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Public Health Information Services

Public Health Situation Analysis Standard Operating Procedures

Anonymous
WORLD HEALTH ORGANIZATION

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Public Health Situation Analysis (PHSA)
Standard Operating Procedures

Background

Humanitarian needs assessments are carried out to determine the immediate needs of a population following an emergency or humanitarian crisis, serving as a basis for operational response. The purpose of the Public Health Situation Analysis (PHSA) specifically is to identify the **current health status and potential health threats** that the population may face**, the functioning of the health system,** and the **humanitarian health response.** It is a review of the latest available secondary data[1].

The PHSA aims to provide all health sector partners, including local and national authorities, nongovernmental organizations (NGOs), donor agencies and United Nations agencies with a common and comprehensive understanding of the public health situation in a crisis in order to inform evidence-based collective humanitarian health response planning. The PHSA may also be used to feed other sectoral and intersectoral products, such as providing the health input to the Humanitarian Needs Overview, and is also used in support of the WHO (re-)grading process.

The PHSA is conducted in response to a sudden-onset[2] **Emergency,** defined by the WHO Emergency Response Framework (ERF) as "a situation impacting the lives and well-being of a large number of people or significant percentage of a population requiring substantial multi-sectoral assistance. For WHO to respond, there must be clear health consequences"**.**

The PHSA updates and replaces the previous Public Health Risk Assessment (PHRA) prepared by WHO. Like the PHRA, the PHSA includes a risk assessment of the major threats faced by a population; additionally, the PHSA expands on the PHRA by including the elements of humanitarian response capacity. The PHSA does not include recommendations about priority interventions, as the PHSA is meant to serve as a springboard for on-the-ground response joint response planning amongst all health cluster/sector partners, informed by local capacities/resources/limitations/political considerations.

There are two versions of the PHSA: a short-form or "initial" PHSA, and a long-form or "full" PHSA. This SOP covers both.

Timing of initial and repeat PHSAs

The initial short-form PHSA should be completed within 24-72 hours of the onset of an acute emergency, or as soon thereafter as practicable. If it is delayed beyond this, it ceases to serve its function as a platform for joint planning, as planning will, out of necessity, take place after this time even in the absence of an evidence base. Thus, the initial PHSA does not have to be perfect: an imperfect PHSA is better than nothing, as long as the limitations are made clear. **Release of the initial PHSA should not be delayed due to incomplete information**; instead it should point to areas requiring additional (primary) data collection.

The full long-form PHSA should be initiated as soon as the short-form PHSA has been released, and should be completed within 14 days of the onset of an acute emergency, The template is designed to easily allow expansion of the existing fields of the short-form PHSA, thus it is preferable to do the two forms sequentially rather than attempting to prepare both documents in parallel.

In protracted crises where a PHSA has never been done (either because the decision to undertake a PHSA is driven by a sudden escalation of the existing crisis, or simply because there is an outstanding

[1] It may be complemented by primary data once available
[2] Or sudden deterioration in a protracted crisis

need to prepare a PHSA), the initiators of the PHSA may consider preparing an initial short-form PHSA, or they may wish to proceed directly to the full long-form PHSA.

Countries that are not currently in crisis, but are vulnerable, or anticipate a specific crisis (e.g. a looming humanitarian crisis due to escalating violence), may wish to prepare a PHSA in advance. In this case, one should fill out as much of the long-form PHSA template as possible, recognizing that many sections will not apply because there is no specific crisis and there are no crisis-attributable issues. For example, the sections on Health Status and Threats can be completed, without commenting on crisis-emergent threats, or completing the risk tables. One can also complete the pre-crisis baseline information about health system needs. N.B. – although one cannot complete the section on humanitarian health response, it can be helpful to catalogue the existing development partners in the field, many of whom are likely to be involved in any eventual humanitarian response.

Geographic scope of PHSA

In multi-country crises, a separate PHSA should be conducted for each affected country, as each country will have a unique response architecture and may have variations in health risks. Reference should be made to the overall multi-national response architecture, if present.

Where crises are confined to a well-demarcated sub-national portion of a country[3], the PHSA should clearly indicate in title and content that the analysis covers only that sub-national area. If and when data are included that are not disaggregated sub-nationally (i.e., only national data are available, for example about the prevalence of a given disease), this limitation should be clearly noted.

Some countries will display considerable heterogeneity within a large crisis, in terms of both health threats and response. Where sufficient information exists to create sub-national analyses, such analyses are encouraged. Suggested options for providing sub-national information include: narrative commentary within the text of a single national PHSA; separate risk tables for different sub-national regions; or separate sub-national PHSAs. In the case of the latter, there should first be a single national PHSA to inform high-level planning.

Relationship of PHSA to other Risk Assessments

There is often confusion about the relationship of PHSA to the Rapid Risk Assessment (RRA) and the Strategic Tool for Assessing Risk (STAR). The relationships are clarified here.

The Rapid Risk Assessment (RRA) is undertaken by the Detection, Verification and Assessment (DVA) team of the Health Emergency Information and Risk Assessment (HIM) department of the WHO Emergencies Programme (WHE). It is undertaken in response to an acute public health **Event**, defined by the ERF to be "any event that may have negative consequences for human health. The term includes events that have not yet lead to disease in humans but have the potential to cause human disease through exposure to infected or contaminated food, water, animals, manufactured products or environments." A PHSA is not appropriate in the setting of an individual public health event (e.g. a localized cholera outbreak), as a PHSA is a comprehensive assessment of all of the public health issues and the response landscape in a given context, and is most applicable to settings with activated health coordination mechanisms (e.g., Health Clusters); in most cases it does not make sense to speak about the other public health issues (e.g., what is the mental health situation in relation to the localized cholera outbreak) or response landscape (e.g., what has been the effect of attacks on healthcare in relation to the localized cholera outbreak). In such situations where an acute public health event takes on a larger humanitarian dimension (e.g., the West Africa Ebola outbreak causing massive health system and societal disruption), a PHSA may be warranted.

[3] A recent example would be the humanitarian crisis in northeast Nigeria, which was confined to the states of Borno, Yobe and Adamawa.

The Strategic Tool for Assessing Risk (STAR), led by the WHE's Country Preparedness and IHR (CPI) department, is undertaken in countries that are vulnerable to (or in some cases already experiencing) emergencies. It provides a systematic, transparent and evidence-based approach to identify and classify priority risks, in order to inform preparedness activities. The method involves bringing together relevant experts from multiple sectors (e.g., human health, agriculture, animal health) to assess a range of possible risks, through a Delphi-like methodology. The final output is a spreadsheet that ranks the risks and specifies the types of preparedness activities to be undertaken for each risk. The STAR differs from the PHSA in that the final matrix provides no evidence / data on the magnitude of the listed threats (even if such data were implicit in the risk ranking). If a STAR is undertaken prior to a PHSA, it can serve as an excellent basis for defining which public health threats are significant to include in the PHSA section on Threats; if a STAR matrix is already available, it is recommended to be included as an annex in the long-form PHSA. Alternatively, if a STAR is undertaken after a PHSA, the PHSA can provide the evidence base for informing the STAR's risk prioritization. Thus, the tools are complementary.

Use of PHSA in WHO Grading and Re-Grading

Generally it is expected that the PHSA will be done *after* initial grading of a new emergency; further, it is most applicable to the setting of an activated coordination mechanism (e.g., Health Cluster), which is unlikely to be present at the very onset of a new emergency. Thus, the PHSA is rarely helpful in determining the initial grade. However, the PHSA is very useful at the time of re-grading, in order to provide the evidence on the scale of a health crisis, which informs the regrading decision.

Distribution of PHSA

While being based primarily on secondary data, a PHSA may nevertheless contain information that is not in the public domain, and as such may be sensitive, particularly to the corresponding Ministry of Health / national government. Regardless of initial authorship of the PHSA (WCO, RO or HQ), primary ownership of the PHSA rests with the relevant WCO. Thus, the extent of distribution of the PHSA should be governed by the WCO, within the parameters below. It is expected that the WCO will negotiate any sensitivities with the relevant party/ies prior to public distribution.

All PHSAs will be posted to the WHE Emergencies Dashboard (https://extranet.who.int/emergency-bi/) for access by authorized WHE personnel according to the permissions associated with the Dashboard (e.g. senior management, and personnel with direct involvement in the response in a given country); uploading will be handled by the HIM/MAP team at HQ. Prior to posting, confirmation will be sought, on a "no objections" basis, from the Health Cluster Coordinator (HCC) (or other named focal point for PHSA in-country) to ensure a mutually agreed version is uploaded. Senior management may, on an exceptional basis, share a PHSA with external partners (e.g. other UN agency senior leadership or donor) on a confidential basis; the in-country focal point will be notified prior to sharing. The focal point should alert HQ/HIM/MAP whenever there is a substantial update to the PHSA, requiring reposting. A WHO-Internal version of the PHSA does not require signoff prior to posting.

As the purpose of the PHSA is to provide a common understanding of the health situation amongst response partners, it is expected that the WCO will distribute the PHSA, at a minimum, within the country Health Cluster / Sector / other health coordination architecture. This is also an important component of improving the visibility of WHO as the authoritative source of health information. Prior to sharing, the PHSA should be approved by the HCC, the WHE Team Leader and the WHO Representative (unless authority has been delegated).

It should be recognized that sharing within the Health Cluster is tantamount to sharing with the government, even where the government is not formally a part of the Cluster; thus, relevant sensitivities should first be addressed by the HCC/focal point or WHO Representative before sharing. In any case, it

should be made clear that the PHSA is a working document and is therefore subject to incompleteness and occasional errors; it should not be considered a definitive reference document.

Ideally, a PHSA should be shared publicly by the WCO, e.g. on humanitarianresponse.info or the WCO / country Health Cluster website. In such cases where a small change would allow an otherwise sensitive PHSA to be shared publicly (e.g. changing "cholera" to "acute watery diarrhoea" or redacting a short section of the PHSA), this is encouraged. Prior to public sharing, the PHSA should be signed off by the HCC/focal point and WHE Team Lead, and approved by the WHO Representative. It should be made clear that the PHSA is a working document and is therefore subject to incompleteness and occasional errors; it should not be considered a definitive reference document.

Presenting imprecise or conflicting data

It is understood that a needs assessment, at least initially, takes place in a dynamic, information-poor environment. As such, it is acceptable and indeed preferable to provide rough ranges for percentages, totals and other statistics, whenever this would be a more honest way of portraying the actual accuracy of available data, than by reporting a misleadingly precise single figure.

For statistics and data, a minimum to maximum range based on all the available sources should be provided, as well as a central (most likely) estimate that approximately gives more weight to higher-quality sources (e.g. "measles vaccination coverage was most probably around 45 -50%, but individual estimates ranged from 34% to 65%").

For perceptions and experiences as well as events and other facts, summary statements of the evidence should be provided, that reflect the degree of agreement among sources, and /or point out major disagreements (e.g. "sources agree that beneficiaries are most concerned with the inability to access hospitals", or "some sources reported drug stock -outs at all major hospitals, though one source denied this was happening").

For the purposes of the PHSA, the reader should assume that information presented is credible unless explicitly stated otherwise (i.e. it is not necessary to state "these data are credible" after each item; only uncertain information should be flagged).

Finding source data

General repositories of information that are particularly helpful include:

- vSHOC / Sharepoint (for existing crises)
- humanitarianresponse.info
- WHO Country Office records (e.g., annual reports)
- Ministry of Health website
- Risk profiles (especially STAR profile where available)
- Internet searches
    - When searching Google or other internet search engines for data-rich or assessment reports (as opposed to news reports), it is useful to rely on the advanced search feature of the search engine, and search for files with typical extensions (e.g. .doc, .docx, .ppt, .pdf). Several searches with alternative key terms are better than only a single search.

See templates below for suggested sources for specific data elements.

Guidance on filling the templates

Text that appears in blue indicates that there is a hyperlink attached. "Ctrl" and click on the text to access the information.

Keep note of which data sources that are used as the PHSA is prepared; leaving it to the end will make the process of referencing very laborious. **See Annex 1 for more information on referencing.**

In all instances, the most up-to-date information is preferred, however if this is not available give the latest available statistic; taking into consideration that this may be identified as an information gap in Section 6 (see following template). Note that all information that cannot be provided should be identified as an information gap.

If data are confidential and/or the source is not revealed, clarify with the source if the data can be anonymised, or only used for analysis.

Under each heading, guidance will be provided as to potential information sources.

Short-form PHSA

Previous versions of the PHSA were not fit-for-purpose, taking longer than required to guide immediate operational decisions. For this reason, a "short" or "initial" PHSA template has been developed; meant for information to be gathered quickly to address this gap.

The process of developing a Public Health Situation Analysis (PHSA) should be completed at all three levels (WCOs, ROs and HQ) in order to maximise expertise and technical input. The ideal situation is for the short-form PHSA to be completed at country level within the first 24-72 hours of a crisis, with assistance and input from ROs and HQ when requested. Following this, a long-form PHSA should be developed within two weeks (see below).

The different sections of the short-form PHSA include:

1. Summary of the crisis
2. Map of the affected country/region
3. Health Status and Priority Threats
4. Health System Needs
5. Humanitarian Health Response (3/4W matrix)
6. Information gaps & recommended information sources
7. Key References
8. Contacts

Public Health Situation Analysis- Short Form
COUNTRY NAME
Last update:

Initiated by: Country Office ☐ Regional Office ☐ HQ ☐

Type of emergency (see Annex 2 of this document)	**Main health hazards**	UN Level	WHO Grade	Security level(s)	INFORM risk, **out of 10.** at (date).
Conflict Food security Displacement Drought Flood	• Give a bullet point list of the main **emerging** health hazards (or hazards that are likely to become an issue) resulting from the crisis			For the UNDSS website (dss.un.org), enter UN username and password. Fill out the following table: Location(s) / Level Extreme (6) High (5) Substantial (4) Moderate (3) Low (2)	Download the excel sheet. Include risk class (e.g. Very High) **Rank**: Include rank of country

1. Summary of Crisis

Provide a summary of the key features and facts about the crisis (max 200 words), including:

- Geographical areas affected, or most likely to be affected by the crisis (e.g. key districts)
- Start date (and duration; if applicable) of the crisis
- Major humanitarian consequences and concerns;
- Underlying causative factors and drivers of the emergency (e.g. conflict, drought, earthquake, or other pre-existing vulnerabilities etc.), including key operational constraints
- Major Public Health issues and/or disease outbreaks arising due to the crisis, information on vulnerable groups by age group, gender, ethnic group or any other vulnerable group, if applicable
- Level of destruction of health facilities, if applicable

For initial research, ACAPS , Humanitarian Response, ReliefWeb, OCHA, WHO, Health Cluster, are useful websites. Key documents on these websites include the Humanitarian Response Plan (HRP), and Humanitarian Needs Overview (HNO), and Situation Reports. ECHO also provides useful information. The WHO emergency portal, vSHOC compiles information, including Situation reports, which are highly useful.

2. Map of Affected Country/Region

Provide a country map, clearly showing the different regions and districts affected. if you need help please liaise with the MAP team: maps@who.int.

Useful websites: ReliefWeb (type in the "search" bar the country that you are looking for)

(Insert Map)

Humanitarian Profile:
Population in need: (disaggregated by sex and age if possible**): or** population breakdown by age, gender, urban, rural.

Population in need of humanitarian health assistance: (disaggregated by sex and age if possible**)**

Deaths (estimates**):**

Injuries (estimates**):**

IDP's:
Refugees:
Returnees:

(The HNO/HRP is useful to find this information). Another good source is the "RW Crises" phone app.

3. Health Status and Threats

In this section, the **existing health status** of the population and **possible health threats** should be noted, which will indicate major areas for health action to respond and recover from crisis.

In this section, an overview of the Public Health Profile and the core determinants of health present in the affected country, district or region should be presented, based on reliable sources of information. Information and statistics both **pre**- and **post**-crisis are essential, to understand what could potentially be aggravated by the current crisis. If data is available disaggregated by sex and age, this is very useful; particularly if the numbers are particularly skewed towards one group.

If the most recent available data are not up-to-date, this can be added as a qualifier when providing information, e.g. "according to the most recently available data, …", if there is no information available, add "no statistics are available, but rates are likely to be high/low".

Note: Low confidence information should be specifically noted as such.

For health (and other determinants) profiles/pre-crisis: ACAPS, click on the relevant country, and then "Country Profile", is a very useful source, as well as the Global Health Observatory and WHO Country profiles. The CIA World Factbook, "People and society" section is useful for key and comparison statistics, and DHS surveys provide information by district.

For countries that are in crisis: Situation reports released by OCHA (type in the necessary country), and/or EWARS bulletins found through WHO (click on the respective country, and then "Situation Reports" and/or "EWARS bulletins") are extremely useful, as well as WHO Country Plans. Updates for the AFRO region can be found here.

Note: additional headings can be added, or unnecessary headings removed if necessary, depending on the context. For each sub-heading, aim for an average maximum of 100 words, noting however that some sections may be larger and/or more contextually important than others.

Note: In displacement contexts, the burden of endemic diseases should be found for both the displaced and the host populations, if available. For a mass translocation of people, i.e. where the majority of people are displaced (e.g., Rohingya in Cox's Bazar, Bangladesh), disease profiles from the place of origin (e.g. Rakhine state, Myanmar) are more relevant for most diseases; the main exceptions are diseases associated with the physical environment (e.g., Cox's Bazar), such as most vector-borne diseases, zoonotic diseases, and environmental health issues such as toxin exposure.

Note: If the crisis is focused on a specific i.e. district in country, compare this to the national and or regional averages, if possible, including if there are districts which are facing different health needs, disaggregate information by district.

If known, relate this information to any obvious or potential determinants of health (i.e. measles due to poor vaccination coverage, cholera due to poor WASH infrastructures or environmental factors such as the rainy season).

Population mortality
Where available, this information usually comes from SMART surveys available from the country Health or Nutrition Clusters. Include crude mortality rate (CMR; emergency threshold is >1/10 000/day) and under-5 mortality rate (U5MR; emergency threshold is >2/10 000/day).

Vaccination coverage
If information can be found, note most up-to-date information on vaccination coverage, including, if applicable, how this relates to the coverage necessary for herd immunity threshold.

Key Risks in the coming month*

Public Health risk	Geographical Scope	Likelihood**	Public health** consequence	Level of risk***	Rationale
(e.g. AWD)	(e.g. Countrywide)	(e.g. Likely)	(e.g. Moderate)		(e.g. Poor WASH conditions)
(e.g. Measles)					(e.g. Low vaccination coverage)
(e.g. Malaria)	Countrywide	(e.g. Almost certain)	(e.g. High)		(e.g. Malaria season, lack of treatment)
(e.g ARI)		(e.g. Very likely)	(e.g. Low)		(e.g. overcrowding)
(e.g Mental Health)		(e.g. Not likely)			
(e.g. Injuries)					
(e.g. NCDs and cancer)					(e.g Lack of treatment)

Red: could result in high levels of **excess** mortality or morbidity in the upcoming month. Orange: could result in considerable levels of excess mortality or morbidity. Yellow: could make a minor contribution to excess mortality or morbidity Green: will probably not result in any excess mortality or morbidity/relatively normal satiation in the upcoming month.

Guidance on filling out the 'Key Risks in the coming month' table (see above):

This table shows potential sources of future morbidity and mortality based on the context and an analysis of health risks, and is based on 3 Level expert judgement.

The 'likelihood column' indicates What is the likelihood that this condition will arise due to the crisis? **See Annex 3 for more information.**

The 'level of risk column' is also dependent on the type of crisis, i.e. acute or protracted. **See Annex 4 for more details on how to fill out this table.**

In situations where a crisis has just occurred, for example, increased HIV, TB and NCD burden will not result in high levels of excess mortality as it will take a while for these conditions to deteriorate. In more protracted crises, however, this will become more of a burden as individuals cannot access their medicines so their situation will deteriorate. Depending on the overall public health profile of the country, the level of risk will depend on whether a small or large proportion of the population have/are likely to get the condition.

The narratives below should be consistent with, and expand upon, the table above.

Epidemic-prone diseases

Note any current or recent epidemics or outbreaks (within the past two years (past 10 for long-form), particularly of vaccine-preventable diseases) in the affected area, including dates. If quickly ascertainable, provide data on prevalence and/or number of confirmed and suspect cases (and alert cases if applicable), case fatality rate (CFR), locations, and any other descriptive epidemiology; including key populations affected (e.g. by gender or age). If possible, describe patterns. ProMED is a useful source. Where applicable, mention overcrowding as a risk factor (which may increase risk air-

borne diseases).

Endemic infectious diseases

List endemic infectious diseases that are most likely to be aggravated by the current event. Further, note any other endemic infectious diseases; including Neglected Tropical Diseases (NTDs) and vector-borne diseases. One way to determine the endemic diseases to include is to determine the leading infectious causes of outpatient consultation, in order of proportional morbidity. **If quickly ascertainable**, break down by region if possible, including incidence, prevalence, CFR, and peak seasons of disease transmission if applicable. For Malaria, note dominant species and associated resistance patterns, seasonal transmission, and potential migration of people from low endemicity to hyperendemic areas and vice versa. For zoonotic diseases, note the extent of disease/deaths in animals. Information about Malaria species and resistance patterns in country can be found here

Malnutrition and Child Health

Note the prevalence of Severe Acute Malnutrition (SAM) particularly for children under 5 (crisis threshold 2%), Global Acute Malnutrition (crisis threshold 15%), stunting (crisis threshold >20% for areas that are moderately/borderline food insecure),; if quickly ascertainable, provide location and populations who are most affected, number of people requiring food assistance and where they are located, noting IPC projections if available. Nutrition Landscape Information System, and SMART surveys are useful sources. Much of this information may be held by the Nutrition Cluster if present.

If quickly ascertainable, note breastfeeding rates, infant mortality rate, and leading causes of child mortality. UNICEF is a useful source.

Sexual and reproductive health

Note any quickly ascertainable information on total fertility rate (TFR), unmet need for family planning , ANC coverage (particularly noting the recommended 4 visits), births attended by skilled health personnel, delivery of births at a health facility, leading cause of maternal deaths, noting if there is anything significant about the figures, i.e. lowest in the region. Also note anything that could change due to the crisis. UNFPA and UNICEF are useful sources. Maternal mortality ratio (MMR) can also be added if known, although crisis-specific data are rarely available early in a crisis.

Tuberculosis and HIV

Tuberculosis (TB): Note incidence (new cases) and prevalence (current cases) of TB, MDR/RR TB cases, TB treatment coverage. Where applicable, mention overcrowding as a risk factor (which may increase risk of TB spread).

HIV: Note incidence (new cases), and prevalence (current cases) of HIV, treatment coverage, number of people receiving ART, prevention of mother to child transmission (pMTCT) rates.

Non-communicable diseases (NCDs)

Depending on which resource provides the most up to date information: NCD country profile, NCD Progress Monitor. If quickly ascertainable, note the burden of major NCDs (e.g. diabetes mellitus, CVD, cancers, respiratory diseases, hypertension), and essential medicines which are /are not be available in country, if possible.

Trauma

Crisis-attributable injuries: Indicate the confirmed and/or estimated number of injuries and casualties that have arisen from the crisis and most prevalent injury patterns. In unstable security situations, consider whether the pattern of warfare could cause substantial numbers of injuries over the next month. Consider using data from health bulletins if available.

Violence: Note patterns and locations of violence in country.

Gender-based violence (GBV**):** *GBV includes: intimate partner violence, rape, child marriage, female genital mutilation, exploitation etc.* Note the current types of violence that are most prevalent. Note if these figures are likely to be exacerbated due to the crisis, note negative coping

mechanisms which may lead to increased violence or GBV Consider using information from health bulletins, or GBV sub-cluster information where available.

Mental health
Note the extent of mental health conditions in populations, including locations and key populations where this may be most prominent.

Water Sanitation and Hygiene (WASH)
Comment on overall WASH situation. If quickly ascertainable, note extent, location, and status of WASH infrastructure (particularly the availability of safe and/or improved drinking water and basic sanitation), rainfall patterns, and any other increases in WASH needs which may arise from the crisis. Note hygiene and sanitation practices, if available. Where applicable, mention how overcrowding as a risk factor which may lead to increased risk of disease.

Other
Note other determinants of health, contextual factors, or cross-cutting issues which are highly relevant to the situation, such as **protection concerns** e.g. land mines, security threats, **cultural factors** which may exacerbate risk of disease transmission (e.g. unsafe burial practices, eating of bushmeat), **operational constraints** prior to or as a result of the conflict (e.g. lack of road maintenance which may affect humanitarian assistance), **natural hazards and/or any other extreme weather exposures** which may exacerbate the crisis, or any other major pre-existing vulnerabilities and/or threats.

4. Health System Status & Local health system disruptions

Pre-crisis
Provide as much information as can quickly be found on % of country covered by Primary Health Care and hospital services, number of hospital beds per 100,000 population, number of nurses and doctors working in the affected area, barriers to accessing healthcare i.e. financial, transport.

In-crisis
Provide summary statistics on the state of the health system in country,

- main figures on the disruption of key health system components, and the locations of these disruptions (see box beside),
- to what extent could crisis risk factors could reduce coverage and utilization of health services,
- Report on any critical, local disease control (eradication/elimination) programmes that could be disrupted as a result of the crisis.

Main figures on disruption of key health system components

Damage to health facilities: to what extent, including locations of damage that has occurred

Health workforce: note the extent of health workforce in country

Attacks against health workers: indicate numbers, locations and frequency of attacks. Surveillance system for attacks on health care is useful.

Drugs and other supplies: e.g. disrupted supply chain, shortage of drugs

For latest HeRAMS reports, please see the HeRAMS website (accessible through Google Chrome); or contact: herams@who.int.

5. Humanitarian Health Response (3/4W matrix)

Health response coordination
If available, provide information on the leadership and governance structure of the health response, and partner coordination.

N. of partners

Health response actors
Include the Who-does-What-Where(When) (3/4W) map/list, and the number of partners working in the health cluster.

Useful websites: ReliefWeb (type in the "search" bar the country that you are looking for).

In cases where the 3/4W map/list is not available, to cover partner engagement the following may be useful:

- Mapping initial assessment coverage, to identify areas which are not covered
- locations of EMTs, in-country health sector partner coverage (pre- and post- event).
- Expected deployments (vSHOC can show WHO planned deployments; consult partners for other).
- Development partners (who may already have projects and/or experience), to fulfil the humanitarian-development nexus.

(Insert 3/4W matrix)

6. Information gaps & information source

Prioritize information gaps evident from secondary data search, and identify the corresponding tool, guidance document and/or source of information that can be used to address this. Sometimes these information gaps are already hinted at or provided elsewhere, such as on ACAPS or Situation Reports.

The information gaps that are indicated should be useful to address what information can be collected in future assessments.

For example; if there is no information on measles cases, but measles is flagged as an issue, the corresponding tool would be to set up EWARS to identify cases of measles.

Consult PHIS Toolkit for guidance on specific tools used to fill specific gaps. If possible, add a hyperlink to the recommended tool so that it can be accessed easily (In Word: "Insert", "Links", "Link", and then copy and paste the desired hyperlink).

Additional guidance can be sought from the WHO HQ or RO HIM/MDC PHIS country focal points.
See Annex 8 on more information on methods to collect primary data.

	Gap	Recommended tools/guidance for primary data collection
Health Status & threats for affected population	(e.g.Measles or other epidemic-prone diseases and other critical conditions)	(e.g. EWARS)
	(e.g. Mental Health)	(e.g. Assessment for mental health tool)
	(e.g. GBV prevalence)	GBVIMS
	(e.g. HIV Statistics- 2018)	(e.g. UNAIDS)
Health Resources & availability	(e.g. Health Resources)	(e.g. HeRAMS)
Health System Performance (access, coverage, output, quality, and utilization of health services)		

7. Key References

This section requires a very basic reference list, in the following format: Source, name of document, year. In-text citations are not required for the short form PHSA.

8. Contacts

For example:

Health Cluster Coordinator:

Health Cluster Information Management Officer:

[Insert Country Name] Public Health Information Services Focal Point (WHO Geneva, RO):

Long-form PHSA

The long-form PHSA builds upon the short-form (hence most fields in the short-form can be copied and pasted directly into the long-form), adding depth to the information presented in the short-form. In addition to simply providing more information on the existing topics (e.g., expanding items designated in the short-form as "if quickly ascertainable…"), garnered from the additional two weeks of time allotted to produce the long-form PHSA (including time for receiving primary data from initial rapid assessments), there are a few unique elements to the long-form PHSA; these are described below. Otherwise, the individual fields in the long-form PHSA follow the guidance for the short-form PHSA.

Each table in the long-form PHSA should be followed by in-depth narrative explaining each problem (disease, disruption, etc.) highlighted in the table **(See Annexes 4-7).**

Public Health Situation Analysis
[Country Name]

(Insert Date)

Type of emergency (insert humanitarian icons)	Main health threats	UN Level	WHO Grade	Security Level(s)	INFORM Index (Rank:)
				Location / Level	

(Insert Map or photo)

Executive Summary

Acronyms and abbreviations

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Preface

Public health threats represent a significant challenge to those providing health-care services in a crisis. The health issues and risk factors addressed in this document have been selected on the basis of the known burden of disease in this country, crisis-emergent health issues, and their potential impact on morbidity, mortality, response and recovery. It is hoped that this PHSA will facilitate the coordination of activities among all agencies working with the populations affected by the crisis. The document contains a short summary of the crisis, health status of and threats to the affected population, health system needs, humanitarian health response, and information gaps. This document presents the best available data at the time of publication, and may be updated, as needed.

1. Summary of the crisis

i. Key features

Location (country, region):

Start date of crisis:

Typology:

Brief description of event:

Operational constraints:

ii. Humanitarian profile

(Total population, affected, number of IDPs, refugees, returnees, etc.)

2. Health status and threats

i. Population mortality

ii. Vaccination coverage

iii. Priority health threats

Table 3 summarises the current analysis of the magnitude (in terms of excess morbidity and mortality) of different health problems impacting the crisis-affected population, grouped into major disease types. Changes in the projected magnitude of these problems are also shown: these assume that the humanitarian health response (availability, coverage, quality) remains unchanged from its current status. **Table 1a covers somatic health issues, and Table 1b covers mental health and psychosocial support issues.**

See Annex 4 and 5 for information on how to fill out table 1a and 1b.

Table 1a. Magnitude[1] of expected somatic health threats and their expected evolution over time[2].

Health problem	Month(s), starting now			
	1	2	3-6	6-12
Worse WASH situation				
Worse sexual and reproductive health outcomes				
Worse malnutrition and child health				
Increased burden of endemic infectious diseases				
Risk of epidemics				
Increased HIV and TB burden				
Increased NCD burden				
Trauma				

[1] Red: Could result in high levels of excess mortality/morbidity. Orange: Could result in considerable levels of excess mortality/morbidity. Yellow: Could make a minor contribution to excess mortality/morbidity. Green: Will very probably not result in any excess mortality/morbidity. Grey: No plausible assessment can be made at this time.

[2]Changes in risk over time shows the expected progression after an acute onset emergency, or predicable seasonality of morbidity.

Water, sanitation and hygiene (WASH)

Sexual and reproductive health

Malnutrition and child health

Malnutrition
Child health

Endemic infectious diseases [delete any non-applicable diseases]

Malaria
Other (as relevant)

Epidemic-prone diseases

Measles
Diphtheria
Cholera / acute watery diarrhoea
Vector-borne diseases (e.g., dengue, chikungunya)
Other (as relevant)

Tuberculosis and HIV

Tuberculosis
HIV

Non-communicable diseases

Chronic diseases (e.g., cardiovascular disease, cancer)
Disabilities
Other (as relevant)
Environmental health and technological hazards (if applicable)

Trauma

Crisis-attributable injuries
Violence
Gender-based violence

Table 2b. Magnitude[1] of expected mental health and psychosocial support threats and their expected evolution over time.

Mental Health and psychosocial support problem	Month(s), starting now			
	1	2	3-6	6-12
Worse mental health problems				
Worse psychosocial support problems				

[1]Red: Could result in high levels of excess mental health/psychosocial support problems. Orange: Could result in considerable levels of excess mental health/psychosocial support problems. Yellow: Could make a minor contribution to excess mental health/psychosocial support problems. Green: Will very probably not result in any excess mental health/psychosocial support problems. Grey: No plausible assessment can be made at this time.

Mental health

Psychosocial support issues

3. Health system needs

i. People in need of health services

ii. Local health system disruptions

Disruption of key health system components

Various disruptions to the local health system continue to affect delivery of preventive and curative health services. These are summarised in Table.

See Annex 6 and 7 for information on how to fill out this table.

Table 2. Overview of disruptions to key health system components.

Disruption	Month(s), starting now			
	1	2	3-6	6-12
Disrupted management				
Reduction in financing				
Inability of non-state providers to maintain services				
Disruption to supply chain (including pharmaceuticals)				
Degraded alert and response				
Migration of human resources for health				
Damage to health facilities				
Attacks against health				
Access to healthcare				

[1] Red: The majority of the health system feature / health service has been or could be rendered non-functional. Most people / patients do not have access to healthcare. A major reduction in health service coverage or quality could occur. Orange: A substantial minority of the health system feature / health service has been or could be rendered non-functional. A substantial minority of people / patients do not have access to healthcare. A moderate reduction in health service coverage or quality could occur. Yellow: A small minority of the health system feature / health service has been or could be rendered non-functional. A small minority of people / patients do not have access to healthcare. A small reduction in health service coverage or quality could occur. Green: The vast majority or entirety of the health system feature / health service is very probably still as functional as before the crisis. No risk factors for reduction in health service coverage or quality have been identified. Grey: No plausible assessment can be made at this time.

Disrupted management

Reduction in financing

Inability of non-state providers to maintain services

Disruption to supply chain (including pharmaceuticals)

Degraded alert and response

Migration of human resources for health

Damage to health facilities

Attacks against health

Access to healthcare

4. Humanitarian health response

i. Health response coordination

ii. Availability / functionality of humanitarian health resources

Facilities data (e.g., HeRAMS)

4Ws

iii. Humanitarian health system performance

Utilisation of services

Quality of humanitarian health services

Vaccination campaign coverage against target

5. Information gaps

See Annex 8 for more information on methods to collect primary data.

	Gap	Recommended tools / guidance for primary data collection
Health status and threats		
Health system needs		
Health response coordination		
Availability / functionality of humanitarian health resources		
Humanitarian health system performance		

6. Additional Resources

7. Annex 1 WHO recommended surveillance case definitions

Acute diarrhoea

Acute diarrhoea (passage of three or more loose stools in the past 24 hours) with or without dehydration.

Suspected cholera

- In an area where cholera is not known to be present: a person aged > 5 years with severe dehydration or death from acute watery diarrhoea with or without vomiting.
- In an area where there is a cholera outbreak: a person aged > 5 years with acute watery diarrhoea with or without vomiting.
- To confirm a case of cholera: isolation of *Vibrio cholerae* O1 or O139 from a diarrhoeal stool sample.

Bloody diarrhoea

Acute diarrhoea with visible blood in the stool. To confirm a case of epidemic bacillary dysentery:

- take a stool specimen for culture and blood for serology,
- isolation of *Shigella dysenteriae* type 1.

Acute flaccid paralysis (suspected poliomyelitis)

Acute flaccid paralysis in a child aged < 15 years, including Guillain–Barré syndrome, or any acute paralytic illness in a person of any age in whom poliomyelitis is suspected.

Acute Haemorrhagic Fever Syndrome

Acute onset of fever (duration of less than 3 weeks) and any of the following:

- haemorrhagic or purpuric rash,
- vomiting with blood,
- cough with blood,
- blood in stools
- epistaxis, or
- other haemorrhagic symptoms.

Acute Jaundice Syndrome

Illness with acute onset of jaundice **and** absence of any known precipitating factors **and/or** fever.

Pneumonia

- for infants aged 7-59 days, breathing 60 or more times per minute (even without history of cough and or difficult breathing)
- In children 2 months to less than five years old with history of cough or difficulty breathing and one or more of the following
  - for infants aged 2 months to 1 year, breathing 50 or more times per minute, or chest in-drawing
  - for children aged 1 to 5 years, breathing 40 or more times per minute, or chest in-drawing
  - no stridor, no general danger signs (see below).

Severe pneumonia

- History of cough or difficulty breathing and one or more of the following:

- inability to drink or breastfeed,
- intractable vomiting,
- convulsions, lethargy or unconsciousness, or
- stridor in an otherwise calm child.

Malaria

Person with current fever or history of fever within the past 48 hours (with or without other symptoms such as nausea, vomiting and diarrhoea, headache, back pain, chills, muscle pain) with positive laboratory test for malaria parasites (blood film, thick or thin smear, or rapid diagnostic test).

- In children:
  - Uncomplicated malaria: Fever and no general danger signs such as lethargy or unconsciousness, convulsions, or inability to eat or drink. Where possible, confirm malaria with laboratory test.
  - Severe malaria: Fever and general danger signs (lethargy or unconsciousness, convulsions, or inability to eat or drink).

Measles

- Fever and maculopapular rash (i.e. non-vesicular) with cough, coryza (i.e. runny nose), or conjunctivitis (i.e. red eyes).
- Any person in whom a clinician suspects measles infection.
- To confirm a case of measles: Presence of measles-specific IgM antibodies.

Meningitis

- Suspected case:
  - sudden onset of fever (>38.5 °C) with stiff neck.
  - in patients aged < 12 months, fever accompanied by a bulging fontanelle.
- Probable case of bacterial meningitis:
  - suspected case of acute meningitis, as defined above, with turbid cerebrospinal fluid.
- Probable case of meningococcal meningitis:
  - suspected case of meningitis, as defined above and one or more of the following:
    - ongoing epidemic of meningococcal meningitis
    - Gram stain showing Gram-negative diplococci, or
    - petechial or purpural rash.
- Confirmed case of meningococcal meningitis: suspected or probable case, as defined above, with either positive CSF antigen detection for *Neisseria meningitidis* or positive CSF culture or blood with identification of *N. meningitidis*.

Tetanus

- Adult tetanus: Either of the following signs 3–21 days following an injury or wound: trismus of the facial muscles or risus sardonicus (characteristic abnormal grin) or painful muscular contractions.
- Neonatal tetanus: Any neonate with normal ability to suck and cry during the first 2 days of life who, between day 3 and day 28, cannot suck normally, or any neonate who becomes stiff or has spasms or both.

Unexplained Fever

Fever (body temperature >38.5 °C) for >48 hours and without other known aetiology.

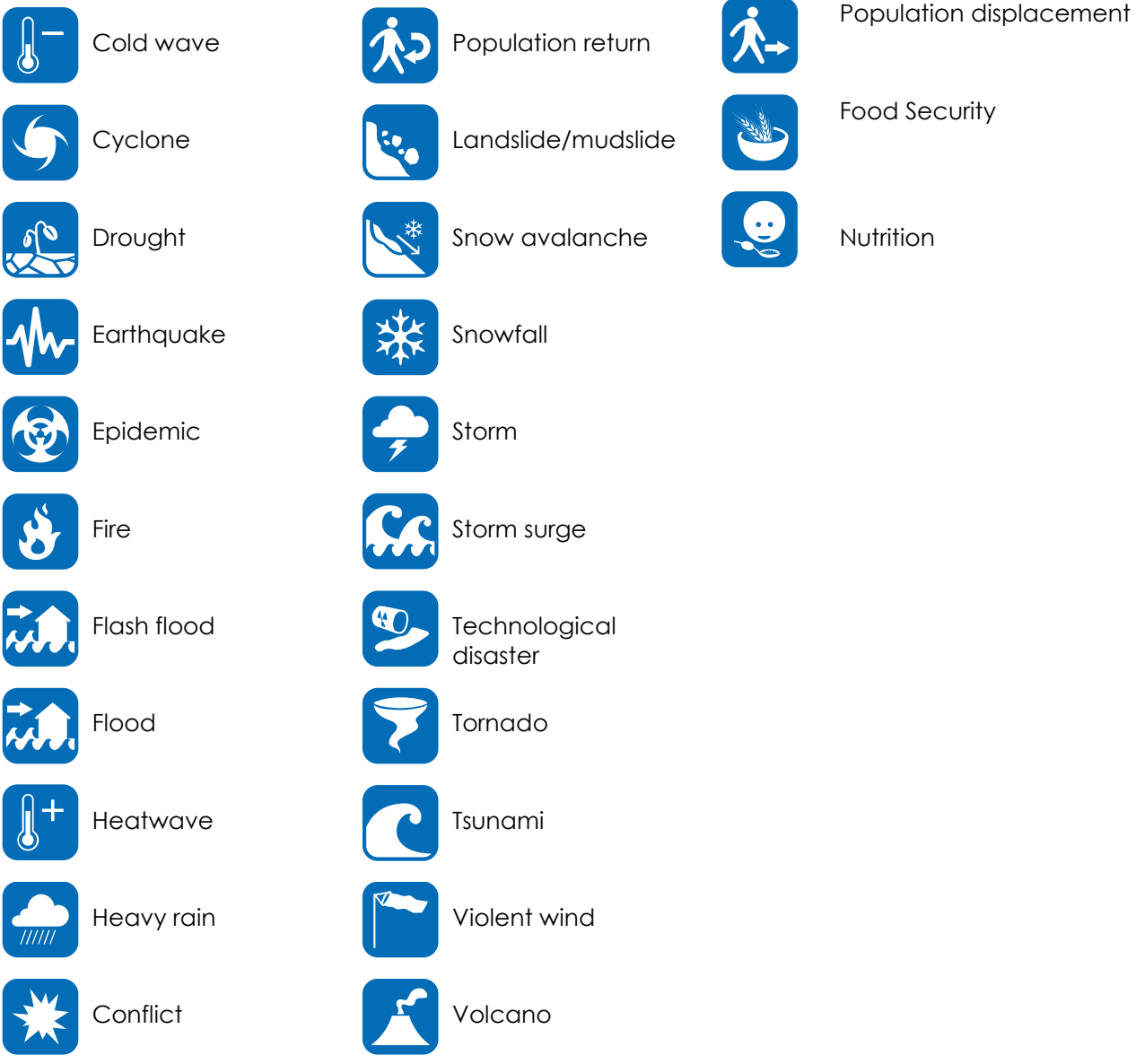
Unexplained cluster of health events

An aggregation of cases with similar symptoms and signs of unknown cause that are closely grouped in time and place.

Annex 1: References and Citations

Microsoft Word has a built-in function which keeps track of references and citations which is useful. Note that for the short from PHSA, in-text citations are not a requirement, but for the long form should be used. In Microsoft 2016, it is found under the "References" tab, "Citations & Bibliography". The "Numerical Reference" (ISO690) is the easiest Style of citation to use. When a source is added, click on "Manage Sources", "New" and then fill in the corresponding information. Then, add the citation in the relevant section by clicking on "Insert Citation", and choose the relevant citation.

Annex 2: Crisis Typology Icons Legend



Annex 3: Additional guidance for the analysis of disease threats

Table 1. Typical effects of the main crisis-emergent risk factors on reproductive, maternal and neonatal health outcomes.

Risk factor	Effects		
	Impact of risk	Timing (once risk factor is occurring)	Specific mechanism (s)
Increasing acute malnutrition	+++	Immediate	Poor maternal nutrition leading to low birth weight, obstetric and neonatal complications.
Worsening feeding and care practices	+++	Immediate	Reduced breastfeeding (due to stress and mental health problems, lack of privacy, increased workload, inappropriate donations of breast milk substitutes) leading to increased risk of neonatal and infant mortality.
Worsening mental health	+	A few weeks	Obstetric complications. Increased risk of neonatal and infant mortality due to compromised care.
Overcrowding	+	Immediate	Increased transmission of neonatal infections.
Inadequate shelter	+	A few weeks	Increased risk of malaria during pregnancy, resulting in worse birth outcomes. Increased severity of neonatal pneumonia. Increased risk of neonatal dehydration or hypothermia.
Inadequate WASH services	++	Immediate	Increased risk of peri-natal and neonatal infections (especially when exclusive breastfeeding prevalence is low). Poor menstrual hygiene.
Increased SGBV frequency	++	Immediate	Increased unwanted pregnancies and unsafe abortions. Disability due to SGBV physical trauma.
Reduced access to health services	+++	Immediate	Untreated obstetric and neonatal complications. Missed antenatal preventive care. Increased unsafe abortions, lack of post-abortion care. Untreated sexually transmitted infections.

Table 2. Main risk factors causing increases in the severity of infectious diseases, and their timing.

Table 3. Main crisis-emergent risk factors causing an increase in transmission of infectious diseases, and their timing.

Infections disease (epidemic prone)	Risk factors: Impact and timing of risk			
	Increasing acute malnutrition	Overcrowding	Insufficient vaccination coverage	Poor WASH conditions
Airborne-droplet transmission				
Pneumococcal disease	+++ Immediate	+++ Immediate	+++ Immediate if already present in country.	+ Immediate
Hib disease	++ Immediate	++ Immediate		+ Immediate
Other bacterial respiratory pathogens	+++ Immediate	+++ Immediate	-	++ Immediate

Risk factor	Risk impact and timing		
	Airborne-droplet transmitted diseases	Faecal-oral transmitted diseases	Vector-borne diseases
Increasing acute malnutrition	+++ Immediate	+++ Immediate	++ Immediate
Disrupted curative services	+++ Immediate	+++ Immediate	+++ Immediate
High HIV burden with extensive HIV treatment interruptions	++ 3-6mo	++ 3-6mo	+ 3-6mo
Inadequate shelter (exposure to cold)	++ Immediate	-	-
Inhalation of indoor smoke (inappropriate cooking or heating fuels)	+ Immediate	-	-
Smoke inhalation from volcanic eruption	+ Immediate	-	-
NCD treatment interruptions	+ 3-6mo	-	-

Measles	+++ Immediate	+++ Immediate	+++ Immediate if already present in country.	++ Immediate
Pertussis	++ Immediate	+++ Immediate	+ Immediate	
Meningococcal meningitis	-	+++ Immediate	+++ Immediate if already present in country.	-
Influenza	?	+++ Seasonal	-	?
Faecal-oral transmission				
Cholera	++ Immediate	+++ Immediate	+++	+++ Immediate
Shigellosis[4]	+++ Immediate	+++ Immediate	-	+++ Immediate
Typhoid fever	+++ Immediate	++ Immediate	-	+++ Immediate
Rotavirus	++ Immediate	++ Immediate	+++ Immediate if already present in country.	-
Polio	-	+++ Immediate		+++ Immediate
E. coli, other common enteric pathogens	+++ Immediate	+++ Immediate	-	+++ Immediate
Hepatitis A and E	?	-	-	+++ Immediate
Helminths, schistosomiasis	++ Immediate	++ Immediate	-	+++ Immediate
Vector-borne transmission				
Malaria	++ Immediate	-	-	+ (2mo)
Other mosquito-borne diseases	?	-	++ Immediate if already present in country.	++ (2mo)

Annex 4: Scoring the magnitude of health threats /needs

Note that this is applicable to both the short and long-form PHSA.

Answers to questions in the Crisis-emergent *Health Status and Threats section* should be scored in terms of the extent to which the health problem or group of diseases could result in health impacts, i.e. the magnitude of crisis-attributable excess mortality and/or excess mental health problems.

Such a scoring is essential to establish health sector priorities, but is objectively difficult to do, as it requires putting together information from all sections of the Key Questions, and considering various causal pathways and interactions among risk factors and even disease groups.

In order to undertake the scoring, the following parameters should be considered together:

[4] All else being equal, transmission risk is highest during the dry season.

The baseline burden of disease (think of how many DALYs lost this disease or group of diseases was responsible for before the crisis). The baseline disease burden is however irrelevant for crisis-emergent health problems, including trauma injuries or combatant - perpetrated SGBV. It is also relatively unimportant for epidemic-prone diseases.

The extent to which crisis-emergent risk factors could increase this burden of disease. To what extent could different risk factors occur? What is their risk impact, i.e. relevance to this particular disease or group of diseases (see e.g. Annex 3)? Note that the combination of different risk factors has a multiplicative effect;

What is known or can be assumed now about access to curative and preventive health services relevant to this disease or group of diseases;

What further disruptions to the health system could occur, and the effect they would have on this disease or group of diseases, in addition to the above.

Table 1 provides guidance on how to attribute scores.

Table 1. Guidance for scoring the magnitude of health threat or need for different groups of health problems.

Magnitude of threat / need	Meaning	Notes
High	Could result in high levels of excess mortality and/or mental health problems.	Could be one of the top drivers of worsened health status, and single-handedly result in a substantial increase in all-cause mortality, or substantial worsening of mental health and functioning. Think of a very severe epidemic; a large proportion of cases of life-threatening disease going without treatment; huge increases in infectious disease burden due to combinations of important risk factors (overcrowding,
Intermediate	Could result in considerable levels of excess mortality and/or mental	Could single-handedly result in a moderate increase in all-cause mortality, or moderate
Low	Could make a minor contribution to excess mortality and/or mental health problems.	Small but non-negligible increase.
None	Will very probably not result in any excess mortality or mental health problems.	Whatever the baseline, no crisis-emergent risk factors could occur that the pre-crisis health system wouldn't be able to cope with. Alternatively, the number of trauma injuries
Unclear	No plausible assessment can be made at this time.	Either the baseline is unknown, or it is impossible to say at this stage how the crisis could affect it, if at all. Alternatively, it is impossible to know whether

Four important points to remember while scoring are:

The magnitude of threat / need is time-dependent. It may increase as new crisis risk factors emerge, or vice versa. This should be reflected, particularly in the long-form PHSA (i.e. different magnitudes of threat should be reported, corresponding to different times).

For the vast majority of questions, one should be able to at least make a plausible assumption about what could happen as a result of the crisis. Only a few questions should be scored as 'Unclear'.

One should resist the temptation to score every question as 'High', unless this is truly warranted. Remember that scoring all or most questions as 'High' would imply catastrophic levels of excess mortality: is this really a plausible development? Differentiating between different magnitudes of threat / need, on the other hand, helps to identify relative priorities for the humanitarian health response.

One should provide a score without thinking about the mitigating impact of the humanitarian health response. At this stage, one analysing needs for the health sector and pointing out what could happen in the absence of an adequate response.

Annex 5: Table 1a and 1b: Expected evolution of crisis emergent health threats over time

Note that this is only applicable to the long-form PHSA

Below is an example of the expanded Tables 1a and 1b of the long-form PHSA. It builds on the short-form PHSA by providing a longer time horizon. Where there are predicted changes in risk, the box should be used to indicate the justification for the prediction.

Timing is primarily based either on predictable seasonality (such as rainy season and malaria, or lean season and malnutrition) or on predictable evolution from onset. An example of the latter would be trauma injuries after a sudden-onset natural disaster: the timing of need would be immediate, and indeed would dramatically decrease after one week, since the window for treatment (though not

rehabilitation) is very short for most life-threatening injuries. Another example would be for NCDs, TB and HIV, where initial impact may be low, but may increase over time as the morbidity associated with disruption of treatment increases (as does the transmission of TB and HIV as a consequence of treatment disruption). Occasionally, timing may be based on some known upcoming event, e.g., the risk of violence associated with an upcoming election.

If no plausible prediction can be made about the course of a given threat (e.g., an outbreak with a rare pathogen), it is better to leave it grey than make unfounded predictions.

To understand the key health threats, it is important to understand the pre-crisis burden of disease for the main groups of disease, expressed as Disability Adjusted Life Years (DALYs) lost. These can be found here.

Table 3a. Magnitude[1] of expected somatic health threats and their expected evolution over time[2].

Health problem	Month(s), starting now			
	1	2	3-6	6-12
Worse WASH situation	Dry season may exacerbate WASH situation where lack of fresh water for drinking/washing			Rainy season may exacerbate WASH situation where flooding occurs
Worse sexual and reproductive health outcomes	No major changes expected			
Worse malnutrition and child health	Low crop yields threaten already bad nutritional situation		Lean season from May to August	Most SAM cases last year in September-November
Increased burden of endemic infectious diseases	Malaria is the chief threat			Rainy season to exacerbate malaria
Risk of epidemics	Meningitis is biggest threat; others measles, cholera, yellow fever, hepatitis E			Cholera in rainy season
Increased HIV and TB burden	Interruption in treatment may cause increased transmission			
Increased NCD burden	Interruption in treatment may cause increased morbidity			
Trauma	Violent trauma likely to continue			Modest decrease in violence during rainy season

[1] Red: Could result in high levels of excess mortality/morbidity. Orange: Could result in considerable levels of excess mortality/morbidity. Yellow: Could make a minor contribution to excess mortality/morbidity. Green: Will very probably not result in any excess mortality/morbidity. Grey: No plausible assessment can be made at this time.

[2]Changes in risk over time shows the expected progression after an acute onset emergency, or predicable seasonality of morbidity.

For each of the above domains, it is useful to include a brief narrative about the health and WASH problem prior to the crisis, in order to provide context and aid in operational engagement with the **existing system**. Questions to address are included below under "pre-crisis" (note: not all answers may fit

neatly within the stated category). Use the questions below to guide your narrative; they need not all be answered explicitly.

The narratives below should be consistent with, and expand upon, the table above.

WASH situation

Pre-crisis

- What is the WASH situation at present?

Crisis-emergent

- To what extent could the rainy season (e.g. flooding), or the dry season (e.g. lack of fresh water) lead to a worsening WASH situation?
- To what extent could other crisis risk factors lead to a worsening WASH situation, and when?

Sexual and reproductive health outcomes

Pre-crisis

- What was the crude birth rate?
- What was the maternal mortality ratio?
- What was the prevalence of contraceptive use?

Crisis-emergent

- To what extent could crisis risk factors worsen reproductive, maternal and neonatal health outcomes, and when?

For a proper understanding of sexual and reproductive health needs, in-depth **assessment** is recommended to refine initial needs analysis.

Malnutrition and child health

Pre-crisis

- What was the prevalence of acute malnutrition (severe, moderate and global) among children 6-50 months old?
- What was the proportion of women aged 15-49 years with low body mass index (<18.5kg/m^2)?
- What was the proportion of children exclusively breastfeed until 6mo of age?
- What was the under 5y (child) mortality ratio?

Crisis-emergent

- To what extent could any worsening food insecurity have an effect on nutritional status, and when?
- To what extent could worsening feeding and care practices have an effect on nutritional status, and when?
- To what extent could nutritional status deteriorate in different age groups (infants, other children, pregnant and lactating women, people living with HIV, general population) and when?

Burden of endemic infectious diseases

Pre-crisis

- What were the top three infectious cause of outpatient consultation, in order of proportional morbidity?

Crisis-emergent

- To what extent could crisis risk factors increase the burden of the main endemic infectious diseases?

Risk of epidemics

Pre-crisis

- What, if any, confirmed epidemics have occurred in the affected area (in the case of displaced people, both the area of origin and the host community) over the last 10 years?
- What was the severity of any epidemics (total known cases and deaths)?

Crisis-emergent

- Which epidemic-prone diseases could cause outbreaks, with what attack rate, severity, and when? Are any happening now?
- Which local infectious disease eradication/elimination programmes could be at risk of setbacks, and when?

HIV and TB burden

Pre-crisis

- What was the HIV prevalence in the general population, and how many people were in need of antiretroviral treatment?
- What was the annual incidence of active TB (total number and rate)?

Crisis-emergent

- How many people's HIV/TB treatment has been or may soon be interrupted, and when could their health outcomes start to deteriorate?

NCD burden

Pre-crisis

- What were the most important groups of NCDs?
- What was the prevalence of diabetes?
- What was the prevalence of hypertension?

Crisis-emergent

- How many people's type 1 (insulin-dependent) and type 2 diabetes treatment has been or may soon be interrupted, and when could their health outcomes start to deteriorate?
- How many people's hypertension treatment has been or may soon be interrupted, and when could their health outcomes start to deteriorate?
- To what extent could other crisis risk factors increase NCD burden, and when?

Trauma

Pre-crisis

- What is known about the incidence of SGBV, including during any crises that may have occurred in the same population previously?

Crisis-emergent

- How many people are known or projected to have sustained life-threatening trauma injuries, and could substantial numbers of trauma injuries continue to occur over the foreseeable future?
- What is the observed or expected typology o trauma injuries?
- Is there evidence of combatants perpetrating SGBV on the affected population?
- To what extent could other crisis risk factors increase SGBV frequency, and when?

Table 4b. Magnitude[1] of expected mental health and psychosocial support threats and their expected evolution over time.

Mental Health and psychosocial support problem	Month(s), starting now			
	1	2	3-6	6-12
Worse mental health problems	Post-traumatic stress, untreated chronic mental health disorders			
Worse psychosocial support problems				

[1] Red: Could result in high levels of excess mental health/psychosocial support problems. Orange: Could result in considerable levels of excess mental health/psychosocial support problems. Yellow: Could make a minor contribution to excess mental health/psychosocial support problems. Green: Will very probably not result in any excess mental health/psychosocial support problems. Grey: No plausible assessment can be made at this time.

The narratives below should be consistent with, and expand upon, the table above.

Mental health problems

Pre-crisis

- If possible, include a discussion of the essential concerns, beliefs, and cultural issues that aid providers should be aware of when providing psychosocial support.

Crisis-emergent

- To what extent could the prevalence and severity of mental health problems increase and when?
- To what extend could substance addictions become more frequent, and when?
- What is known about the safety and ongoing care of patients in mental health care institutions?

Psychosocial support problems

Pre-crisis

- If possible, include a discussion of the essential concerns, beliefs, and cultural issues that aid providers should be aware of when providing psychosocial support.

Crisis-emergent

- To what extent could other crisis risk factors increase the frequency of psychosocial support problems, and when?

Understanding of mental health and psychosocial support threats requires in-depth assessment, typically conducted by the IASC Mental Health and Psychosocial Support Working Group, an inter-cluster entity set up in many crises, to which the Health Cluster should refer.

Annex 6: Table 2 of the long form PHSA: Scoring the magnitude of disruption to key health system components

Note that this section is only applicable to the long-form PHSA.

Answers to questions in the Crisis-emergent *Health Resources and Availability* and *Health System Performance* sections should be scored in terms of the extent to which the health system component or parameter the question relates to (parameter, e.g. quality of health services, or health system component, e.g. the existing epidemic alert and response system) is known or may be assumed to undergo crisis-**attributable disruptions**. Alternatively, the extent to which people are without feasible access to certain health services, or to which health system performance may be declining, should be scored. Table 4 provides guidance for this scoring.

Table 2. Guidance for scoring the extent of disruption or lack of access to a given health system feature or service.

Extent of disruption	Meaning
High	The majority of the health system feature / health service has been or could be rendered non-functional. Most people / patients do not have access to healthcare. A major reduction in health service coverage or quality could occur.
Intermediate	A substantial minority of the health system feature / health service has been or could be rendered non-functional. A substantial minority of people / patients do not have access to healthcare. A moderate reduction in health service coverage or quality could occur.
Low	A small minority of the health system feature / health service has been or could be rendered non-functional. A small minority of people / patients do not have access to healthcare. A small reduction in health service coverage or quality could occur.
None	The vast majority or entirety of the health system feature / service is very probably still as functional as before the crisis. No risk factors for reduction in health service coverage or quality have been identified.
Unclear	No plausible assessment can be made at this time.

It is important, while scoring, to remember that:

1. For the vast majority of questions, one should be able to at least make a plausible assumption about what could happen as a result of the crisis. Only a few questions should be scored as 'Unclear'.
2. All scores should express the effect of the crisis, not the baseline situation, however challenging the latter may have been. In other words, a health system feature (e.g. pharmaceutical supply) that is weak at baseline should not automatically be scored 'High', unless the crisis has severely disrupted it.
3. One should provide a score without thinking about the mitigating impact of the humanitarian health response. At this stage, one analysing needs for the health sector and pointing out what could happen in the absence of (or scaling back of, in the case of a PHSA undertaken mid-crisis) an adequate response.

Annex 7: Table 2 of the long form PHSA: Expected evolution of disruptions to key health system components over time

Note that this section is only applicable to the long-form PHSA.

Below is an example of the expanded Table 4 of the long-form PHSA. It builds on the short-form PHSA by providing a longer time horizon. Where there are predicted changes in disruptions, the box should be used to indicate the justification for the prediction. Timing of changes in disruption is more difficult to predict than timing of changes to disease threats, however there are situations where prediction can be made. For example, certain health system components are predictably less functional during rainy seasons when roads become impassable. Another example is that financing shortfalls can sometimes be predicted several months in advance (in the absence of mitigating measures).

Table 2. Overview of disruptions to key health system components.

Disruption	Month(s), starting now			
	1	2	3-6	6-12
Disrupted management	Inadequate referral services in remote areas			
Reduction in financing			CERF expires	
Inability of non-state providers to maintain services	Many existing facilities destroyed (see below)		Lack of funding may cause NGOs to shut down services	
Disruption to supply chain (including pharmaceuticals)	Supply chain coordinated by Central Medical Store, functioning but still gaps	Arrival of rainy season will hamper transport of supplies		Return to dry season
Degraded alert and response	Security challenges prevent complete coverage of surveillance and response	Rainy season will make it more difficult to receive surveillance data and mount responses to outbreaks		Return to dry season
Migration of human resources for health	Some health staff reluctant to work in conflict areas			
Damage to health facilities	50% of health facilities are destroyed	Fewer attacks typically occur during rainy season		Attacks rise again during dry season
Attacks against health	There have been 50 reports of attacks against health workers	Fewer attacks typically occur during rainy season		Attacks rise again during dry season
Access to healthcare		Access may be harder during the rainy season		

[1] Red: The majority of the health system feature / health service has been or could be rendered non-functional. Most people / patients do not have access to healthcare. A major reduction in health service coverage or quality could occur. Orange: A substantial minority of the health system feature / health service has been or could be rendered non-functional. A substantial minority of people / patients do not have access to healthcare. A moderate reduction in health service coverage or quality could occur. Yellow: A small minority of the health system feature / health service has been or could be rendered non-functional. A small minority of people / patients do not have access to

healthcare. A small reduction in health service coverage or quality could occur. Green: The vast majority or entirety of the health system feature / health service is very probably still as functional as before the crisis. No risk factors for reduction in health service coverage or quality have been identified. Grey: No plausible assessment can be made at this time.

For each of the above domains, it is useful to include a brief narrative about the health system status prior to the crisis, in order to provide context and aid in operational engagement with the existing system. Questions to address are included below under "pre-crisis" (note: not all answers may fit neatly within the stated category). Use the questions below to guide your narrative; they need not all be answered explicitly.

Once initial needs are established, in-depth **analysis** of the disrupted health system is recommended, especially in the context of early recovery planning.

The narratives below should be consistent with, and expand upon, the table above.

Management structure

Pre-crisis

- Who is in charge of the health system at different hierarchical levels?
- How decentralised are health policy and resource allocation?
- What health services are meant to be provided at community level/secondary/tertiary levels?

Crisis-emergent

- Are health authorities still in place and/or able to take, transmit and execute decisions?

Financing

Pre-crisis

- What is the usual financing model (e.g., are some services free? Where do facilities receive their funding?)?

Crisis-emergent

- To what extent could financial resources for health services, at any level, be reduced, and when?
- To what extent could people's ability to afford either the direct (user fees, drug costs) or indirect (e.g. travel, sustenance of patients) costs of healthcare be curtailed, and when?

Role of non-state providers

Pre-crisis

- What proportion of health facilities is public versus private? What proportion relies on non-state actor support (which actors?)?

Crisis-emergent

- To what extent do existing non-state providers, if any, seem able to maintain service provision?

Supply chain

Pre-crisis

- How are pharmaceuticals/medical supplies procured, stored and supplied to public health facilities? Is there a national medical store?
- How dependent is the health system on locally produced pharmaceuticals? Are there issues with pharmaceutical quality?

Crisis-emergent

- What disruptions to the medical supply chain are occurring or likely to occur, and when?

Alert and response

Pre-crisis

- What is the name of any epidemic surveillance system, and what was its actual functionality in the affected area?
- How prompt and effective was the health system's response to past epidemics?

Crisis-emergent

- To what extent has the health system's epidemic surveillance, alert and response capability been compromised?

Human resources for health

Pre-crisis

- How many doctors/nurses/etc., including specialists, were working in the affected area? (inc. ratios of staff to population)

Crisis-emergent

- To what extent is or could displacement / migration of human resources for health away from the affected population occur?

Functionality of health services

Pre-crisis

- How many health facilities, by level (primary, EmOC [basic or comprehensive emergency obstetric care], secondary, tertiary) were functional in the affected area, and where were they?
- Were there existing areas without access to functioning facilities?

Crisis-emergent

- How many health facilities, where, and at which level (primary, EmOC, secondary, tertiary) are known or projected to have been damaged as a result of the crisis?
- How many people are known or projected to be without realistic access to functional health services (primary, secondary, tertiary, EmOC, mental health, etc., as available)

Resilience of the health system to damage

Pre-crisis

- In the event of mass casualty events, what specialised trauma surgery and rehabilitation facilities can injury cases realistically access? What is their approximate capacity?

- What evidence, if any, is there of emergency preparedness and resilience in the health system (e.g. emergency supply stocks; contingency plans; safe hospitals)?

Crisis-emergent

- To what extent have any components of health services (staff, infrastructure, assets, or patients themselves) been attacked or looted, and what is the pattern of attacks to date?

Access to healthcare

Pre-crisis

- What is the current situation in relation to healthcare access?

Crisis-emergent

- To what extent could crisis-emergent factors affect access to healthcare?

Humanitarian health system performance

Humanitarian health system performance is omitted from the short-form PHSA because no information in this domain is typically available at the onset of a new crisis. It is typically also not available within the first 14 days of a crisis, but it is included in the long-form PHSA because it may be added as information becomes available, and it is a crucial component of accountability of the humanitarian response.

Utilization of services

Pre-crisis

Describe the existing and crisis-emergent utilisation of preventive and curative health services, including:

- outpatient utilisation rate (consultations per person per year)
- Number of procedures (c-sections, births attended by skilled attendants, trauma surgeries) performed

Crisis-emergent

- To what extent could crisis risk factors reduce utilisation of preventive and curative services, and when

Quality of humanitarian health services

- What has been the coverage of humanitarian vaccination campaigns?
- Case fatality rates from known conditions compared with benchmarks (e.g., <1% for cholera, <10% for complicated SAM)
- Anything else known about quality of health service delivery, and competency of human resources for health

Crisis-emergent

- To what extent could crisis risk factors reduce the quality of health services, and when?

Annex 8: Appropriate methods for the collection of primary data

Table 6. Appropriate methods for collection of statistics and data, by type of information. From Checchi et al., *Lancet*

Type of information	Prospective surveillance	Population sample survey	Analysis of programme data	Other methods
Affected population size and composition	Community-based demographic surveillance	Residential structure tally plus structure occupancy estimation	Vaccination or nutritional screening data combined with expected age structure	Area estimation plus population density estimation Various qualitative or convenience methods
Exposure to armed attacks	Facility-based surveillance of injuries and attacks against health	Retrospective survey of individual exposure to injury		Conflict analysis (tracking of media and other informant reports)
Sexual and gender based violence	Facility-based surveillance of SGBV cases	Retrospective survey of individual exposure to SGBV		Conflict analysis (tracking of media and other informant reports)
Food security and feeding practices		Household livelihoods, resilience and coping, food access, food consumption and feeding practices survey		Agricultural production monitoring Market analysis Household focus groups Desk-based food security risk assessment
Nutritional status	Repeated anthropometric sampling from sentinel communities	Anthropometric survey	Trend analysis from community- or facility-based anthropometric screening, and CMAM admissions	Desk-based nutritional risk assessment
Physical health	Early Warning Alert and Response Network system (EWARS) for epidemic alert and response	Survey to measure point prevalence of chronic diseases or retrospective incidence of acute disease syndromes	Analysis of facility-based morbidity and mortality data	Desk-based disease risk assessment and situation analysis Tracing and tracking of people in need of treatment continuation
Mental health	Collecting data covering serious mental health symptoms as part of general facility-based health surveillance.	Adding questions covering serious mental health symptoms to general health surveys	Analysis of HMIS morbidity data	Literature (desk) review Services mapping Participatory assessment
Service availability and functionality	HeRAMS (with updated geographical database of facilities)			Who What Where When (4W)
Service coverage		Coverage survey (vaccination, health services, nutritional programme, etc.)	Comparison of actual programme outputs vs. target beneficiaries	Focus groups, other qualitative methods for exploring service utilisation and barriers
Service effectiveness			Analysis of HMIS data (e.g. on cure rates)	Facility audits and spot checks, patient exit interviews
Population mortality	Community-based demographic surveillance Passive "body count" surveillance	Retrospective mortality survey (verbal autopsies as add-on to explore causes of death)		Census (post-war) and demographic modelling Capture-recapture analysis Indirect (model-based) estimation