysing a distressed healthcare arena is like starting a journey with an imprecise destination through a path crossing uncharted territories. Previous analyses assist in such journey, but the fluid nature of the healthcare arena implies a large measure of change and surprise. In fact, many factors impacting on the study subject are beyond the control of HS analysts. The success in identifying valuable information sources, the interest and availability of key stakeholders for discussing key HS issues, the possibility of carrying out field visits in circumstances of limited security, are largely unpredictable at the start of the exercise, when the ToR are being developed.

From this premise we can derive that trying to formulate precise ToR, with clear deliverables and definite timeframes, and investing much time in it can be useless. In fact, it can be counterproductive. To satisfy the initial demands, analysts may be compelled to present data that deserve to be

discarded, or overlook promising hunches, just because they were not comprised in the HSA original scope. Late insights and opportunities may not be duly explored, in order to close the HSA within the stipulated deadline.

On the other hand, vague ToR are not helpful, for both sponsors and analysts. They suggest an inadequate reflection about the HSA rationale, which might induce misplaced expectations. Ideally, the ToR should convey essential information about the context, the main features of healthcare provision, main barriers to information gathering, the knowledge gaps perceived by the main stakeholders, and the considerations behind the launching of a HSA. The main initiatives under way or in the pipeline should also be mentioned. In other words, the ToR must help the analysts understanding the environment they will work in and the perspectives of stakeholders. Adequate preparations will in this way become possible.

When the HSA is promoted as a device to bring together distant agencies, the resulting ToR may include disparate concerns and flagship interventions. Such a patchwork of interests may be beneficial, if it broadens the HSA scope. For instance, vertical programmes (frequently overlooked by HSAs) may be brought into focus. But the expectations of participant agencies must be managed, and some autonomy of judgment granted to the analysts. A frank discussion between sponsors and analysts must precede the start of the HSA, in order to minimise the risk of late censorship.

A multi-stage approach to the development of realistic ToR may be more productive. The initial phase of the HSA -reflected in the ToR- should aim at a broad-brush exploration of the arena and of its context, recognition of information sources, identification of main issues to be considered and review of logistic arrangements. The interest and potential collaboration of key HS stakeholders should be probed. Then, an inception report will describe the level of analytical depth likely be achieved, the obstacles that might be encountered and how to circumvent them, and the time and other resources required.

This report would be the basis for the conception of subsequent study round (and of the related ToR specifying its scope and modalities), or for the decision to postpone the HSA to a more promising period. The impossibility of conducting a robust HSA due to unfavourable conditions, or the unfolding of critical events impacting on the context (e.g. a peace deal), have to be considered.

A recurrent circumstance is when strategic decisions have already been taken by influential actors keen to move forward regardless of the evidence available about the suitability of the chosen approaches. In this case, carrying out a robust HSA might be indicated (despite the opposing tide), to document the landscape in which such approaches will be implanted, and suggest ways to better contextualise them.

The suggested iterative approach would help the sponsoring agencies make informed and concrete decisions about the steps to be taken and on the possible uses (some unforeseen at the beginning) of the HSA. At the same time, it will make the consultant(s) more confident of what they will be able to produce. The likely counterargument is that this approach involves more paperwork and, arguably, more negotiation with the consultant(s); this looks a minor risk, when compared to the potential waste of time and resources and the frustration of receiving a disappointing product.

If the commissioning agency insists on detailed and rigid ToR, the consultant(s) should negotiate modifications, which better describe the settings to be studied, highlight potentially disruptive contingencies, and allow for flexible outputs and timeframe. The proposed changes will be more likely to be accepted when backed by previous experiences of the consultant(s) in similar exercises. If the commissioning agency is not ready to compromise, the consultant(s) may withdraw from embarking in a misconceived and unrealistic assignment, given the circumstances. Such an honest and principled stance is not common. Other analysts ready to take up the HSA without qualms are likely to be found. Some of the shortcomings identified by the HSA Review (see Annex) are generated by poorly-conceived ToR accepted by compliant analysts.

References

- 1 In this document we conflate different similar terms into HSA: HS analysis, review, assessment, study.
- 2 These concepts will be developed in chapter 3.
- 3 See definition in the glossary.
- 4 Humanitarian Emergency Settings Perceived Needs Scale; http://www.who.int/mental_health/publications/hesper_manual/en/.
- 5 <https://www.acaps.org>.
- 6 Source: <https://www.nikhef.nl/pub/experiments/atlas/daq/ROB-12-1-98/OG.gif>.
- 7 See definition in the glossary.
- 8 See also Annex on qualitative methods.
- 9 The epidemiologist speaks of 'data dredging', when a large number of associations is looked at in a dataset, where only a few real associations exist.
- 10 An outlier may just be a statistical oddity to be removed. Otherwise, it may point to a black swan, a theory developed by N.N. Taleb to underscore the importance of large-impact events, difficult to foresee (e.g. the 9/11 terroristic attack, or the Ebola epidemic in West Africa), after which the landscape looks different.
- 11 See definition in the glossary.
- 12 Ibidem.
- 13 See definition of 'data saturation' in the glossary.
- 14 Using indicators that are correlated with livelihood levels and are relatively easy to collect.
- 15 The head of the census bureau, Kraval, was arrested and executed.
- 16 Morbidity and mortality are found in excess relative to the pre-crisis, 'normal' levels; see the glossary.
- 17 http://www.who.int/mental_health/publications/hesper_manual/en/.
- 18 The tool is not publicly available, but is provided by the WHO on request (source: Disease Control Priorities, third edition, volume 9, pag.293).
- 19 See definition in the glossary.
- 20 In the following dimensions: validity, relevance, timeliness, internal consistency. Precision in humanitarian crises is a second order priority.
- 21 ICRC, MSF, Emergency.
- 22 https://www.who.int/healthinfo/systems/SARA_Reference_Manual_Full.pdf.
- 23 <https://www.who.int/hac/herams/en/>.
- 24 Based on a full spectrum of approaches, including conventional warfare, insurgency, terrorism, criminality and information operations.
- 25 de Waal A (2018). Mass starvation. The history and future of famine. Polity Press.
- 26 de Waal A (1997). Famine crimes. Politics and the disaster relief industry in Africa. African Issues, Oxford, Indiana University Press.
- 27 References included at the end, before the bibliography.
- 28 Like the Institute for Health Metrics and Evaluation (IHME).
- 29 Where surveys enumerators ask a sample of people to recall the lives and deaths of each sibling; if a dead sibling was a sister and at least twelve years old when she died, the interviewer asks whether she had been pregnant at the time or within two months of her death; the data then undergo a number of adjustments and some predictor variables are introduced in the regression model to estimate the trends.
- 30 Methods used for minimizing irregularities in a set of data.
- 31 Like logarithmic transformation and regression techniques.
- 32 A set of data that describes and gives information about other data.
- 33 E.g. the cluster sampling method that only allows for an overall estimate across all sampled units.
- 34 SMART, Standardized Monitoring and Assessment of Relief and Transitions; <https://smartmethodology.org/about-smart/>.
- 35 Lewis H (2018). 21 Lessons for the 21st Century by Yuval Noah Harari review – a guru for our times? The Guardian, 15 August.

UHC2030

International Health Partnership

www.UHC2030.org

 [@UHC2030](https://twitter.com/UHC2030)

 [# HealthForAll](https://twitter.com/HealthForAll)