USER MANUAL

SECURITY SURVEY FOR HEALTH FACILITIES

PROTECT HEALTH CARE IT'S A MATTER OF LIFE & DEATH

ICRC

USER MANUAL

SECURITY SURVEY FOR HEALTH FACILITIES

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FOREWORD

By Evaristo De Pinho Oliveira, Head of the Water and Habitat Unit,
International Committee of the Red Cross

International humanitarian law, which regulates the conduct of belligerent parties in the event of an armed conflict, affords special protection to health-care services, with the purpose of allowing the wounded and sick, whether civilian or military, to continue to have access to health care and thus prevent, or alleviate their suffering. Too often, however, health-care facilities become the targets of violence, depriving, sometimes deliberately, entire communities of the medical care they need at the moment they need it the most. This is, unfortunately, the case in many countries affected by conflict, such as Syria, Yemen, Iraq, Afghanistan, Nigeria, and South Sudan, to name just a few examples. More than half of the almost 2400 incidents of violence against health care registered by the International Committee of the Red Cross (ICRC) in 11 countries between 2012 and 2014 had taken place in the vicinity of, or within health-care facilities, or had directly targeted them. While parties to armed conflicts should continuously be reminded of their legal obligations and the special protection afforded to medical services under international humanitarian law, we need, collectively, to reject the idea of violence against health care as an inevitable consequence of war, and, pragmatically, take steps to mitigate the negative consequences of armed violence on health facilities.

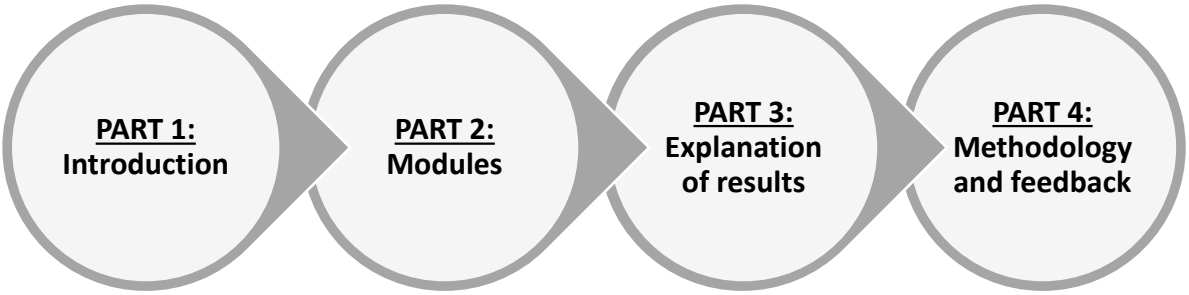
The aim is not to transform health facilities into bullet-proof bunkers, but rather to strengthen their security and preparedness by implementing relevant practical measures that can help ensure peoples' access to health care during conflict. Some of these measures and recommendations were identified during the global consultation process organized as part of the Health Care in Danger initiative and presented in the publication *Ensuring the preparedness and safety of health-care facilities in armed conflict and other emergencies*.

To determine the most relevant measures an assessment of existing risks and needs will need to be made. This will help staff responsible for managing health facilities identify and prioritize these measures, especially when resources are scarce and the situation is volatile. Recognizing this need, Federico Sittaro and the rest of the ICRC Water and Habitat team, notably Ghalia Albarazi, developed a tool to assess the risk exposure, security and preparedness level of any health facility operating in the context of an armed conflict. The tool comprises this manual and a dashboard, which analyses the results of the survey, translates them into concrete measures and presents them in a clear format.

The development of this security survey was supported by the members of the Community of Action on Security of Health Facilities, established as part of the Health Care in Danger initiative and comprising the International Federation of Hospitals, WHO, MSF Switzerland and the ICRC.

The security survey is an open resource and I invite anyone involved in the security of health-care facilities to make use of it and help publicize it. The tool has already been successfully tested in the field but further input is welcome, to help improve it even more. The security survey is available to download from the ICRC website:
https://www.icrc.org/en/document/tool-hospitals-health-care-violence-protection.

STRUCTURE OF THIS MANUAL



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- Detailed overview of what each of the results indicates (including what this means for the facility)

- Discussion of how the indicators were derived and consequence weighting
- Feedback process outlined, with templates

PART 1: Introduction

- Executive summary
- Rationale
- Instructions for using the security survey

Executive summary: What is the purpose of the Security Survey for Health Facilities?

The purpose of the survey is **to identify the level of preparedness required by a health-care facility to be able to continue operating during, or following a conflict-related security event.**

The survey method provides a measure of the security and preparedness of a given health facility in its specific context. Such a measure offers evidence-based guidance to assess whether urgent action needs to be taken and, if so, in what form.

Decision-makers can prioritize the most effective actions to mitigate specific risks and, eventually, will be able to rank the importance of needs faced by multiple facilities.

This security survey comprises this manual and an associated Excel application.

The survey covers three modules: the hazards affecting the facility, the current management procedures in place and the state of the physical infrastructure. Each of these modules is further divided into categories, and each category contains the questions – or indicators – that cover the actual issues addressed in the survey. A detailed description of each indicator is provided in this manual.

MODULES	**Hazards**	**Management**	**Infrastructure**
CATEGORIES	Likelihood	Safety and security framework	Structure
	External infrastructure	Media	Layout: space arrangements
	Assessment confidence	Patients and relatives	Exposure to external threats
		Staff and equipment	Internal circulation
		Relocation	Self-sufficiency
		External access	
		Access management and control	

This survey is based on two main assumptions:
1. Preparedness is supported by two pillars: ‘soft’ measures (management) and ‘hard’ measures (physical infrastructure).
2. Preparedness should be specific to the risks to which the facility is exposed in its particular context.

The indicators cover a total of 48 items across the three modules. They are meant to be applied to a range of facilities and contexts.

Once all the items (indicators) have been rated, the methodology set up in the Excel application can analyse the data immediately. The assessment of each indicator is compared to a preset configuration that measures how a single item contributes to preparedness to withstand a hazard, or a combination of hazards.

Excel’s built-in ‘aggregate’ function allows both the hazard to be linked to preventive measures and other factors to be considered, such as how the facility’s exposure is exacerbated by its fixed layout, or by the surrounding civil infrastructure and services on which it depends.

The results are represented visually on a dashboard, aggregated into key indicators, which can be used by managers to define priorities and strategic plans of action.

Rationale

The survey described in this manual is based on recommendations contained in the ICRC publication *Ensuring the Preparedness and Security of Health-Care Facilities in Armed Conflict and Other Emergencies*. These recommendations resulted from expert consultations held within the framework of the Health Care in Danger Project in Ottawa, Canada, and Pretoria, South Africa, in September 2013 and April 2014, respectively. The meetings brought together representatives from health-care providers, national authorities and national and international organizations.

This survey has been developed with the support of the ICRC's Water and Habitat Unit and Health Care in Danger Project team, the International Hospital Federation, the World Health Organization (WHO) and Médecins Sans Frontières (MSF), who are working together on measures to increase the preparedness of health-care facilities exposed to the effects of armed conflict. The aim of the survey is to support the overall strategy to improve the security and preparedness of health-care facilities and those involved in health-care provision in conflict situations. The survey is designed to answer the following questions:

- What is the current level of preparedness of the health facility in question? Is it acceptable in terms of the level of risk to which it is exposed?
- Which interventions should be prioritized to increase levels of security and preparedness?

The survey consists of:

1. A user manual.
2. An Excel application for recording the answers to the survey.
3. A dashboard (in the same Excel file) displaying the results of the survey.

This manual describes the different components of the survey and contains all the information required to run the evaluation. It is divided into the following sections:

Part 1: Introduction
Part 2: Description of indicators
Part 3: Explanation of the results
Part 4: Notes on methodology and the feedback process

Part 1 of this manual explains the rationale behind the survey. It provides practical guidance on how to use the survey generally, with specific instructions on how to complete it.

Part 2 describes each of the indicators the survey respondent is supposed to assess and answer questions on. The indicators are grouped into three modules. In each module, all indicators are thoroughly explained and examples of preparedness ratings are given. Respondents are recommended to read the entire manual prior to conducting the survey and to use it as a reference or guidance when assessing health-care facilities on the ground.

Module 1 focuses on assessing the likelihood of risks.
Module 2 focuses on the current organization and management of the facility.
Module 3 focuses on the facility's infrastructure.

Part 3 explains what to expect from the results of the survey, how they were generated and how to interpret them. The results will be available in the form of a dashboard in the Excel application.

Part 4 is the final section and provides extra information on the manual and survey. Details of the survey methodology can be found in this section, as can feedback-form templates and a description of the feedback process.

Instructions on how to use the Security Survey for Health Facilities

When should the survey be used?

This survey has been developed to address the need for a more robust understanding of the level of security and preparedness of health-care facilities exposed to conflict and/or violence. Specifically, it is designed to assess a facility's capacity to ensure continuity of operations during, or after such events. In conflict situations, it can be a challenge to prioritize risks and implement suitable counter-measures. This security survey is designed to help in these situations.

The purpose of this survey is to support decision-makers by identifying the main areas in which the overall security and preparedness of a facility can be improved. If the security survey is implemented and managed properly, management should be in a better position to decide what actions to take, and which are most urgent. To keep the questions to a minimum, this survey focuses on three specific threats: use of heavy weapons, intrusion and massive influx of people into the facility. These three cover the majority of all possible events that might threaten a health facility and are the ones for which it is most advisable to be prepared.

This survey can be considered an initial analysis. If more in-depth analysis is required of very specific counter-measures to specific threats – for example, how to build a bomb shelter – this survey should be used in conjunction with more detailed resources. Further information can be found in the Health Care in Danger set of publications.[1] The results of this survey may be used to highlight to the relevant decision-makers the need for such expertise.

Who performs the survey?

A main assessor must be identified, who will be responsible for providing answers to all the questions in the survey.

The main assessor should have a basic understanding of the facility's general management and its infrastructure. However, given the multidisciplinary nature of the survey, the main assessor should be supported by a team whose members represent the range of competencies required: Module 1: health-care facility project managers and security managers; Module 2: administrators, medical staff, project managers, health-care facility managers; and Module 3: technical operations and maintenance team, health-care facility managers and project managers.

Before starting the survey, the assessor is strongly advised to read the description of each module and indicator, as well as the respective preparedness ratings. Each indicator deals with a very specific subject, and the assessor is required to make a judgement on that subject only.

How long will the survey take?

Depending on the size of the facility and the experience of the assessor, and assuming that all the necessary prior authorizations have been granted, the survey should not take longer than a single working day to complete. In the case of a highly complex and/or large facility, however, extra time may be required.

Which facilities can use this survey?

This survey assesses the preparedness of any facility that provides health care for people in the event of conflict, or violence. It can be used by facilities of any size and can be repeated over time to monitor the facility's progress.

[1] ICRC: Protecting Health Care: Key recommendations, 2016; ICRC: Passive-Security Technical Guidance, (upcoming); ICRC: Ensuring the Preparedness and Security of Health-care Facilities in Armed Conflict and Other Emergencies, 2015

Smaller facilities can generally be assessed as one unit. In the case of larger and more complex facilities, it may be better to assess them in sections. These should be clearly defined in advance and a record of them kept, to allow future comparison of the respective levels of preparedness.

Survey structure

Part 2 of this manual contains the survey questions – referred to as indicators – which are organized into three main modules, as follows:

Module 1: This module sets out the types of hazards a facility is likely to face, based on current, past, or nearby events. It requires analysis of the facility's external infrastructure and surroundings to help determine how exposed it is. Finally, it quantifies how confident the assessor has been in identifying hazard potential.

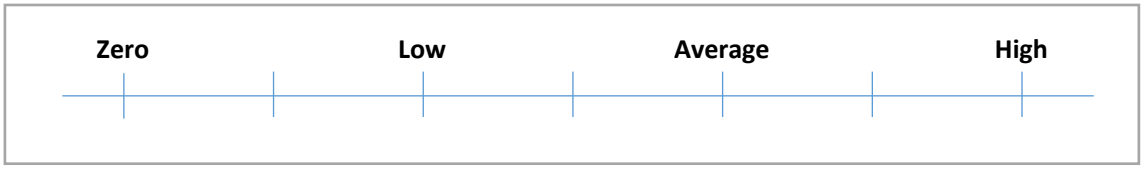
Module 2: This module addresses the level of preparedness for critical events. The questions are specific as to how the facility functions on a day-to-day basis and how prepared it is to cope in an emergency. Here, it may be useful to consult the facility's management, civic-health committee, or administration personnel for further expert advice.

Module 3: This module focuses specifically on the infrastructure and physical layout of the facility, its current state, how it is maintained, and procedures in an emergency. Here, it may be useful to consult the plans of the facility and the person responsible for technical management/maintenance of the infrastructure.

Each module contains sub-modules and, finally, the indicators. This structure is designed primarily to help users navigate their way around the survey, but it also allows similar indicators to be grouped together. The questions do not have to be answered in a particular order but **they must all be answered**; otherwise, the Excel programme will not be able to process the results.

Description of preparedness ratings

Each indicator comprises a description and a set of preparedness ratings. The aim is to determine scenario ratings for typical situations. A scenario is a description of a situation the likelihood of which is scored by the assessor as Zero, Low, Average, or High.
Intermediate scores (Zero-Low, Low-Average and Average-High) are also available to the assessor.



Scenario descriptions versus possible scores

Because of the differences in the sophistication of infrastructures around the world, it proved impossible to come up with specific indicators that would cover all facilities. Therefore, the ratings do not focus exclusively on specific indicators but rather provide hints and suggestions as to how the indicators being analysed should be rated. Consequently, the assessor must use his or her judgement to adapt the description to their specific context.

For example, one indicator looks at how the compound is monitored. Not only are there different systems, depending on the context – CCTV, guards, 24/7 or periodic procedures, different numbers of people involved, etc. – but how well they work can also vary – for example, gate guards can be officially deployed according to the facility roster, but if they don't show up for work the overall quality of the monitoring is reduced.

So, to obtain measurable and comparable data, the assessor is asked to focus on the level of functionality of each domain investigated. He or she must understand how the facility functions and use their judgement to rate it according to the scale provided.

To help the assessor, score descriptions have been provided for each indicator. Careful scoring is crucial if facilities are to be compared. To compare scores between different facilities (different countries, different types, different standards) each judgement on the part of the assessor must be made according to a common-value scale.

In certain cases throughout the survey, the only way to provide a rating is by using adjectives such as 'bad', 'fair' and 'good'. In these cases, examples are provided to help with interpretation. However, it remains the assessor's responsibility to exercize good judgement and, in the case of each indicator, focus on the specific function of the property being analysed rather than the physical features described.

Zero and N/A

In some instances, both the Zero and N/A (not applicable) options may be chosen as the answer for some indicators. Zero indicates the absence of the specific indicator (resource, service, protocol, etc.) where it is nevertheless applicable. Not applicable (N/A) is reserved specifically for situations in which the indicator simply does not apply because of the type of facility, its size, or its location.

Again, **a rating must be expressed for all indicators to allow the results to be processed**.

PART 2: Modules

MODULE 1 – HAZARDS

- Hazards – description and indicators
- External exposure – description and indicators
- Confidence – description and ratings

MODULE 2 – MANAGEMENT

- Indicators associated with the safety and organization of the facility
- Indicators associated with the facility's emergency response capacity

MODULE 3 – INFRASTRUCTURE

- Indicators associated with the facility's physical layout
- Indicators associated with the structure and condition of the facility
- Indicators associated with the self-sufficiency of the facility

MODULE 1 – HAZARDS

This module deals with security issues and therefore should preferably be completed in consultation with: heath-facility managers, project managers and security managers.

The purpose of this module is to evaluate the main hazards associated with situations of armed conflict and civil unrest, which may directly or indirectly affect a health-care facility and disrupt its operations.

This module sets the scene for the remainder of the evaluation of the health-care facility, so it is crucial that all questions are answered appropriately.

If no hazards are assessed the results cannot be processed, because the programme will not be able to make a link between the current state of the facility and the threat posed by specific hazards.

While this document focuses specifically on armed conflict and civil unrest, other resources[2] are available to help assess preparedness for other events, such as natural disasters.

1.1 Hazards

1.1.1 Heavy weapons

Evaluates the likelihood of a facility being exposed to the use of heavy weapons.

Determine if the facility is located in a context where the use of heavy explosive weapons by any party is likely. Heavy explosive weapons may include (but are not limited to): mortars, artillery, (improvised) explosive devices, aerial bombs, etc. Although the health-care facility itself may not be directly targeted, it can be affected (directly or indirectly) by an attack in its vicinity – for example, on a nearby military objective. In such cases, the functioning of the facility may be affected, directly or indirectly, because of related deaths, injuries, blast damage, blocked access (due to rubble, craters), etc. Refer to any past events or developments in nearby areas. 'Nearby' means a radius around the facility within which, according to the assessor, the use of heavy explosive weapons could adversely affect the facility. Changes in the context and circumstances should be borne in mind, as they may affect the security of the health-care facility and its operation.

Likelihood ratings:
Zero *– No chance of hazard occurring in this situation and nothing reported.*
Low *– Unlikely to happen; no nearby or past events to consider, even if the use of heavy weapons has been reported previously.*
Average *– Proximity of potential military targets and hotspots. Reported use of heavy weaponry in the nearby area and/or in the past, so there is a chance this may happen again.*
High *– The use of heavy weaponry has been reported in nearby areas, or in the recent past, and there is a strong possibility it could be used again and could affect the facility. Or, there is currently a conflict situation and heavy weaponry is being used.*

1.1.2 Intrusions and attacks

Evaluates the likelihood of a facility experiencing intrusions or attacks.

Determine whether, in the surrounding area, any party (State or otherwise) is likely to use small arms, including: bladed weapons, revolvers, pistols, rifles, and any other items that could be used as a weapon, including everyday objects. Determine the likelihood of any type of intrusion, armed or

[2] See, for example, the WHO Hospital Safety Index, available at: http://www.paho.org/disasters/index.php?option=com_content&view=category&layout=blog&id=907&Itemid=884

otherwise, that could be experienced by the facility. Determine also the likelihood of planned and/or complex attacks to which the facility could be exposed, including, for example, suicide bombers, car bombs in the compound, intrusions with the intent to kill patient(s)/staff, entry with the intent to steal, etc. Refer to any past developments or events to determine the health-care facility's exposure to this hazard.

Likelihood ratings:
Zero *– No chance of occurring in this situation and nothing reported.*
Low *– Unlikely to happen; no nearby or past events reported, or that should be considered.*
Average *– Reported use of small arms in the nearby area and/or in the past and a chance of it happening again.*
High *– Such events have been reported in nearby areas, or in the recent past, and there is a strong possibility that small weapons could be used similarly again. Or, the facility is currently experiencing this situation.*

1.1.3 Mass influx of people

Evaluates the likelihood of a facility experiencing a mass influx of people.

Determine if the area around the facility is likely to be exposed to an increase in the number of people entering it. This could be as a result of demonstrations, civil unrest, riots, population displacement, people seeking a safe haven, etc. Such an influx could also include a high number of casualties. It could affect the facility directly or indirectly, in terms of access by/to staff, patients, and supplies, and affect the overall functioning of a facility.

The causes and consequences of such an influx of people vary in nature and magnitude, and in terms of the potential to lead to violence. All of these elements should be considered, therefore, when determining the impact of this particular hazard. Refer to past events or developments in nearby areas/countries to determine the likelihood of a health-care facility being exposed to such a hazard.

Likelihood ratings:
Zero *– No chance of occurring and nothing reported.*
Low *– Unlikely to happen and no nearby or past events reported, or that should be considered.*
Average *– Events reported in the past, or in nearby areas, and current events show this may be something the facility will experience.*
High *– Such events have been reported in nearby areas, or in the recent past, and there is a strong possibility of another influx of people into the facility. Or, the facility is currently facing this issue.*

1.2 External exposure

1.2.1 Condition of external infrastructure

Evaluates the condition of the essential infrastructure surrounding a facility.

Determine the location of the health-care facility and the condition of the physical external infrastructure on which it depends. If the facility is connected to an external network for the provision of basic services, such as power, water and sanitation, then the condition of this essential external infrastructure should be assessed. External infrastructure can vary significantly, from being non-existent, to overstretched and inefficient, to working efficiently. Consider also whether the essential infrastructure and facility are in an urban or rural environment, as this can also influence their condition and reach.

Regarding the physical infrastructure, it is also important to assess the quality of basic services, such as the fire brigade, law enforcement and local government, and their response capability in the event their assistance or support is needed by a facility to ensure its continued operation.

Furthermore, although it is difficult to do so, try to determine if the area may experience a decrease in local expertise. This could affect the facility directly or indirectly– for example, in terms of infrastructure maintenance, or necessary repairs.

Likelihood ratings:
N/A *– Not applicable to this situation (the health-care facility is completely self-sufficient and does not rely on external infrastructure for the continuation of daily operations).*
Low *– Basic services (power, water and others) provided to the facility frequently experience shutdowns and their quality is below acceptable standards, e.g. water is not used by the locals for drinking. Repairs are erratic and not reliable.*
Average *– Basic services are reliable and do not break down often, but in cases of crisis, a response cannot be guaranteed. Quality of some services is questionable, e.g. the water is not used by locals for drinking. Basic response when services are disrupted.*
High *– The provision of basic services is continuous and of good quality. In case of breakdowns, repairs are carried out within a reasonable timeframe and advance notice is given of any interruption to services.*

1.3 Confidence evaluation

1.3.1 Confidence in hazards identification

Evaluates the assessor's confidence in identifying the likelihood of hazards.

It is important to determine how confident the assessor is in their assessment of the likelihood of each hazard, bearing in mind the quality of the information used and any assumptions made. To do so, the assessor should ask themselves the following questions: Did I have sufficient information to make reasonable judgements? How accurate is the information I had about the risk? Is this information first, second- or third-hand? Are my sources of information reliable? Does contradictory information exist? Did I have all the necessary information to make a reasonable judgement? How much of the information on which I based my judgement is hearsay, assumption and personal experience? Based on the answers to these questions, the assessor should be able to determine how confident they are in their answers relating to the hazards.

Confidence ratings:
Low *– Information is limited in quantity and quality, with very few reliable sources and little, or no corroboration.*
Average *– Information is based on a couple of sources, is generally felt to be accurate and there is some corroboration across sources.*
High *– Information is of high quality, obtained from several reliable sources and is generally corroborated, or is the current situation.*

MODULE 2 – MANAGEMENT

This module deals with administrative and management issues and so should preferably be completed in consultation with: heath-facility managers, project managers, administrators and medical staff.

This module considers the level of preparedness of the facility – in terms of its organization, security and safety – to continue providing medical services in the wake of a violent event.

It covers the management and process-oriented components of the facility's response to an emergency, i.e. the staff who can be called on and the procedures that can be activated in case of a disruptive event.

2.1 Safety and security

2.1.1 Risk assessment and contingency planning

Evaluates whether a facility has a comprehensive and inclusive risk assessment and contingency plan.

The security environment around the health facility should be continuously monitored and fully understood. Comprehensive risk assessments should be carried out regularly to identify the risks to a health-care facility generated by current or potential armed conflict, or civil unrest. Such an assessment should evaluate both the direct and indirect effects on the health-care facility. Consequently, a contingency plan should be developed to mitigate the identified risks. Such a plan should involve all relevant departments and disciplines, and should include the potential trigger factors and indicators that will eventually activate the plan. All relevant people should be made aware of the contingency plan, and it should be available to consult. The absence of one or more individuals should be accounted for to ensure this will not jeopardize the implementation of the plan. Plans should be reviewed periodically, updates produced accordingly and drills performed regularly.

Preparedness ratings:
Zero *– No risk assessment and contingency plan.*
Low *– Risk assessment and/or contingency plan partially developed.*
Average *– Both assessment and contingency plan developed and personnel trained but no dedicated resources (financial and human) for full implementation and no regular updates (not reviewed or maintained).*
High *– Full risk assessment conducted and fed into a comprehensive contingency plan. Personnel trained, dedicated resources for implementation and regular reviews carried out.*

2.1.2 Identification of the facility

Evaluates how identifiable a facility is.

The health-care facility should be clearly marked and identifiable from a reasonable distance. If appropriate, its coordinates should be shared with the authorities and all parties to a conflict. In certain situations, however, it may be decided not to identify a health-care facility, or share its location, on the grounds this would compromise the security of the facility, its patients, health-care personnel and medical transport.

Preparedness ratings:
Zero *– No identification signs.*
Low *– Some identification signs displayed, need for more signage acknowledged.*
Average *– Some identification signs displayed and geographic coordinates shared with some parties to the conflict, but not all.*
High *– Visible identification signs displayed and geolocation shared with all parties to the conflict.*
N/A *– Not applicable to this situation (where there are strong grounds for not identifying a health-care facility, this indicator is not applicable).*

2.1.3 'No-weapons' policy

Evaluates the need for and effectiveness of a facility's no-weapons policy

To ensure the safety of the health-care facility, a no-weapons policy is recommended. This may not always be possible but, at the very least, steps should be taken to minimize the number of weapons in the facility – for example, by displaying no-weapons signs. If there is a no-weapons policy, it should be explained to personnel, all parties to the conflict and any relevant local stakeholders, including community leaders. If armed guards are deployed to monitor the facility, they should undergo regular and stringent training to ensure the proper use of arms, i.e. strictly only for self-defence and the safety of health-care personnel or patients.

Preparedness ratings:
Zero *– No signs displayed.*
Low *– 'No weapons' signs displayed.*
Average *– 'No weapons' signs displayed and staff trained in how to apply this policy and what to do in difficult circumstances.*
High *– 'No weapons' signs displayed, staff trained and the policy communicated and explained to all parties to the conflict and other relevant local organizations and individuals.*
N/A *– Not applicable to this situation.*

2.1.4 Perception review

Evaluates a facility's procedures for communicating with local stakeholders

The obligation and need to protect the health-care facility should be discussed with all parties to the conflict and other relevant stakeholders at the local level. In addition, good communication should be established with the local community to explain the role and activities of the health-care facility. Various strategies can be followed to ensure that safety measures are widely known and respected.

Preparedness ratings:
Zero *– No communication.*
Low *– Sporadic dialogue with the local community. No communication with parties to the conflict.*
Average *– Some communication with some parties to the conflict and the local community but not all stakeholders.*
High *– Systematic and continuous communication with all parties to the conflict and the local community.*
N/A *– Not applicable to this situation (where there are strong reasons not to communicate with parties to the conflict, local authorities, or communities, or to conduct the perception assessment, this indicator is not applicable).*

2.1.5 Fire protection

Evaluates a facility's ability to prevent and tackle fire.

The facility must be protected against fire, since this type of hazard can cause mass fatalities and casualties in a facility and bring its services to a halt. The facility should be equipped with fire-control measures, such as fire extinguishers, hydrants and alarms. The measures employed will vary according to the context, but all facilities need to have fire protection and emergency evacuation plans in place, clearly identifying high-risk areas (e.g. electrical panels, electrical switch rooms, fuel-storage areas, medical gases, boiler rooms, pharmacy, etc.) and mitigation measures (including designated escape routes). The facility's design might also incorporate firewalls, fire doors, etc. Fire-detection devices may be both visual and audible. The local firefighters should be provided with the most recent floorplan of the facility and should conduct drills on its premises. Whatever fire-control measures are in place, they should be maintained and staff should be trained accordingly.

Preparedness ratings:
Zero *– No measures in place.*
Low *– There are some fire extinguishers/hydrants, but their maintenance is not systematically monitored and there are no overall fire protection and evacuation plans. No, or little contact with firefighters and no drills are performed.*
Average *– Some measures implemented based on a fire protection and evacuation plan, e.g. fire extinguishers/hydrants and smoke detectors may be installed but they are infrequently maintained. Risk areas are identified. No drills or training for staff. No communication with fire department.*
High *– The facility has appropriate fire-control plans and measures in place, and staff are trained. There are also fire-detection mechanisms in place, which are inspected regularly. There is good communication with local firefighters and they are aware of the layout of the health-care facility.*

2.1.6 Security monitoring

Evaluates a facility's monitoring procedures: guards, access-control procedures.

Health-care facilities should have specific security measures, including entrance and exit monitoring, as well as monitoring within the facility and its compound. Monitoring systems vary and can be manual or automatic, depending on the context and the available resources. Procedures can include screening of visitors and vehicles, staff identification, etc. The efficacy of these procedures should also be assessed – for example, if there is security screening, is it performed only visually, or physically as well, i.e. using a metal detector, or bag-and-body search?

Trained personnel are required to maintain the monitoring equipment and/or provide training for guards. Areas which need constant monitoring (critical areas) should be identified and personnel should be notified. These areas should be reviewed frequently. Staff need to be told how to identify issues that should be reported, and procedures for reporting should be drawn up.

Preparedness ratings:
Zero *– No monitoring system in place.*
Low *– Some monitoring takes place, but covers only a small proportion of the facility.*
Average *– There is a monitoring process, including how to report incidents, but lack of resources means the degree of monitoring is not sufficient.*
High *– Systematic monitoring of the facility for the duration necessary. Staff have been trained and clear incident-reporting procedures are in place.*

2.2 Media

2.2.1 Media strategy

Evaluates the scope of a facility's media strategy.

There should be procedures in place for communicating with the general public and the media in an emergency. Suitably media-trained spokespersons should be nominated to this role. Procedures should be established to clarify how to reach these people when needed. The strategy should include proactive measures of engagement as well as reactive. Engaging with the media should never compromise the principle of medical confidentiality, or the security of the patients, health-care personnel and the facility itself. In the event that it might, there should be no engagement with the media. The strategy should be clearly defined and shared with relevant personnel. It should be systematically reviewed and updated accordingly.

Preparedness ratings:
Zero *– No media strategy exists.*
Low *– Basic media procedures exist but spokesperson has not been nominated, and there is limited contact with the media.*
Average *– Media strategy exists, spokesperson has been assigned but not trained.*

High *– Media strategy exists, qualified spokesperson assigned and all staff informed of the procedures. Active measures implemented to fully engage stakeholders.*
N/A *– Not applicable to this situation (when engaging with the media is impossible, or compromises the security of the facility, this indicator is not applicable).*

2.3 Patients and relatives

2.3.1 Accommodating the needs of patients' relatives

Evaluates a facility's ability to accommodate the needs of patients' relatives.

A facility should have adequate waiting-room facilities for patients' relatives. Although relatives can be a great help in providing necessary additional support (such as feeding and taking care of patients), their numbers still need to be properly managed. Good communication between staff and relatives of patients is especially important, as information and consent may be required. The needs of the relatives should be appreciated and, where appropriate, accounted for, based on available resources and capacities.

Preparedness ratings:
Zero *– The needs of patients' relatives are not considered.*
Low *– Very limited space for relatives. Staff are not trained to deal with them. Regular incidents of assault (verbal, physical) against health-care personnel reported.*
Average *– Limited space exists for relatives; toilets and hygiene facilities, and the availability of food options have been accounted for. Incidents of assault (verbal, physical) against health-care personnel have been reported.*
High *– Appropriate space dedicated for relatives, including toilets and hygiene facilities, and food options have been provided. Incidents of assault (verbal, physical) against health-care personnel have been reported and staff are trained how to deal with relatives of patients.*
N/A *– Not applicable to this situation (in a health-care facility where patients and their relatives cannot, or do not need to stay for long periods, this indicator is not applicable).*

2.3.2 Managing patient information

Evaluates the management of patient information specifically during an emergency.

There should be safe storage for medical and other critical patient records at the health-care facility. Procedures should be in place to ensure continuity of medical record-keeping, timely access to patient data, and secure storage of confidential information, including no unauthorized access to paper and electronic records. A back-up system should be established in case of an emergency. Personnel need to be trained, as confidentiality must be understood and respected at all times.

Preparedness ratings:
Zero *– No procedures to deal with patient information and personnel not trained.*
Low *– Limited procedures to deal with patient information established but personnel haven't been trained. Emergency situations have not been addressed.*
Average *– Procedures to deal with patient information established (including in emergency situations), personnel have been informed. No back-up system in place.*
High *– Comprehensive procedures to deal with patient information established, systematic training of personnel and back-up system in place.*

2.4 Staff and equipment

2.4.1 Surge capacity

Evaluates how prepared a facility is to obtain equipment and staff during an emergency.

In an emergency, it may be necessary to increase the number of staff and equipment at the facility at short notice. The staff contact list needs to be regularly updated to ensure people can be contacted quickly if they are needed, and human-resource contingency plans should be developed, especially in major departments, i.e. emergency medicine, surgery, internal medicine, orthopaedics, support services and security. Staff should be able to access the health-care facility at short notice and possible infrastructure to accommodate more personnel should be considered. Staff rosters specifically for emergency situations should be developed and regularly reviewed. Extra equipment often has to be sourced during emergencies, so plans should be made in advance where to get such equipment (e.g. extra beds, medical equipment, etc.) and records of those plans maintained. In addition, procedures linked to getting the extra equipment in and out should be set up to ensure that extra resources can be brought in without interference from patients, their families and/or the general public.

Preparedness ratings:
Zero *– No plans concerning surge capacity.*
Low *– Limited procedures exist but staff are not informed and there is a lack of resources.*
Average *– Procedures exist and personnel have been trained but resources (HR, equipment) are not adequate to scale up the capacity during emergencies.*
High *– Procedures exist, personnel have been trained and there is enough staff to meet anticipated needs in an emergency. Records of extra equipment are available and up-to-date, and special arrangements in terms of logistics have been made.*

2.4.2 Stocks of medicines and medical instruments

Evaluates the ability of a facility to identify the need for and order crucial drugs and instruments during an emergency.

Each health-care facility should have a stock of medicines and medical instruments to cope with patient needs, including during times of emergency. A list of medicines, preferably based on the morbidity method of quantifying drug requirements, should be available. In particular, the focus should be on anticipating and treating medical conditions typical during an armed conflict, i.e. weapons injuries, burns, malnutrition, etc. This list should be reviewed frequently, especially when circumstances change, and a secure stock system should be in place to avoid a breakdown in availability of essential drugs.

Preparedness ratings:
Zero *– No overview of what medicines are needed, or in what quantities, or what is currently available in the facility.*
Low *– An overview of currently available medicines exists but there are no procedures to monitor and secure the availability of crucial medicines and medical instruments in an emergency. Staff are not informed or trained.*
Average *– There is a system in place that identifies and monitors the quantity of essential medical items that should always be available. People have been trained and assigned to identifying when stock levels drop. There are only enough stock and supplies to last 72 hours in an emergency.*
High *– There is a system in place that identifies the crucial items that should always be available. People have been trained to identify when stock levels drop and how to order more items. The facility's stock of essential medical items would allow it to operate beyond 72 hours (by having either more items in stock, or reliable suppliers).*

2.4.3 Storage of supplies

Evaluates whether a facility has the physical capacity to store supplies during an emergency.

To ensure the continued operation of the facility, supplies should be stored securely. The storage areas must be protected from unauthorized entry, but authorized personnel should have the necessary access to do their work (e.g. equipment and keys but also access to stored water, food, etc.). Several factors relating to storage need to be determined, such as the temperature of the storage area and other conditions. The need to increase storage capacity in an emergency must also be taken into account. The location of storage facilities is important, as this may affect the security and thus functioning of the facility.

Preparedness ratings:
Zero *– Currently no storage capacity.*
Low *– Limited storage capacity available but no measures to secure it.*
Average *– Storage facilities exist, so essential medical items and other supplies will be available during emergencies, and some measures are in place to secure them.*
High *– Storage facilities exist, so essential medical items and other supplies will be available during emergencies, and measures are in place to secure them against unauthorized entry. The storage facilities are monitored and properly maintained. Personnel are trained accordingly. Supplies are strategically placed to ensure they are accessible to the relevant people at all times.*
N/A *– Not applicable to this situation (where extra storage of supplies is not necessary to maintain the daily operations of the health-care facility, or when the facility is located within the supply chain, this indicator is not necessary).*

2.5 Relocation

2.5.1 Suitability of relocation

Evaluates the consideration given to a potential relocation site.

If relocation of a facility is deemed necessary, the new location should be carefully identified to ensure existing hazards are avoided and no new ones are introduced. Relocation needs to be thoroughly planned and carried out based on an assessment of which services should be prioritized. A site and security assessment needs to be carried out, to include a strategy to mitigate risk during the move. Accessibility of staff and patients during the move needs to be considered, as do the availability of basic infrastructure, e.g. water and sanitation, and community acceptance.

Preparedness ratings:
Zero *– No assessment of the new location and no plan for potential relocation.*
Low *– Limited assessment of a new location conducted but no risk mitigation in place, nor systematic preparation for the relocation.*
Average *– Assessment of the new location carried out and plan for relocation developed.*
High *– Comprehensive assessment of a new location carried out, a strategy to mitigate risk during the move developed and the availability of essential infrastructure determined. Relocation plan developed based on assessment of which medical services will be prioritized. Logistical arrangements in place.*
N/A *– Not applicable to this situation (where a health-care facility will never be in a position to relocate, owing to its function, other nearby facilities, etc., this indicator is not applicable).*

2.5.2 Evacuation to new location

Evaluates how a facility plans to relocate to a potential new site.

There should be procedures for partial or full evacuation of patients, visitors and staff to a safe location, with all the necessary medical, logistical and administrative support. Established procedures for evacuation should be communicated to the relevant personnel. Evacuation plans should be based on

prior assessment of available options and, where appropriate, coordinated with the Ministry of Health and/or local authorities, or equivalent, unless it would be detrimental to do so. The physical means necessary to ensure staff, patients and equipment arrive at the new location safely should be available. Meeting points should be defined and communicated to all personnel. Staff need to be trained and undergo drills.

Preparedness ratings:
Zero *– No evacuation procedures in place.*
Low *– Plan exists but only on paper.*
Average *– Plan exists, and personnel have been informed but no drills have been conducted. There are limited resources to help facilitate the move.*
High *– Plan exists, personnel have been trained and evacuation drills have been held. Resources to help relocate have been identified and obtained.*
N/A *– Not applicable to this situation (where a health-care facility will never be in a position to relocate, owing to its function, other nearby facilities, etc., this indicator is not applicable).*

2.6 Access

2.6.1 Access routes

Evaluates whether there are alternative routes into and out of a facility.

Alternative routes into and out of the facility should be identified in case any major routes are obstructed. Such alternatives should be included in all relevant plans. The quality of these routes should be assessed. Also consider other factors that could affect access routes, depending on the context – for example, is the location in a flood-prone area? Alternative access routes should be discussed with local communities and authorities, who may be able to offer advice.

Preparedness ratings:
Low *– There is only one route to and from the health-care facility.*
Average *– Alternative access routes have been identified.*
High *– Alternative routes have been identified and are included in assessments and planning. The quality of such routes has been determined. Where appropriate, local authorities have been approached to discuss the use of these routes.*

2.6.2 Access for health-care personnel and ambulances

Evaluates how easily personnel and medical transport can get into and out of a facility.

There should be procedures in place to facilitate access to the facility by health-care personnel, ambulances and other medical transport. There may also be special procedures for collecting key medical staff during an emergency. Access should be sufficient to allow coordination of patient distribution and referral, to prevent congestion from building up. This could facilitate the movement of patients, equipment and supplies in the initial stages of an emergency. If a separate entrance is reserved for staff and medical transport, this needs to be communicated to all personnel and clearly identified. Local authorities should be made aware of any changes.

Preparedness ratings:
Zero *– No specific procedures to facilitate access by health-care personnel and medical transport.*
Low *– Procedures for access by staff and medical transport implemented but only on an ad-hoc basis.*
Average *– Special procedures for access by staff and medical transport in place.*
High *– Special procedures for access by staff in place and separate entrance available. Personnel have been informed and trained. Identification and other necessary measures introduced.*
N/A *– Not applicable to this situation (where health-care facilities do not need specific or alternative routes in or out, owing to their size and/or function, e.g. there is no ambulance service, this indicator is not applicable).*

2.6.3 Secure supplier resources

Evaluates reliability and availability of supplies to a facility.

Alternative suppliers of essential medicines, medical items and other supplies should be identified and secured prior to an emergency. These suppliers must be willing to continue deliveries during a crisis. If essential supplies need to be imported from abroad, special procedures to facilitate the delivery of such items should be discussed and prearranged with the relevant authorities. If only one central supplier exists, evaluate the resilience of that supplier in the event of disruptions.

Preparedness ratings:
Zero *– Dependence on an unreliable supplier and no measures in place to mitigate the risks.*
Low *– No special procedures for emergency situations and only one supplier.*
Average *– Reliance on one supplier but alternatives identified and procedures for using them drafted.*
High *– Reliance on multiple suppliers and comprehensive plan for continued supply in emergencies set up with relevant parties, e.g. suppliers, authorities, humanitarian organizations, etc.*

MODULE 3 – INFRASTRUCTURE

This module deals with infrastructure and management issues, so it should preferably be completed in consultation with: heath-facility managers, project managers and technical staff responsible for operations and maintenance.

This module assesses the ability of the infrastructure to withstand the impact of the hazards identified in Module 1 and ensure the continuity of operations during an emergency situation.

It looks into the current layout and overall condition of the infrastructure.

In particular, this module considers the physical layout of the facility, as well as technical networks, to determine how these could sustain continuity of operations during or following an emergency.

3.1 Managing access and control

3.1.1 Safety of internal and external lighting systems

Evaluates the condition of existing lighting procedures.

Lighting can have a major effect on the functioning and security of a health-care facility. Areas that need lighting must be identified. The lighting system must be maintained to ensure continuity of the facility's operations. There should be adequate stock of spare parts, i.e. bulbs, flashlights, etc. Different areas will require different levels of lighting, and it should be adjusted according to the function of the area of the facility in question, especially on stairs and walkways, in corridors and in critical medical and non-medical areas. Lighting should not be obstructed by plants, other vegetation, or other objects, which could pose a physical risk or affect performance.

Preparedness ratings:
Zero *– There is no lighting.*
Low *– Internal and external lighting systems are in poor condition and unreliable, and there are no protective measures.*
Average *– Lighting is in fair condition and is normally reliable, providing the light required; some measures provide partial protection.*
High *– Lighting system is in good condition, reliable and provides adequate lighting. Measures in place to secure it. Sufficient stock of necessary spare parts and back-up plans in place.*

3.1.2 Safety of perimeter fence

Evaluates existence, condition and effectiveness of safety perimeter fence.

The security and functioning of a health-care facility can be affected by the condition of surrounding walls or fencing that define its grounds. There should be a fence and it should be in good condition, i.e. sufficiently high and robust to protect the facility. Locally available and appropriate materials and construction techniques should be taken into account in the evaluation.

Preparedness ratings:
Zero *– No fence/perimeter wall.*
Low *– Existing fence/perimeter wall is partially damaged, or encompasses only part of the facility, thus impeding the facility's daily operations.*
Average *– Existing fence/perimeter encompasses entire compound, where needed. The fence is not completely effective because it is partially damaged, or not high enough.*
High *– A good-quality perimeter wall or fence exists, and is in good condition, as the material it is made from and its height are fit for purpose. The fence is regularly maintained and any damage is fixed in a timely manner.*

N/A *– Not applicable to this situation (where a health-care facility does not need a perimeter fence because of its location or function, or when the facility is within another facility, this indicator is not relevant).*

3.1.3 Safety of gates and entrances

Evaluates the existence, condition and effectiveness of security infrastructure at entry points.

The condition of the infrastructure at each entry point to the facility's compound should be assessed. Different types of barriers are used to manage access at these points, e.g. fixed or moveable gates, a bar, or other physical means to filter access. Such entrances should be maintained properly and staff should be trained how to operate them. The layout of the entry gate should allow for security and medical screening to be carried out separately. Security screening should be performed by skilled security personnel and never combined with medical triage. Ideally, access to the facility compound should be restricted to personnel, patients and their relatives, so the number of cars is restricted to those authorized. Car parks should be situated outside the facility, if possible, or in the public area before the security screening. In an emergency, the gates and entrance should be able to manage an influx of people, cars and other vehicles.

Preparedness ratings:
Zero *– No security-screening infrastructure at entrances, i.e. no barriers.*
Low *– The existing barriers are in poor condition; they do not function properly, so only limited security screening is carried out.*
Average *– Entrance barriers are in good condition and normally reliable but are not suitable for a large influx of people.*
High *– Gates and entrances in good and reliable condition and maintained regularly. Systematic security screening carried out by trained staff. Emergency procedures are available and the infrastructure in place can manage a massive influx of people during emergencies.*
N/A *– Not applicable to this situation (where the health-care facility does not require specific screening procedures owing to its location or otherwise, this indicator is not relevant).*

3.2 Structure

3.2.1 Condition of the building

Evaluates the physical condition of the building and internal and external maintenance.

The building(s) should be inspected, both internally and externally, for signs of deterioration, such as broken plaster. Bear in mind that some external damage may be due to weather effects. Procedures should be in place to ensure building maintenance is carried out regularly and checked. The construction material(s) used will determine how much maintenance is required. The condition of specific areas, such as stairways, rooms, corridors, etc. should also be assessed in light of their function. Check also for dampness, or if there have been any changes to the building, e.g. removal of walls, doors, etc., which have not been completed appropriately.

Preparedness ratings:
Zero *– No maintenance, i.e. multiple holes in the building, dampness and damage due to severe weather.*
Low *– Quite extensive signs of deterioration registered: cracks in some of the walls, dampness, etc. Limited maintenance carried out.*
Average *– Some deterioration caused, most likely by weather. Internally, the building is generally well maintained. Maintenance carried out.*
High *– No deterioration or cracks observed. Exterior has not been affected by weather and the building is in good condition internally. Systematic maintenance carried out.*

3.2.2 Structural integrity

Evaluates the physical structure of a building.

Signs that a building is deteriorating include broken plaster, cracks, or subsidence, and the causes of these should be determined. The location of any cracks and their angle can determine the condition of the building. Damage can be more or less serious depending on where it is in the building, e.g. the risk posed by a damaged column on the ground floor is greater than that posed by a similarly damaged column on the top floor. The condition of the building largely depends on the type of construction materials used for the structural elements. A crack may occur for a variety of reasons; some indicate a serious problem (design, overload), while others are less serious (change in volume). If the building has been painted recently, check that cracks have not been hidden. Ideally, professional experts should be used to assess these indicators. If possible, consult technical experts before answering this question.

Preparedness ratings:
Low *– Poor structural system: cracks on the ground and first floors, construction materials showing flaking, cracks larger than 3mm (concrete), excessive warping (steel and wood).*
Average *– Reasonable structural system design. Some damage to building and only partially repaired; presence of cracks between 1 and 3mm (concrete), moderate and visible warping (steel and wood), or rust with no flaking.*
High *– Good structural system design. Minor, or no damage and building fully repaired after damage; cracks less than 1mm (concrete), no visible warping, no rust.*

3.2.3 Material

Evaluates the robustness of the construction material(s) used for the building.

Provide a description of the material(s) used for constructing the facility.

Preparedness ratings:
Low *– Weak construction materials, such as wood, bamboo, tarpaulins, tents, etc.*
Average *– Buildings constructed from robust materials, such as concrete and masonry.*
High *– Robust construction materials, such as masonry and reinforced concrete, with in-built fire protection. Roof is strong and thick enough to ensure stray bullets (if these are an issue) do not penetrate it.*

3.2.4 Passive security measures

Evaluates the need for safe areas and procedures for identifying and using them.

The most common measures taken to ensure the safety of health-care personnel are: designation of a safe area or place of refuge (when the threat is from sporadic small-arms fire, stray bullets, etc.), provision of a shelter, such as a basement, to retreat to in the event of an attack by heavy weapons, a strong room for use in the event of violence, and other mitigation measures, such as specially designed doors to prevent violent intrusion in critical areas.

The designated rooms/spaces and safety infrastructure should meet specific design requirements and should be properly equipped and maintained so they can be used in an emergency. Staff also need to be trained how to use them.

Safety levels:
Zero *– Safe areas not identified.*
Low *– Safe areas identified but are not suitable or adequate for the facility.*
Average *– Safe areas identified and staff are trained. Equipment is limited, however, so there are few procedures for how and when they should be used.*
High *– Safe areas identified and set up in a facility with all the necessary equipment and infrastructure (e.g. ventilation, etc.). Staff trained and procedures in place on the use of these areas.*

N/A *– Not applicable to this situation (where the facility comprises only one unit and so is too small for a separate safe area, or the need for such is irrelevant to the context of the facility, this indicator is not applicable).*

3.3 Layout

3.3.1 Distribution of critical areas

Evaluates the physical layout and spread of critical areas in a facility.

Priority areas that ensure the basic functioning of the health-care facility are considered critical areas (e.g. operating theatre, intensive-care unit, pharmacy, water and power supply, communications room, etc.). Measures should be in place to secure critical areas and ensure their continued functioning during an emergency.

Some key measures to secure these areas are: staff or other monitoring scheme, locating these services in areas within the facility that have higher levels of protection (e.g. basement, lower floors) and fencing or a locked perimeter.

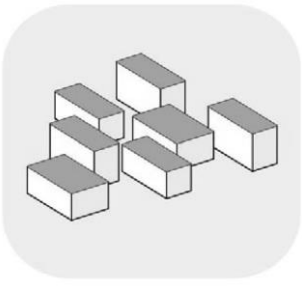
Safety levels:
Zero *– Critical areas are not identified, so no protective measures in place.*
Low *– Critical areas identified but no protective measures in place.*
Average *– Limited measures in place to protect critical areas (e.g. security fencing or locked doors), but little or no staff vigilance in these areas.*
High *– Comprehensive measures in place to secure critical areas (e.g. specific fencing around, or secure doors to these areas, monitoring system in place, etc.). These areas are situated in the core of the building, not easily accessible through windows or via external doors.*

3.3.2 Facility layout: spread v. concentrated

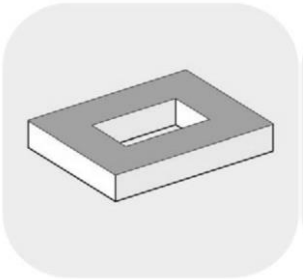
Evaluates the physical set-up of the entire facility.

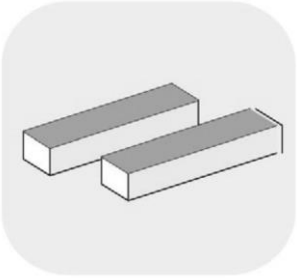
Indicate which of the following best describes the overall facility layout: spread, concentrated, or medium-density layout. Most probably, your facility will be a mix of these layouts, so choose the one that best represents the facility.

Spread: campus-style. Multiple, generally single-story separate buildings.



Medium density: departments or services can be clustered into multi-functional buildings with one or more floors.





Concentrated: one single building. Multi-functional, multi floor.

Preparedness ratings:
Spread *– Services are divided among small, single-story, separate buildings within the plot.*
Medium concentration *– Large, low-rise buildings, with a medium density of equipment and users per ground-floor area.*
Concentrated *– All the services (health care and support services) are concentrated in a single (multi-story) building. Large-scale buildings with a high concentration of equipment and people.*

3.3.3 Existence of free space

Evaluates a facility's physical ability to expand to increase daily operational capacity.

In an ideal situation, there will be enough space within the plot to expand activities to help maintain daily operations during an emergency, e.g. extra hospitalization capacity, isolation units, etc. Areas for expansion should be identified early on and any expansion should not interfere with other essential services, i.e. by blocking access routes, etc. Resources will be needed to expand such plots and they should be assigned according to the criteria developed for prioritizing needs.

Preparedness ratings:
Zero *– No free space available.*
Low *– Space for expansion has not been planned for specifically but some areas could be used for this purpose.*
Average *– Space has been identified and it is enough to allow a significant extension of activities.*
High *– Space is identified, and it is big enough to accommodate a surface equivalent of the existing number of beds. Overview of the resources and equipment that are readily available. Procedures exist and have been tested, personnel have been trained, and equipment, supplies and other resources are available to expand the space.*
N/A *– Not applicable to this situation (where the health-care facility does not require additional space to continue daily operations in an emergency, this indicator is not applicable).*

3.3.4 Location of valuable assets

Evaluates a facility's ability to physically protect its valuable assets.

The location of valuable assets is relevant to ensuring the safety and security of a facility. Storage areas (for drugs, equipment, etc.) need special consideration, particularly in terms of their location within the health-care facility. If such assets are exposed, i.e. via external windows and doors, they will need additional monitoring and/or other protective measures (e.g. locked rooms) to prevent unauthorized entry. Such areas must be maintained to ensure, for example, the doors and windows are functioning properly and the keys are held by the appropriate personnel.

Preparedness ratings:
Zero *– No consideration given to valuable assets.*
Low *– Not all valuable assets are identified and limited measures in place to protect some valuable assets.*
Average *– Valuable assets are stored in places where there are some protective measures.*
High *– Valuable assets are stored in locked rooms, and in areas within the facility that have higher levels of protection in case of partial destruction of the facility.*

N/A *– Not applicable to this situation (where the health-care facility consists of only one asset, or has no valuable assets but the unit itself, this indicator is not relevant).*

3.4 Exposure

3.4.1 Openings: windows

Evaluates a facility's physical condition and security of its windows.

Assessments should be carried out of all openings into the facility – especially, but not only, exterior windows. The window frames should be in good condition, made of strong, sturdy material and not easily damaged. The windows should be equipped with some security measures, e.g. locks. Responsible personnel should be identified and appointed to hold the keys to these. Bars and grilles should be used for particularly exposed windows, where possible. Other special measures can be taken, when required, such as applying plastic film to the windows to reduce risks associated with breaking glass during disturbances.

Preparedness ratings:
Zero *– Broken or no windows (e.g. just holes in the wall).*
Low *– Windows in poor condition, the frames are made of weak material and can be easily damaged. There are no protection measures.*
Average *– Windows in fair condition, working properly and not easily damaged. The material, hinges and security measures of the windows have been considered and some protection measures have been implemented.*
High *– Windows in good condition, not damaged and working properly. The material and hinges are sound, and comprehensive security measures are in place. Film or grilles have been applied to exterior windows (where possible, or appropriate). Extra measures in place in critical areas.*

3.4.2 Openings: doors

Evaluates a facility's physical condition and security of its doors.

It is important to assess the condition of and materials used in doors at the health-care facility, i.e. exits, entrances and internal doors, as well as the security measures implemented to protect them. Doors should be intact and not easily damaged. Ideally, they should be made from strong, sturdy materials. For security reasons, it should be possible to lock doors and responsible personnel should be identified to hold the keys. Hinges should be in good condition and inspected on a routine basis. The doors leading to critical areas, or areas that should be protected from unauthorized entry, e.g. operational rooms and storage facilities, should be equipped with additional security measures.

Preparedness ratings:
Zero *– There are no doors (open-plan).*
Low *– Doors are in poor condition – they are damaged, made of weak material and do not function properly.*
Average *– Most doors in fair condition; the doors to critical areas or rooms are made of good-quality material and have good handles/locks. All doors are functioning properly.*
High *– All doors are in good condition, made of good material, and security procedures are in place to enhance protection from unauthorized entry. Critical areas have more security measures.*

3.4.3 Exposure of the building

Evaluates a facility's physical exposure in terms of its surrounding areas.

How exposed a health-care facility is depends on a number of factors. These include: the location of the building in the plot, e.g. isolated or annexed to other buildings, its layout, e.g. windows facing open exterior areas or inner courtyards, screening in the form of perimeter walls, trees, etc. It is also

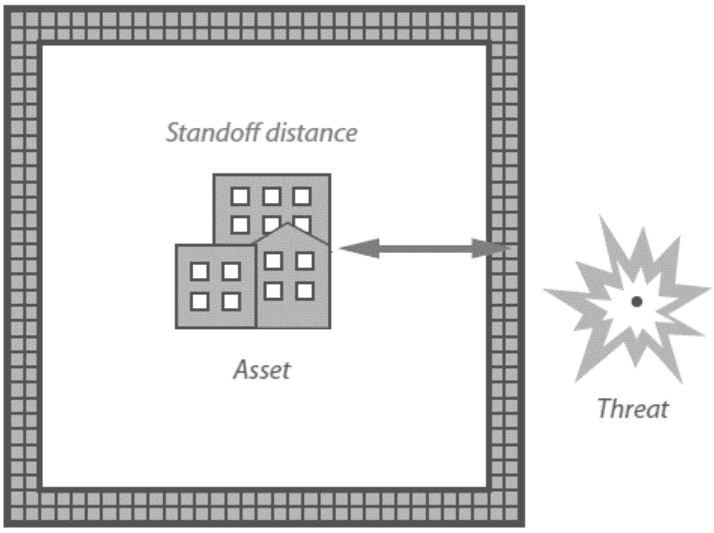
important to consider whether vulnerable parts of the building, e.g. operating theatres, are located in exposed areas.

Preparedness ratings:
Zero *– All critical areas are exposed to risks.*
Low *– Most façades and windows are completely exposed and facing an open exterior area.*
Average *– Most façades and windows facing exterior areas are partly covered or protected (by other buildings, shutters, etc.).*
High *– Most parts of the facility (especially the critical areas) are not exposed to the exterior, or special security measures are in place to protect all openings facing the exterior – for example: low-rise buildings protected by high walls, or most ward windows face inner courtyards.*

3.4.4 Standoff distance

Evaluates the need and requirements for a standoff distance for a facility.

Standoff distance is measured as the distance between the fenced perimeter of the plot, outside of which an incident could occur, and the closest sensitive building within. The standoff distance protects the facility in the event of an explosion. In an ideal situation, the minimum standoff distance should be around 30m from the closest building to the perimeter of the wall. Some form of solid wall at this distance and at an appropriate height can help ensure the safety of the facility (see diagram).



Preparedness ratings:
Zero *– The main walls surrounding a facility are directly exposed to the outside.*
Low *– Limited (<10m) distance between the closest building and the perimeter of the facility.*
Average *– There is a 30m standoff distance but no, or weak fence.*
High *– Standoff distance is more than 30m and the perimeter consists of a solid wall (e.g. masonry or concrete wall).*
N/A *– Not applicable to this situation (where the health-care facility is located within other facilities, or is so small there is no need for a standoff distance, this indicator is not relevant).*

3.4.5 Protection of potential hazard areas

Evaluates the physical protection of dangerous critical assets or areas.

Critical assets and hazardous materials (e.g. flammable material, fuel, chemicals, medical gases, etc.) and equipment, as well as their storage facilities, should be protected at all times, including during an armed conflict or emergency situation. Access to these areas should be restricted. Contingency procedures should exist and be widely known to ensure that access is still possible during an

emergency (keys are available to senior staff, entry is not obstructed, inventory is updated, etc.). Staff should be trained how to act in such a situation.

Preparedness ratings:
Zero *– No consideration of critical areas.*
Low *– Critical areas are identified and limited protective measures implemented.*
Average *– Critical areas have been identified and protection measures are in place but are limited (owing to lack of resources). Monitoring for critical assets in place.*
High *– Critical areas are properly secured. Procedures to deal with emergencies included in the overall contingency plan.*
N/A *– Not applicable to this situation (where health-care facilities consist of only one specific asset, or have no risk areas, this indicator is not relevant).*

3.5 Internal circulation

3.5.1 Safety of movement

Evaluates whether staff and patients can move around a facility easily and safely.

Internal corridors should be spacious and free of obstacles to ensure easy movement of personnel, stretchers and medical equipment. Ideally, there should be enough space for two stretchers to be able to pass in the corridor. There should be no obstacles to accessing different rooms or areas. Critical areas should be reachable by at least two different access routes within a facility. Disabled access should be considered and, where possible, appropriate measures implemented. Adequate signage should be provided to direct the movement of staff, patients and visitors. Areas with restricted access should be clearly marked and monitored appropriately. Areas that experience the highest concentration of people should receive special attention, as they may need more maintenance and inspection.

Preparedness ratings:
Zero *– Corridors and circulation areas do not exist but are needed.*
Low *– Corridors are narrow and full of obstacles, which makes access and movement difficult. Access to various rooms is difficult for wheelchairs or stretchers.*
Average *– Corridors and circulation areas are clear of physical obstacles. There are clear and visible signs around and within the health-care facility, including in unauthorized areas. Most areas within the facility have only one access route.*
High *– Corridors are at least two stretchers wide and do not have any physical obstacles to hinder movement. There are clear and visible signs around and within the health-care facility, including in unauthorized areas.*
N/A *– Not applicable to this situation (where there are no corridors, or patients or staff don't need to move around the facility, or when the facility is small and consists of just one room, this indicator is not relevant).*

3.5.2 Safety of stairways

Evaluates the physical condition of stairways in a facility.

Special attention should be given to the safety of stairways and ramps. They should always be free of physical obstacles and items that could potentially fall and cause an obstruction. In most cases, they should have railings/bannisters, so they can be used safely at maximum capacity, and ramps, where possible, to facilitate access by wheelchair-users. The stairs should be undamaged and have defined and clear step edges. Areas that experience the highest concentration of people should receive special attention, as they may need more maintenance and inspection.

Preparedness ratings:
Zero *– Stairs cannot be used owing to damage or physical obstacles.*
Low *– Stairs are damaged, or prone to damage, and no maintenance is conducted. Physical obstacles hamper movement.*

Average *– All stairways are equipped with railings and are generally in good condition. They are not inspected or maintained regularly.*
High *– The stairs are not damaged and are wide enough for the needs of the facility. Stairs are fitted with railings. There are no obstacles in the way. Stairs in high-traffic areas are inspected regularly.*
N/A *– Not applicable to this situation (where the health-care facility does not have stairs, this indicator is not relevant).*

3.5.3 Safety of the elevator system

Evaluates the functionality and maintenance of elevators in a facility.

While elevators should never be used in an emergency, they are important in a health-care facility for operational purposes. In some instances, they are the main means of transport for patients, the elderly and the disabled. When more than one elevator is out of service, especially in multi-story structures, the functional capacity of the facility may be seriously affected. Elevators (including all types of lifts) should function properly and be used according to their load capacity. They need to be maintained and inspected regularly. Visual inspection of the cars and cables can be supplemented by information from maintenance and inspection records. Personnel should be informed that elevators should not be used during emergencies.

Preparedness ratings:
Zero *– Elevators are not functioning.*
Low *– Elevators are damaged and function intermittently.*
Average *– Elevators are functioning and are maintained regularly.*
High *– Elevators are functioning well. They are maintained regularly and measures are in place to protect them from any potential damage. Personnel informed about the restrictions on their use during emergencies.*
N/A *– Not applicable in this situation (where the health-care facility does not have elevators, this indicator is not relevant).*

3.5.4 Evacuation routes

Evaluates the identification and maintenance of physical evacuation routes.

The health-care facility's exit and evacuation routes should be clearly marked, known to staff and free of physical obstacles. All documentation and routes should be regularly checked. Emergency doors should not be locked from the inside so as not to impede emergency evacuation. If the health-care facility relies on automatic doors, it must be possible to open them manually, or there must be alternative exit points.

Preparedness ratings:
Zero *– No exit and evacuation routes available.*
Low *– Exit and evacuation routes are not clearly marked and are blocked.*
Average *– Some exit and evacuation routes are marked and most are clear of physical obstacles.*
High *– Exit and evacuation routes clearly marked and free from physical obstacles. Personnel are aware of the routes. Drills and training are conducted frequently.*

3.6 Self-sufficiency and safety of basic infrastructure

3.6.1 Safety of telecommunications systems

Evaluates the security of and back-up plans for a facility's communication system.

Equipment for internal and external telecommunications, e.g. wires, transmitters, antennae, radios, phones, laptops, etc. must function properly and be maintained and inspected frequently. Staff should be trained how and when to use the equipment, and must be aware of established protocols, contact lists, etc. If a facility has its own independent internal communication system, this should also be

maintained. The equipment should be secure and protected from unauthorized use. There should be a back-up plan in the event regular communication channels or the internal system break down. Relevant staff should be assigned and trained to ensure the functioning of back-up communication systems.

Preparedness ratings:
Zero *– No communication system.*
Low *– Communication equipment is in poor condition, unreliable and has no protective measures. There is no alternative communication system, or it does not work.*
Average *– Communication equipment is in fair condition, with limited protective measures. Communication system is generally reliable. Limited back-up system in place but personnel are not trained.*
High *– Communication equipment is in good condition, is regularly maintained and protective measures are in place. A back-up communication system is in place and maintained regularly. Staff are informed and well-trained.*

3.6.2 Safety of water supply

Evaluates the safety of the water supply to the facility and back-up plans in case of disruption.

The water-supply network should be functioning properly and meet the demands of the facility at all times. The supply may come from outside, i.e. mains water, or the facility may have an independent source. In either case, the supply network must be protected from unauthorized use, otherwise it may present a security risk. Alternative sources should be identified, and a back-up strategy in place, or extra storage capacity provided, to ensure water is still available in the event of a disruption to the supply, so that critical services can continue.

Some compounds may have their own reserves and so may be able to pump water to the facility. In other situations, water may be trucked in.

Preparedness ratings:
Zero *– No water supply.*
Low *– Water infrastructure is in poor condition and/or poorly maintained. Reserve of less than a day (based on average daily usage of 50–80 litres per bed). Water quality is lower than the local average.*
Average *– Current infrastructure is in good condition and regularly maintained. Reserve of between one and three days. Water quality is similar to local standards.*
High *– Current infrastructure is in good condition and regularly maintained. Water meets recognized standards of quality. Back-up infrastructure available to provide at least three days of water to all critical areas. Plans for rationalization of consumption exist and the relevant infrastructure is in place.*

3.6.3 Safety of electrical equipment

Evaluates the safe supply of electricity to a facility and back-up plans in case of disruption.

The electrical network and appliances should comply with recognized standards in terms of design and elements. They should be maintained and inspected regularly, and any repairs should be carried out using compliant materials and procedures. Ensure good-quality spare parts are available. The facility might have an independent power source, or be connected to an external grid. There should be alternative sources of power to ensure continuity of service in an emergency, particularly in critical areas of the facility, e.g. emergency department, intensive-care unit, sterilization unit, operating theatres, maternity wards, etc. Depending on the local context and availability of resources, a variety of protective measures may be implemented, e.g. buried cables (which are safer than exposed ones), locked switchboard, etc. Relevant personnel should be trained how to deal with a power cut and should have access (i.e. keys) to the relevant areas. A fuel reserve should be set up and it should feed into the generator by gravity. The back-up power supply should be functioning and regularly inspected.

Preparedness ratings:
Zero *– The existing electrical network is severely deficient.*
Low *– Power supply is not stable. The internal electrical network is in poor condition and presents various risks (switchboards in bad state and not protected, cables and mains connections exposed). There is no back-up system for power and generator is in poor condition (if generator is available).*
Average *– The overall condition of the network is acceptable and works well under normal conditions. The main elements are protected (switchboards, connections, transformers, etc.) Alternative sources are not fully stable but will cover the minimum needs of the critical areas and kick in automatically. Generators are in fair condition, protected and occasionally tested.*
High *– Main network elements are well protected (buried cables, locked boxes for switchboard, etc.). The network is documented and maintenance plans exist. Back-up systems exist and will activate automatically in an emergency; they are well maintained and will ensure continuity of service. Generators function without any disruptions and are protected and tested frequently.*

3.6.4 Safety of medical-waste disposal

Evaluates the safe disposal of solid medical waste and back-up plans at the facility.

The facility should have adequate measures for the collection and disposal of medical waste. Internally, the waste should be segregated according to type and safely disposed of. Disposal could be within or outside of the facility. A back-up plan should be developed in case of disruption, so that the facility can ensure continuity of service. Facilities should also be prepared to have to scale up the disposal of medical waste. Staff need to be trained how to dispose of medical waste in an emergency, when it may not be possible to follow regular disposal procedures.

Preparedness ratings:
Zero *– Disposal of medical waste is currently inadequate and there is no back-up plan.*
Low *– The existing infrastructure is acceptable for the current situation, but there are no back-up plans for the disposal of medical waste.*
Average *– The existing infrastructure is in good condition. There is a back-up plan, but resources for implementing it are limited and staff are not trained.*
High *– Existing infrastructure is in good condition. There is a workable back-up plan to dispose of medical waste, and personnel are trained in regular and emergency procedures.*

3.6.5 Safety of sewage disposal

Evaluates the safe disposal of wastewater by a facility and back-up plans in case of emergency.

The facility should already have adequate measures for the safe and manageable collection and disposal of its wastewater. This could be dealt with internally – by way of soakaway pits, infiltration trenches, etc. within the facility – or externally. Either way, measures should be implemented to secure the system. During an emergency, the facility may experience an increase in the production of wastewater, which will need to be handled safely. For facilities that have outsourced this service, there should be a back-up plan to ensure the facility is still able to function at all times. This may involve external tanking (based on prior agreements), or identifying areas within the facility where wastewater could be stored.

Preparedness ratings:
Zero *– Current wastewater management is not adequate for the facility.*
Low *– Current system is in an acceptable condition but no back-up plans to dispose of wastewater safely.*
Average *– The current infrastructure is in good condition and is secure. There is no back-up plan, but current system can handle an increase in capacity. Personnel are partially trained in case of emergency.*
High *– The current infrastructure is in good condition and is secure. There is a back-up plan to dispose of wastewater and personnel are trained. The back-up infrastructure is in place and well-maintained.*

N/A *– Not applicable to this situation (where a health-care facility is within another facility that manages sewage disposal, or the facility does not produce wastewater, this indicator is not relevant).*

3.6.6. Safe storage and removal of dead bodies

Evaluates the safe storage of dead bodies by a facility and back-up plan in case of emergency.

There should be safe infrastructure in place to deal with dead bodies. It should be maintained appropriately. Contingency procedures and logistics should be in place to ensure dead bodies continue to be managed appropriately during an emergency, when their number can increase dramatically. Extra storage and alternative burial sites should be identified in advance. Contacts with local authorities and other parties should be sought, so that in the event external help is needed, arrangements are already in place.

Given the cultural and religious sensitivities around the disposal of bodies, it may also be necessary to develop specific procedures to deal with relatives and the community. Staff should be prepared and trained to respond appropriately in such situations. When necessary, special measures relating to infectious diseases should also be considered.

Preparedness ratings:
Zero *– Regular process to dispose of dead bodies does not meet the demands of the facility.*
Low *– Procedures for dealing with mass-casualty incidents do not exist, or exist only on paper.*
Average *– A system for mass-casualty incidents exists but resources are insufficient to ensure it can function adequately.*
High *– Procedures and system for mass-casualty incidents exist and there are sufficient resources to implement them. Personnel have been trained.*
N/A *– Not applicable to this situation (where management of dead bodies is not part of the daily operations of the facility, this indicator is not relevant).*

PART 3: Explanation of results

- Detailed overview of what each of the results indicates (including what this means for the facility).

EXPLANATION OF RESULTS

Once the survey is complete, the dashboard will automatically analyse the answers and provide results. The results are a function of the likelihood of the stated hazards occurring and the outcomes of the indicators answered.

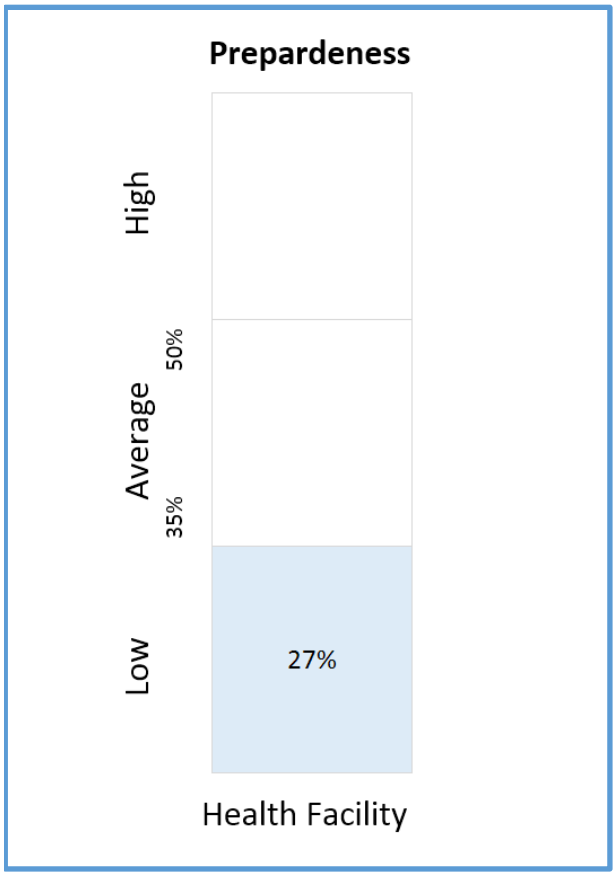
The results analysis will indicate the current state of preparedness of the facility and identify areas for improvement.

The dashboard is divided into four parts:

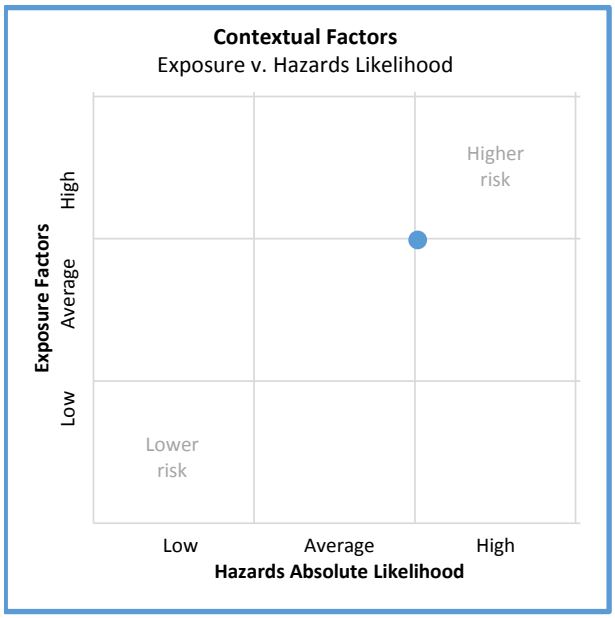
- 'Facility Preparedness' is an overview of the results and contains the key information for decision-makers.
- 'Priority of Interventions' helps project managers define a specific course of action. It delves deeper into some of the results and looks at what can be done.
- 'Overall Survey Results: Qualitative Overview' illustrates which indicators scored highly and which scored poorly in light of the hazards and context.
- 'Overall Survey Results: Quantitative Overview' plots the survey results against the best possible performance for each indicator, so that duty-holders can see clearly where the facility is doing well and not so well.

The following explains what each of the data sets depicts.

Facility Preparedness



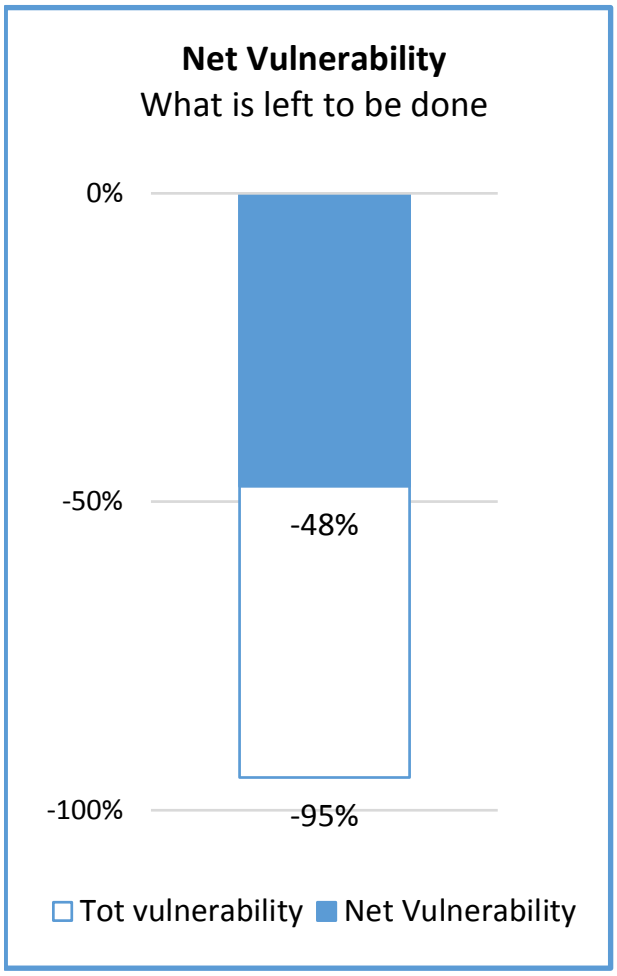
The '**Preparedness**' figure gives the overall Security Survey for Health Facilities score, which illustrates how prepared the facility is. The y axis indicates the category within which the score falls, i.e. low, average, or high, as well as the threshold levels for each of those categories.



'**Exposure**' and '**Hazard Absolute level**' are plotted against each other to describe the context in which the facility is set.

The '**Exposure**' figure indicates how exposed the facility is to external and internal liabilities over which the facility has no control. Exposure is rated low, average, or high. External liabilities could include, for example, poor external infrastructure and a low level of self-sufficiency. Internal liabilities relate to hazards and to what extent they could exacerbate the damage. For example, a bomb attack on a multi-story building would be more destructive than one on a facility where the buildings are more spread out. The '**Hazard Absolute level**' is the sum of the three levels of likelihood of the hazards occurring and is derived from the answers to the survey. For example, 'low' is when there is no likelihood of any hazard occurring, or a low likelihood of only one hazard occurring. 'High' could represent a situation in which there is a high chance of one hazard occurring and an average likelihood of two other hazards occurring. If both 'Exposure' and 'Hazard Absolute level' are high it is clear that urgent action is required, so the facility should be prepared to respond.

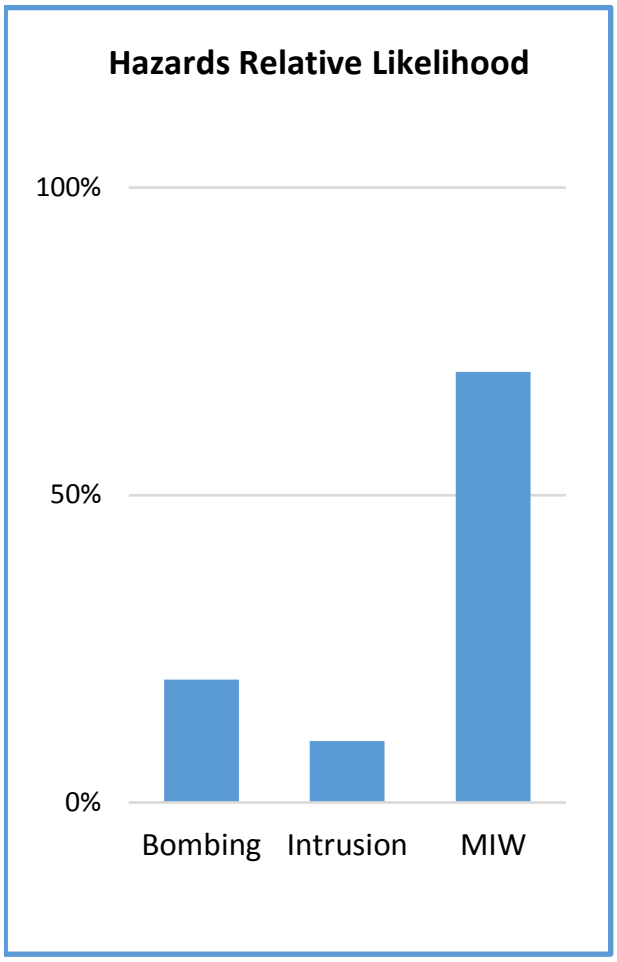
'**Preparedness Exposure'** and '**Hazard Absolute level**' help decision-makers prioritize action based on the outcome of the Security Survey for Health Facilities.



'**Net Vulnerability**' quantifies the extent to which the facility is lacking in preparedness (preparedness gap) and is shown as a percentage (blue bar). Each facility has a 'Total Vulnerability' score (white bar) based on its context and configuration versus the mix of hazards identified.

'**Net Vulnerability**' equals '**Total Vulnerability**' minus '**Preparedness**' and is a measure of the actions that may still be implemented to increase the preparedness of the facility to the maximum level.

The remaining percentage necessary to reach 100 per cent is the '**Exposure**', which takes such factors as the layout configuration and connections to city structures and systems into account.

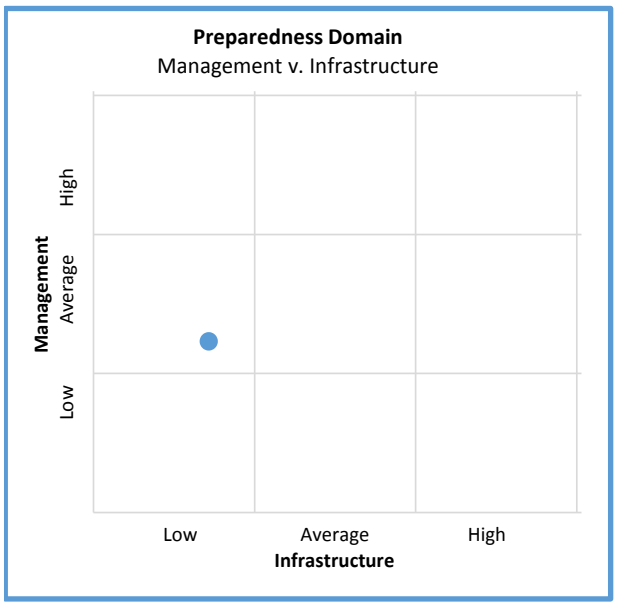


The '**Hazards relative likelihood**' figure is the relative degree of likelihood of any of the hazards occurring and is based directly on the answers provided.

The sum of the three relative degrees of likelihood is always 100 per cent.

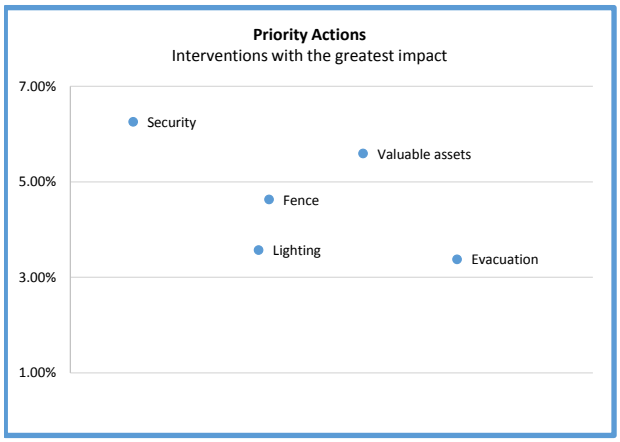
This is illustrated in the form of a bar chart to highlight the relative weight of each hazard. In this example, there is a relatively low chance of bombing or an intrusion occurring at this facility, but a higher chance of the facility experiencing a mass influx of people.

(MIW stands for mass influx of wounded and people.)



This '**Preparedness Domain**' matrix splits the preparedness of the facility into infrastructure and management (as in the survey itself).

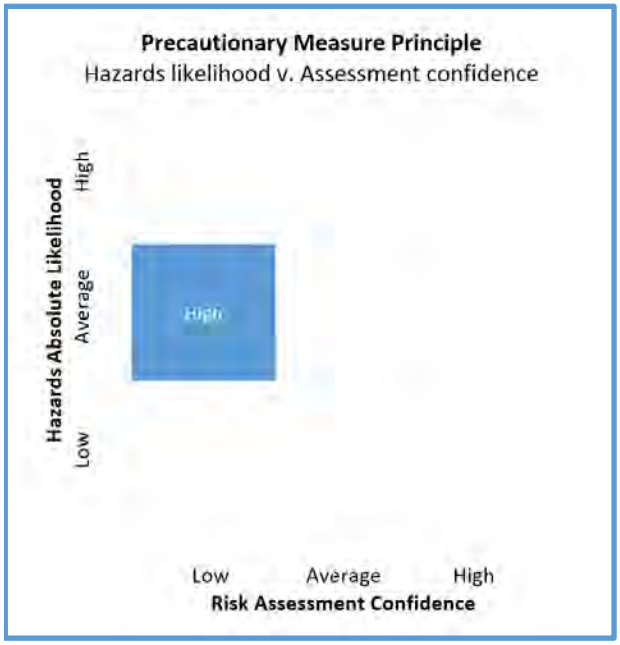
The matrix demonstrates the preparedness of both management and infrastructure in the form of a low, average, or high rating. The matrix gives an overview of which area is more prepared and which may require further investigation and action.



'**Priority Actions**' determines which of the indicators, if improved, would have the most positive impact on the overall preparedness of the facility.

This is decided relative to the likelihood of each hazard occurring and based on the answers provided to the questions.

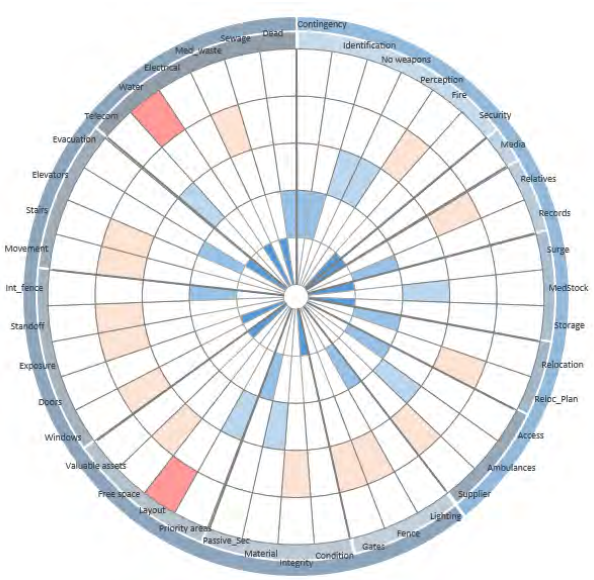
The data are given as a percentage, which indicates the extent to which the preparedness of a facility can be improved.



The '**Precautionary Measure Principle**' weighs the overall likelihood of hazards occurring and the user's confidence in their assessment of such likelihood.

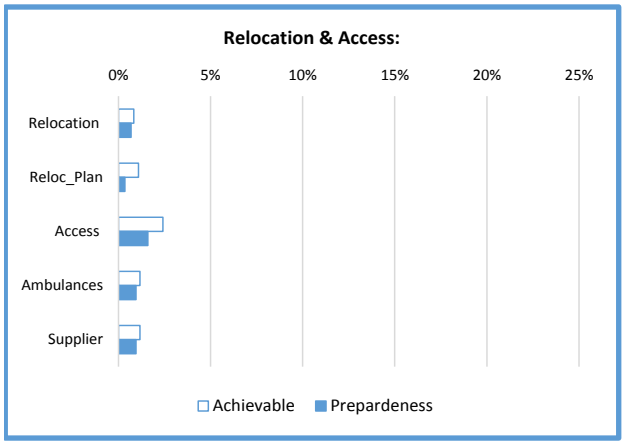
It is a way of dealing with the inherent uncertainty involved in self-assessment of the likelihood of hazards. If the degree of uncertainty is high, under the precautionary principle the urgency of the action should be given greater weight. For example, if the likelihood of a hazard is described as 'high', but the assessor is not confident, then it is more urgent that action be taken.

Overall Survey Results: Qualitative Overview



The chart provides an overview of the scoring of all indicators. Each 'slice' represents an indicator. The accompanying legends describe the domains to which the indicators belong. The concentric circles depict the score of each indicator. The inner circle represents the optimal score. An indicator that scored high is shown in blue here. Lighter-blue and outer-circle cells correspond to less-than-ideal performances. In particular, the outer circle, with red cells, illustrates those indicators that scored negatively. They are the ones that represent either a negative internal exposure (e.g. concentrated layout exposed to a bombing hazard), or a negative external exposure (e.g. not having water self-sufficiency in a context where external infrastructure is poor and unreliable).

Overall Survey Results: Quantitative Overview



Each set of bars provides an analysis of each indicator.

The chart shows the maximum degree of improvement in preparedness (based on the hazards and the likelihood of them occurring) that could be achieved for each indicator (white bar), and what the facility scored, i.e. its actual level of preparedness (blue bar). It gives details on the importance of each indicator in light of the hazards faced and how much work is needed in each case to improve preparedness. For example, in this case, the facility could do more to ensure reliability of its suppliers, as its preparedness score in this respect is less than what it could possibly have scored. Negative scores mean either an internal or an external vulnerability.

For example, if the risk to a facility is mass influx of people, and there is inadequate access, then this could exacerbate the hazard and produce a negative score, as demonstrated here.

PART 4: Methodology and feedback

- Discussion of how the indicators were derived and consequent weighting.
- Feedback process outlined, with templates.

Methodology note

This section provides a brief overview of how this tool was developed and the methodology applied.

Hazards definition

Potential situations associated with armed conflict that could affect the daily operations of a health-care facility were identified. Such events could materialize into hazards that are outside the control of the health-care facility. These hazards were then grouped and classified into three types – bombing, intrusion, mass influx of people – which represent the scenarios for which a health facility can realistically be prepared. Reliance on basic external infrastructure (such as the municipal water supply) was also acknowledged as a separate potential hazard.

<table>
<tr><th colspan="8">CAUSE-EFFECT HAZARDS FUNNELLING</th></tr>
<tr><td colspan="2">Proximity of strategic targets</td><td colspan="2" rowspan="2">Armed intrusion, potential looting or killing</td><td colspan="2">Civil unrest (including demonstrations, mass gatherings, riots and potential mistrust)</td><td colspan="2" rowspan="2">Poor infrastructure due to weapons damage or lack of maintenance</td></tr>
<tr><td colspan="2">Use of ‘heavy weaponry’, including bombing and shelling</td><td colspan="2">Potential mistrust of health-care management</td></tr>
<tr><td colspan="2" rowspan="2">Deliberate or incidental attacks</td><td colspan="2" rowspan="2">Health-care facility could end up being used as a hiding place for weapons, or intruders</td><td colspan="2">Staff may leave and there may be no one else to take responsibility</td><td colspan="2" rowspan="3">External environmental vulnerability may exacerbate any problems and cause further blockages and delays</td></tr>
<tr><td colspan="2">May cause access routes to be blocked and thus delay the movement of patients in and out</td></tr>
<tr><td colspan="2" rowspan="2">Could affect network infrastructure – intentionally or not</td><td colspan="2" rowspan="3">Potential armed or non-armed intrusions into the health-care facility</td><td colspan="2">May become a safe haven for patients (and staff)</td></tr>
<tr><td colspan="2" rowspan="2">The health-care facility may become overcrowded</td><td colspan="2" rowspan="2">Failure (deliberate or otherwise) of networks and infrastructure, i.e. water, sanitation, power, etc.</td></tr>
<tr><td colspan="2">Failure to store and maintain flammable and hazardous material safely may lead to damage to the infrastructure</td></tr>
<tr><td>Blast</td><td>Fragments and shrapnel</td><td>Small fire-arms</td><td>Intrusion (violent)</td><td>Intrusion</td><td>Mass-casualty influx</td><td>Inaccessible</td><td>Network failure</td></tr>
<tr><td colspan="8">(Breakdown in communication – internal and external – affects all)</td></tr>
<tr><td colspan="2">Heavy weapons</td><td colspan="2">Intrusion</td><td colspan="2">Mass influx of people</td><td colspan="2">Exposure to weak basic-services provision</td></tr>
</table>

Once the hazards have been identified, each indicator could be linked to a specific hazard.

The initial part of the survey is designed to determine the likelihood of any of the hazards occurring and thus produces the configuration of hazards for which the facility has to be prepared.
A weighted set is then used to define the mix of hazards applicable to specific contexts, so each indicator can be weighted accordingly.

The nature of such surveys is that they can only provide an estimate and they always involve a degree of uncertainty. Respondents are asked, therefore, to evaluate their level of uncertainty and this is taken into account in the analysis of the results.

Indicator types

The results are analysed based on the answers submitted for each indicator and against the likelihood of the specified set of hazards occurring.
A 'pre-score', which has been defined by an expert panel within the Security Survey for Health Facilities working group, links the indicator to each of the three hazard types.
The distribution of the scores per module/category/indicator is set out in the following pages. The indicators are divided into five types for aggregation purposes:

- **Item type I**: The hazards to which the facility is exposed (including the likelihood of them occurring).
  For example, is bombing a realistic hazard and, if so, how probable is it? Is intrusion also a hazard? If the chances of bombing are high, is the likelihood of intrusion lower?
- **Item type II:** Depends on the type of hazard.
  For example, a grille on a window is more important for preventing intrusion than protecting from the effects of bombing. The likelihood of the hazard will determine the weighting of this indicator.
- **Item type III:** Depends on the type of hazard and the status of the indicator itself. Defines internal exposure.
  For example, a spread configuration is safer in the event of bombing but vulnerable in terms of intrusion. On the other hand, a clustered configuration would be more affected by bombing but is less open to intrusion. The hazard will determine whether or not the indicator is an internal exposure.
- **Item type IV:** Depends on external exposure and the status of the indicator itself.
  For example, if the power or water networks to which the facility is connected are unreliable and the facility does not have good water-storage capacity, in a fragile context this can be an exposure factor.
- **Item type V**: Relates to the confidence of the assessor in his or her own hazards identification.
  For example, how good are the sources used to identify the hazards? Are records available of past events?

Generated outputs

For the purposes of aggregation, four main variables have been identified: exposure, vulnerability, preparedness and, finally, net preparedness.

- **Exposure** is both internal and external, e.g. the layout of the facility, or its dependency on a weak urban infrastructure, and it can be only partially modified.
- **Vulnerability** is total vulnerability, i.e. 100 per cent minus the exposure component. In other words, it is the measure of how much can be done to improve the facility's preparedness. It is represented as a negative figure.
- **Preparedness** is the facility's current situation, as assessed by the survey. It is the sum total of all the scores inserted by the user, with the pre-set score weighting applied.
- **Net vulnerability** is what remains be done, i.e. the total number of measures that can be improved to increase the preparedness level.

The two equations below illustrate these variables:

100% – % Exposure = % Total Vulnerability

% Total Vulnerability – % Preparedness = % Net Vulnerability

Property of the method

The overall aggregation method is a direct scoring method with a fully compensatory property.

The score assigned to each indicator is the sum of the score provided by the user and the 'pre-score' weighting applied. The 'pre-scores', one for each hazard scenario, link the hazards to the indicators (and therefore the categories and domains).

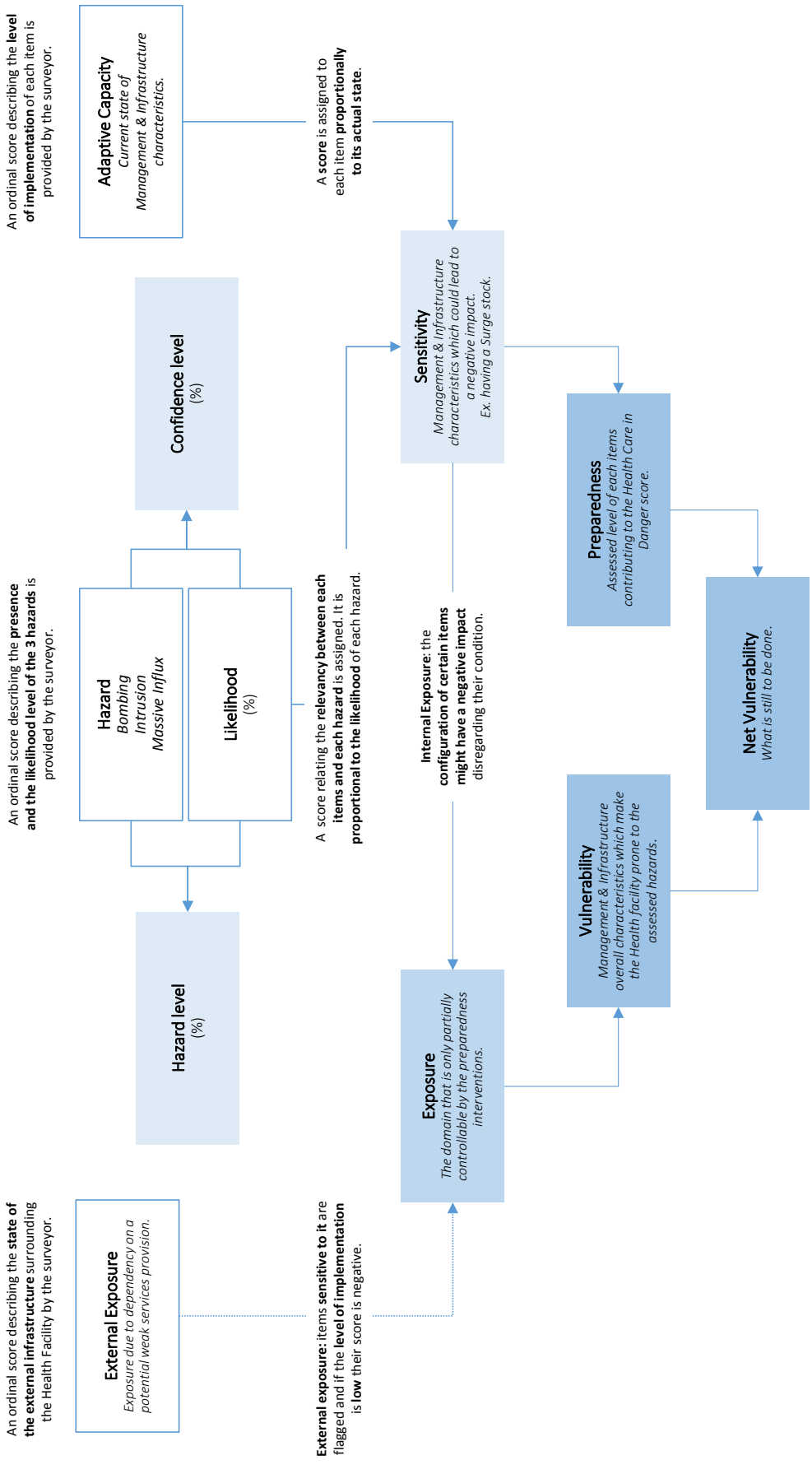
Furthermore, to be able to compare facilities, the score that is not attributed when N/A is chosen is automatically equally re-distributed throughout the remaining indicators.

The fully compensatory property of the aggregation method implies there is a transfer of preparedness between hazards, i.e. a good score in one indicator compensates for a bad one in another. This is considered to provide the closest approximation to how things really are.

The flowchart at page 51 demonstrates the aggregation method and how the 'pre-scores' are applied.[3]

[3] The following resources were used in developing this application:
- OVERALL SCOPE: ICRC: Ensuring the Preparedness and Security of Health-Care Facilities in Armed Conflict and Other Emergencies, 2015; WHO Hospital Safety Index.
- RISK ASSESSMENT: ICRC: Security and Safety Risk Management Methodology for Field Operations, Manual for Delegations, 2015. Internal Document
- AGGREGATION METHOD: JRC-EC: Composite Indicators Research Group, 2014; GIZ: The Vulnerability Sourcebook, 2014

Aggregation method: flowchart



'Pre-scores': Heavy-weapons hazard

MODULE		CATEGORY		INDICATOR		
Name	Weight	Name	Weight	Name	Direction	Weight
2. MANAGEMENT	30%	Safety and security framework	13%	Risk assessment & Contingency planning	+	5.3%
				Identification	+	1.4%
				"No weapons" policy	+	0.0%
				Perception review	+	0.5%
				Fire protection system	+	4.8%
				Monitoring of a HC facility HR guards	+	0.5%
		Media	1%	Media strategy	+	0.8%
		Patients and relatives	3%	Accomodating needs of patients' relatives	+	1.5%
				Protection of patients medical records	+	1.5%
		Staff & Equipments	6%	Surge capacity	+	2.1%
				Stock of medicines, instruments and other items	+	2.1%
				Storage of supplies	+	2.1%
		Re-Location	3%	Suitability of new location	+	1.0%
				Evacuation	+	1.5%
		Access External	5%	Access routes	+	1.7%
				Access of HC personnel and ambulances	+	1.7%
				Secure supplier resources	+	1.7%
3. INFRASTRUCTURE	70%	Managing Access and Control Entries	3%	Lighting systems	+	1.3%
				Safety of the perimeter fence	+	0.6%
				Gates and entrances	+	0.6%
		Structural Preventive Measures	16%	Conditions	+	0.0%
				Structural Integrity	+	5.2%
				Structure Material	+	2.6%
				Reinforce critical structure element	+	7.8%
		Layout : space arrengements	21%	Distribution operational priority areas	+	5.7%
				Concentrated vs. Spread	-	11.3%
				Existence of free space	+	3.8%
				Location of valuable assests	+	0.0%
		Exposure to external threaths	10%	Opening: windows	+	2.6%
				Opening: doors	+	3.9%
				Opening exposure	+	1.3%
				Standoff distance	+	2.6%
				Internal fencing	+	0.0%
		Internal Circulation	5%	Safety of mouvements	+	1.5%
				Safety of stairways	+	1.5%
				Safety of elevator system	+	0.7%
				Evacuation routes	+	1.5%
		Self-sufficiency	16%	Safety of telecommmunication system	+	3.1%
				Safety of water system	+	2.1%
				Safety of electrical system	+	4.1%
				Safe disposal of medical waste	+	4.1%
				Safety of sewage disposal	+	1.0%
				Safety of dead body evacuation	+	1.0%

'Pre-scores': Intrusions and attacks

MODULE		CATEGORY		INDICATOR		
Name	Weight	Name	Weight	Name	Direction	Weight
2. MANAGEMENT	30%	**Safety and security framework**	0%	Risk assessment & Contingency planning	+	5.2%
				Identification	+	2.1%
				"No weapons" policy	+	1.0%
				Perception review	+	1.0%
				Fire protection system	+	5.2%
				Monitoring of a HC facility HR guards	+	10.4%
		Media	1%	Media strategy	+	0.5%
		Patients and relatives	1%	Accomodating needs of patients' relatives	+	0.5%
				Protection of patients' medical records	+	0.5%
		Staff & Equipment	1%	Surge capacity	-	0.3%
				Stock of medicines, instruments and other items	-	0.3%
				Storage of supplies	-	0.3%
		Relocation	0%	Suitability of new location	+	0.0%
				Evacuation	+	0.0%
		Access – External	3%	Access routes	+	2.5%
				Access of HC personnel and ambulances	+	0.0%
				Secure supplier resources	+	0.0%
3. INFRASTRUCTURE	70%	**Managing Access and Entry Control**	27%	Lighting systems	+	9.1%
				Safety of the perimeter fence	+	9.1%
				Gates and entrances	+	9.1%
		Structural Preventive Measures	6%	Condition	+	3.0%
				Structural integrity	+	0.0%
				Structure: Material	+	0.0%
				Reinforce critical structural elements	+	3.0%
		Layout: space arrangements	15%	Distribution operational priority areas	+	2.2%
				Concentrated v. Spread	+	4.3%
				Existence of free space	+	0.0%
				Location of valuable assets	+	8.7%
		Exposure to external threats	12%	Openings: Windows	+	5.4%
				Openings: Doors	+	2.7%
				Openings: Exposure	+	2.7%
				Standoff distance	+	0.0%
				Internal fencing	+	1.4%
		Internal Circulation	6%	Safety of movements	-	1.5%
				Safety of stairways	+	0.0%
				Safety of elevator system	+	0.0%
				Evacuation routes	+	4.6%
		Self-sufficiency	3%	Safety of telecommmunication system	+	3.0%
				Safety of water system	+	0.0%
				Safety of electrical system	+	0.0%
				Safe disposal of medical waste	+	0.0%
				Safety of sewage disposal	+	0.0%
				Safety of dead-body evacuation	+	0.0%

'Pre-scores': Mass influx of people

MODULE		CATEGORY		INDICATOR		
Name	Weight	Name	Weight	Name	Direction	Weight
2. MANAGEMENT	30%	Safety and security framework	15%	Risk assessment & Contingency planning	+	5.2%
				Identification	+	0.5%
				"No weapons" policy	+	1.0%
				Perception review	+	1.0%
				Fire protection system	+	5.2%
				Monitoring of a HC facility HR guards	+	2.1%
		Media	1%	Media strategy	+	0.6%
		Patients and relatives	4%	Accomodating needs of patients' relatives	+	1.9%
				Protection of patients' medical records	+	1.9%
		Staff & Equipment	8%	Surge capacity	+	3.4%
				Stock of medicines, instruments and other items	+	2.1%
				Storage of supplies	+	2.1%
		Relocation	0%	Suitability of new location	+	0.0%
				Evacuation	+	0.0%
		Access – External	3%	Access routes	+	1.5%
				Access of HC personnel and ambulances	+	1.0%
				Secure supplier resources	+	0.5%
3. INFRASTRUCTURE	70%	Managing Access and Entry Control	17%	Lighting systems	+	3.8%
				Safety of the perimeter fence	+	7.7%
				Gates and entrances	+	5.8%
		Structural Preventive Measures	1%	Condition	-	0.9%
				Structural integrity	+	0.0%
				Structure: Material	+	0.0%
				Reinforce critical structural elements	+	0.0%
		Layout: space arrangements	17%	Distribution operational priority areas	+	4.9%
				Concentrated v. Spread	+	0.0%
				Existence of free space	+	9.9%
				Location of valuable assets	+	2.5%
		Exposure to external threats	4%	Openings: Windows	+	0.7%
				Openings: Doors	+	1.4%
				Openings: Exposure	+	1.4%
				Standoff distance	+	0.0%
				Internal fencing	+	0.7%
		Internal Circulation	17%	Safety of movements	+	6.9%
				Safety of stairways	+	3.5%
				Safety of elevator system	+	3.5%
				Evacuation routes	+	3.5%
		Self-sufficiency	13%	Safety of telecommmunication system	+	2.2%
				Safety of water system	+	1.1%
				Safety of electrical system	+	3.2%
				Safe disposal of medical waste	+	3.2%
				Safety of sewage disposal	+	1.1%
				Safety of dead-body evacuation	+	2.2%

Feedback

Users are encouraged to give feedback on the survey. Feedback will be acted on to improve the survey. Templates for providing feedback are included below.

Feedback forms or questions can be addressed to:
ICRC - Heath Care in Danger Project; ICRC -Water & Habitat Unit; ICRC - Health Unit.

Feedback forms

Three forms are available to provide feedback on:
1. Module 1 indicators (hazards).
2. Modules 2 and 3 indicators (management and infrastructure).
3. The survey as a whole.

Please provide as much feedback as possible. Whenever you feel an indicator deserves a comment or a remark, use the relevant form.

Please remember to write the indicator number in the allocated space at the top of each table.

Hazards feedback form

HAZARD Indicator number:	
What resources did you use to determine the likelihood of this hazard occurring?	
Do you feel that the sources you used are reliable? Why?	
Has your information been received from more than one source? Please explain.	
Do you have contradictory information?	
Is much of your information based on hearsay or assumptions?	
Are there any major disagreements in the team regarding the evaluation of this hazard? Please explain.	
Do you feel there are any areas missing from this section and/or that there should be more indicators associated with it?	
Further comments:	

Indicator feedback form

INDICATOR number:	
What were the key points you took from this indicator (to ensure understanding across the board)?	
If possible, please provide a photo which illustrates how you answered this indicator.	
How confident are you in your answer, i.e. based on the reliability of the sources you used to form your judgement?	
What was the preparedness rating you chose for your facility? Please explain.	
Did you feel the need to consult anyone about this indicator? If so, whom did you consult?	
Is there anything you would change about/add to this indicator?	
Do you feel there are any areas missing from this section and/or think there should be more indicators associated with it?	
Further comments:	

Overall feedback form

OVERALL PROCESS	Yes	No	Don't know	Comments
Did the results reflect your assumptions of how prepared the facility is?				
Do you feel the survey reflected how prepared the facility is in light of the level of risk associated with the facility?				
Did you find the results presented on the dashboard relevant to your facility?				
Do you feel the results provide adequate information to plan associated actions?				
Does the value of the information gained by completing this survey (preparedness of facility, etc.) warrant the time spent completing it?				
Further comments:				

SURVEY: INDICATORS LIST

If necessary, the following pages can be printed and used for taking notes when conducting the survey in the health-care facility.
Ultimately, the scores need to be entered into the Excel file for the results to be generated.

Survey: Indicator list	Answer
Hazards	
1.1.1 Heavy weapons ***Likelihood ratings:*** ***Zero*** *– No chance of hazard occurring in this situation and nothing reported.* ***Low*** *– Unlikely to happen; no nearby or past events to consider, even if the use of heavy weapons has been reported previously.* ***Average*** *– Proximity of potential military targets and hotspots. Reported use of heavy weaponry in the nearby area and/or in the past and there is a chance this may happen again.* ***High*** *– Where the use of heavy weaponry has been reported in nearby areas, or in the recent past, and there is a strong possibility it could be used again and could affect the facility. Or, there is currently a conflict and heavy weaponry is being used.*	
1.1.2 Intrusions and attacks ***Likelihood ratings:*** ***Zero*** *– No chance of occurring in this situation and nothing reported.* ***Low*** *– Unlikely to happen, no nearby or past events reported, or that should be considered.* ***Average*** *– Reported use of small arms in the nearby area and/or in the past and a chance of it happening again.* ***High*** *– Such events have been reported in nearby areas, or in the recent past, and there is a strong possibility that small weapons could be used again. Or, the facility is currently experiencing this issue.*	
1.1.3 Mass influx of people ***Likelihood ratings:*** ***Zero*** *– No chance of occurring and nothing reported.* ***Low*** *– Unlikely to happen and no nearby or past events reported, or that should be considered.* ***Average*** *– Events reported in the past, or in nearby areas, and current events show this may be something the facility will experience.* ***High*** *– Such events have been reported in nearby areas, or in the recent past, and there is a strong possibility of another influx of people into the facility. Or, the facility is currently facing this issue.*	
External Exposure	
1.2.1. Condition of external infrastructure ***Likelihood ratings:*** ***N/A*** *– Not applicable to this situation (the health-care facility is completely self-sufficient and does not rely on external infrastructure for the continuation of daily operations).* ***Low*** *– Basic services (power, water, and others) provided to the facility frequently shut down and their quality is below acceptable standards; water is not used by the locals for drinking. Repairs are erratic and not reliable.* ***Average*** *– Basic services are reliable and do not break down often but, in cases of crisis, a response cannot be guaranteed. Quality of some services is questionable, e.g. water is not used by the locals for drinking. Basic response when services are disrupted.* ***High*** *– The provision of basic services is continuous and of good quality. In case of breakdowns, repairs are carried out within a reasonable timeframe and advance notice is given of any interruption to services.*	
Confidence Evaluation	
1.3.1 Confidence in hazard identification ***Confidence ratings:*** ***Low*** *– Information is limited in quantity and quality, with very few reliable sources and little or no corroboration.* ***Average*** *– Information is based on a couple of sources, is generally felt to be accurate and there is some corroboration across sources.* ***High*** *– Information is of high quality, obtained from several reliable sources and is generally corroborated, or is the current situation.*	

Preparedness	
2.1.1 Risk assessment ***Preparedness ratings:*** ***Zero*** *– No risk assessment and contingency plan.* ***Low*** *– Risk assessment and/or contingency plan partially developed.* ***Average*** *– Both assessment and contingency plan developed and personnel have been trained but no dedicated resources (financial and human) for full implementation and no regular updates (not reviewed or maintained).* ***High*** *– Full risk assessment conducted and fed into a comprehensive contingency plan. Personnel trained, resources dedicated for implementation and regular reviews carried out.*	
2.1.2 Identification of facility ***Preparedness ratings:*** ***Zero*** *– No identification signs.* ***Low*** *– Some identification signs displayed, need for more signage acknowledged.* ***Average*** *– Some identification signs displayed and geographic coordinates shared with some parties to the conflict but not all.* ***High*** *– Visible identification signs displayed and geolocation shared with all parties to the conflict.* ***N/A*** *– Not applicable to this situation (where there are strong reasons not to identify a health-care facility, this indicator is not applicable).*	
2.1.3 'No-weapons' policy ***Preparedness ratings:*** ***Zero*** *– No signs displayed.* ***Low*** *– 'No weapons' signs displayed.* ***Average*** *– 'No weapons' signs displayed and staff trained in how to apply this policy and what to do in difficult circumstances.* ***High*** *– 'No weapons' signs displayed, staff trained and the policy communicated and explained to all parties to a conflict and other relevant local organizations and individuals.* ***N/A*** *– Not applicable to this situation.*	
2.1.4 Perception review ***Preparedness ratings:*** ***Zero*** *– No communication.* ***Low*** *– Sporadic dialogue with the local community. No communication with parties to the conflict.* ***Average*** ***–*** *Some communication with some parties to the conflict and local community but not all stakeholders.* ***High*** *– Systematic and continuous communication with all parties to the conflict and the local community.* ***N/A*** *– Not applicable to this situation (where there are strong reasons not to communicate with parties to the conflict, local authorities, or communities, or to conduct the perception assessment, this indicator is not applicable).*	
2.1.5 Fire protection ***Preparedness ratings:*** ***Zero*** *– No measures in place.* ***Low*** *– There are some fire extinguishers/hydrants, but their maintenance is not systematically monitored and there are no overall fire protection and evacuation plans. Little or no contact with firefighters and no drills are performed.* ***Average*** *– Some measures implemented based on a fire protection and evacuation plan, e.g. fire extinguishers/hydrants and smoke detectors may be installed but they are infrequently maintained. Risk areas are identified. No drills or training for staff. No communication with fire department.* ***High*** *– The facility has appropriate fire-control plans and measures in place and staff are trained. There are also fire-detection mechanisms in place, which are inspected regularly. There is good communication with local firefighters and they are aware of the layout of the health-care facility.*	
2.1.6 Security monitoring ***Preparedness ratings:*** ***Zero*** *– No monitoring system in place.* ***Low*** *– Some monitoring takes place, but covers only a small percentage of the facility.* ***Average*** *– There is a monitoring process, including how to report incidents, but lack of resources means the degree of monitoring is not sufficient.* ***High*** *– Systematic monitoring of the facility for the duration necessary. Staff have been trained and clear incident-reporting procedures are in place.*	

Media and People	
2.2.1 Media strategy ***Preparedness ratings:*** ***Zero*** *– No media strategy exists.* ***Low*** *– Basic media procedures exist but spokesperson has not been nominated and there is limited contact with the media.* ***Average*** *– Media strategy exists, spokesperson has been assigned but not trained.* ***High*** *– Media strategy exists, qualified spokesperson assigned and all staff informed of the procedures. Active measures implemented to fully engage stakeholders.* ***N/A*** *– Not applicable to this situation (when engaging with the media is impossible, or compromises the security of the facility, this indicator is not applicable).*	
Patients and Relatives	
2.3.1 Accommodating needs of patients' relatives ***Preparedness ratings:*** ***Zero*** *– The needs of patients' relatives are not considered.* ***Low*** *– Very limited space for relatives. Staff are not trained to deal with them. Regular incidents of assault (verbal, physical) against health-care personnel reported.* ***Average*** *– Limited space exists for relatives; toilets, hygiene facilities and the availability of food options have been accounted for. Incidents of assault (verbal, physical) against health-care personnel have been reported.* ***High*** *– Appropriate space dedicated for relatives; toilets, hygiene facilities and the availability of food options have been accounted for. Incidents of assault (verbal, physical) against health-care personnel reported and staff are trained how to deal with relatives of patients.* ***N/A*** *– Not applicable to this situation (in a health-care facility where patients and their relatives cannot, or do not need to stay for long periods, this indicator is not applicable).*	
2.3.2 Management of patient information ***Preparedness ratings:*** ***Zero*** *– No procedures to deal with patient information and personnel not trained.* ***Low*** *– Limited procedures to deal with patient information established but personnel haven't been trained. Emergency situations have not been addressed.* ***Average*** *– Procedures to deal with patient information established (including in emergency situations), personnel have been informed. No back-up system in place.* ***High*** *– Comprehensive procedures to deal with patient information established, systematic training of personnel and back-up system in place.*	
Staff and Equipment	
2.4.1 Surge capacity ***Preparedness ratings:*** ***Zero*** *– No plans concerning surge capacity.* ***Low*** *– Limited procedures exist but staff are not informed and there is a lack of resources.* ***Average*** *– Procedures exist and personnel have been trained but resources (HR, equipment) are not adequate to scale up the capacity during emergencies.* ***High*** *– Procedures exist, personnel have been trained and there is enough staff to meet anticipated needs in an emergency. Records of extra equipment are available and up-to-date, and special arrangements in terms of logistics have been made.*	
2.4.2 Stocks of medicines and instruments ***Preparedness ratings:*** ***Zero*** *– No overview of what medicines are needed, or in what quantities, or what is currently available in the facility.* ***Low*** *– An overview of currently available medicines exists but there are no procedures to monitor and secure the availability of crucial medicines and medical instruments in an emergency. Staff are not informed or trained.* ***Average*** *– There is a system in place that identifies and monitors the quantity of essential medical items that should always be available. People have been trained and assigned to identifying when stock levels drop. There are only enough stock and supplies to last 72 hours in an emergency.* ***High*** *– There is a system in place that identifies the crucial items that should always be available. People have been trained to identify when stock levels drop and how to order more items. The facility's stock of medical items would allow it to operate beyond 72 hours (either by keeping more items in stock, or by having reliable suppliers).*	

2.4.3 Storage of supplies ***Preparedness ratings:*** ***Zero*** *– Currently no storage capacity.* ***Low*** *– Limited storage capacity available but no measure to secure it.* ***Average*** *– Storage facilities exist, so essential medical items and other supplies will be available during emergencies, and some measures in place to secure them.* ***High*** *– Storage facilities, so essential medical items and other supplies will be available during emergencies, and measures are in place to secure them against unauthorized entry. The storage facilities are monitored and properly maintained. Personnel trained accordingly. Supplies are strategically placed to ensure they are accessible to the relevant people at all times.* ***N/A*** *– Not applicable to this situation (where extra storage of supplies is not necessary to maintain the daily operations of the health-care facility, or when the health-care facility is located within the supply chain, this indicator is not necessary).*	
Relocation	
2.5.1 Suitability of relocation ***Preparedness ratings:*** ***Zero*** *– No assessment of the new location and no plan for potential relocation developed.* ***Low*** *– Limited assessment of a new location conducted but no risk mitigation in place, nor systematic preparation for the relocation.* ***Average*** *– Assessment of the new location carried out and plan for relocation developed.* ***High*** *– Comprehensive assessment of a new location carried out, including a strategy to mitigate risk during the move, and the availability of essential infrastructure determined. Relocation plan developed based on the assessment of which medical services will be prioritized. Logistical arrangements in place.* ***N/A*** *– Not applicable to this situation (where a health-care facility will never be in a position to relocate owing to its function, other nearby facilities, etc., this indicator is not applicable).*	
2.5.2 Evacuation to new location ***Preparedness ratings:*** ***Zero*** *– No evacuation procedures in place.* ***Low*** *– Plan exists but only on paper.* ***Average*** *– Plan exists, and personnel have been informed but no drills have been conducted. There are limited resources to help facilitate the move.* ***High*** *– Plan exists, personnel have been trained and evacuation drills have been held. Resources to help relocate have been identified and obtained.* ***N/A*** *– Not applicable to this situation (where a health-care facility will never be in a position to relocate owing to its function, other nearby facilities, etc., this indicator is not applicable).*	
Access	
2.6.1 Access routes ***Preparedness ratings:*** ***Low*** *– there is only one route to and from the health-care facility.* ***Average*** *– Alternative access routes have been identified.* ***High*** *– Alternative routes have been identified and are included in assessments and planning. The quality of such routes has been determined. Where appropriate, local authorities have been approached to discuss the use of these routes.*	
2.6.2. Access for health personnel and ambulances ***Preparedness ratings:*** ***Zero*** *– No specific procedures to facilitate access by health-care personnel and medical transport.* ***Low*** *– Procedures for access by staff and medical transport implemented but only on an ad-hoc basis.* ***Average*** *– Special procedures for access by staff and medical transport in place.* ***High*** *– Special procedures for access by staff in place and separate entrance available. Personnel have been informed and trained. Identification and other necessary measures introduced.* ***N/A*** *– Not applicable to this situation (where health-care facilities do not need specific or alternative routes in or out, owing to their size or function, e.g. there is no ambulance service, this indicator is not applicable).*	

2.6.3 Secure supplier resources ***Preparedness ratings:*** ***Zero*** *– Dependence on an unreliable supplier and no measures in place to mitigate the risks.* ***Low*** *– No special procedures for emergency situations and only one supplier.* ***Average*** *– Reliance on a supplier but alternatives identified and procedures to use those suppliers have been drafted.* ***High*** *– Reliance on multiple suppliers and comprehensive plan for continued supply in emergencies set up with relevant parties, e.g. suppliers, authorities, humanitarian organizations, etc.*	
Managing Access and Control	
3.1.1 Safety of internal and external lighting systems ***Preparedness ratings:*** ***Zero*** *– There is no lighting.* ***Low*** *– Internal and external lighting systems are in poor condition and aren't reliable, and there are no protective measures.* ***Average*** *– Lighting is in fair condition and is normally reliable, providing the light needed; some measures provide partial protection.* ***High*** *– Lighting system is in good condition, reliable and provides adequate lighting. Measures in place to secure it. Sufficient stock of necessary spare parts, and back-up plans are in place.*	
3.1.2 Safety of perimeter fence ***Preparedness ratings:*** ***Zero*** *– No fence/perimeter wall.* ***Low*** *– Existing fence/perimeter wall is partially damaged, or encompasses only part of the facility, thus impeding the facility's daily operations.* ***Average*** *– Existing fence/perimeter encompasses entire compound, where needed. The fence is not completely effective because it is partially damaged, or is not high enough.* ***High*** *– A good-quality perimeter wall or fence exists, and is in good condition, as the material it is made from and its height are fit for purpose. The fence is regularly maintained and any damage is fixed in a timely manner.* ***N/A*** *– Not applicable to this situation (where a health-care facility does not need a perimeter fence because of its location or function, or when the facility is within another facility, this indicator is not relevant).*	
3.1.3 Safety of gates and entrances ***Preparedness ratings:*** ***Zero*** *– No security screening infrastructure at entrances, i.e. no barriers.* ***Low*** *– The existing barriers are in poor condition; they do not function properly, so only limited security screening is carried out.* ***Average*** *– Entrance barriers are in good condition and normally reliable but are not suitable for a large influx of people.* ***High*** *– Gates and entrances in good and reliable condition and maintained regularly. Systematic security screening carried out by trained staff. Emergency procedures are available and the infrastructure in place can manage a massive influx of people during emergencies.* ***N/A*** *– Not applicable to this situation (where the health-care facility does not require specific screening procedures owing to its location or otherwise, this indicator is not relevant).*	
Structure	
3.2.1 Condition of the building ***Preparedness ratings:*** ***Zero*** *– No maintenance, i.e. multiple holes in the building, dampness and damage due to severe weather.* ***Low*** *– Quite extensive signs of deterioration registered: cracks in some of the walls, dampness, etc. Limited maintenance carried out.* ***Average*** *– Some deterioration caused most likely by weather. Internally, the building is generally well maintained. Maintenance carried out.* ***High*** *– No deterioration or cracks observed. Exterior has not been affected by weather and building is in good condition internally. Systematic maintenance carried out.*	

3.2.2 Structural integrity ***Preparedness ratings:*** ***Low*** *– Poor structural system: cracks on the ground and first floors, construction materials showing flaking, cracks larger than 3mm (concrete), excessive warping (steel and wood).* ***Average*** *– Reasonable structural system design. Some damage to building and only partially repaired; presence of cracks between 1 and 3mm (concrete), moderate and visible warping (steel and wood), or rust with no flaking.* ***High*** *– Good structural system design. Minor, or no damage and building fully repaired after damage; cracks less than 1mm (concrete), no visible warping, no rust.*	
3.2.3 Material ***Preparedness ratings:*** ***Low*** *– Weak construction materials, such as wood, bamboo, tarpaulins, tents, etc.* ***Average*** *– Buildings constructed from robust materials, such as concrete and masonry.* ***High*** *– Robust construction materials, such as masonry and reinforced concrete with built-in fire protection. Roof is strong and thick enough to ensure stray bullets (if these are an issue) do not penetrate it.*	
3.2.4 Passive security measures ***Safety levels:*** ***Zero*** *– Safe areas not identified.* ***Low*** *– Safe areas identified but are not suitable, or adequate for the facility.* ***Average*** *– Safe areas identified and staff are trained. Equipment is limited, however, so there are few procedures for how and when they should be used.* ***High*** *– Safe areas identified and set up in a facility with all the necessary equipment and infrastructure (e.g. ventilation, etc.). Staff trained and procedures in place on the use of these areas.* ***N/A*** *– Not applicable to this situation (where the facility comprises only one unit and so is too small for a separate safe area, or the need for such is irrelevant to the context of the facility, this indicator is not applicable).*	
Layout	
3.3.1 Distribution of critical areas ***Safety levels:*** ***Zero*** *– Critical areas are not identified, so no protective measures in place.* ***Low*** *– Critical areas identified but no protective measures in place.* ***Average*** *– Limited measures in place to protect critical areas (e.g. security fencing or locked doors), but little or no staff vigilance over these areas.* ***High*** *– Comprehensive measures in place to secure critical areas (e.g. specific fencing around, or secured doors to these areas, monitoring system in place, etc.). These areas are situated in the core of the building, not easily accessible through windows, or via external doors.*	
3.3.2 Facility layout: spread v. concentrated ***Preparedness ratings:*** ***Spread*** *– Services are divided among smaller, single-story, separate buildings within the plot.* ***Medium Concentration*** *– Large, low-rise buildings, with a medium density of equipment and users per ground-floor area.* ***Concentrated*** *– All the services (health-care and support services) are concentrated in a single (multi-story) building. Large-scale buildings with a high concentration of equipment and people.*	
3.3.3 Existence of free space ***Preparedness ratings:*** ***Zero*** *– No free space available.* ***Low*** *– Space for expansion has not been planned for specifically but potentially some areas could be used for this purpose.* ***Average*** *– Space has been identified and it is enough to allow a significant extension of activities.* ***High*** *– Space is identified, and it is big enough to accommodate a surface equivalent of the existing number of beds. Overview of what resources and equipment are readily available. Procedures exist and have been tested, personnel have been trained, and equipment, supplies and other resources are available to expand the space.* ***N/A*** *– Not applicable to this situation (where the health-care facility does not require additional space to continue daily operations in an emergency, this indicator is not applicable).*	

3.3.4 Location of valuable assets ***Preparedness ratings:*** ***Zero*** *– No consideration given to valuable assets.* ***Low*** *– Not all valuable assets are identified and limited measures in place to protect some valuable assets.* ***Average*** *– Valuable assets are stored in places where there are some protective measures.* ***High*** *– Valuable assets are stored in locked rooms, and in areas within the facility that have higher levels of protection in case of partial destruction of the facility.* ***N/A*** *– Not applicable to this situation (where the health-care facility consists of only one asset, or has no valuable assets other than the unit itself, this indicator is not relevant).*	
Exposure	
3.4.1 Openings: windows ***Preparedness ratings:*** ***Zero*** *– Broken or no windows (e.g. just holes in the wall).* ***Low*** *– Windows in poor condition, the frames are made of weak material and can be easily damaged. There are no protection measures.* ***Average*** *– Windows in fair condition, working properly and not easily damaged. The material, hinges and security measures of the windows have been considered and some protection measures have been implemented.* ***High*** *– Windows in good condition, not damaged and working properly. The material and hinges are sound, and comprehensive security measures are in place. Film or grilles have been applied to exterior windows (where possible, or appropriate). Extra measures in place in critical areas.*	
3.4.2 Openings: doors ***Preparedness ratings:*** ***Zero*** *– There are no doors (open-plan).* ***Low*** *– Doors are in poor condition – they are damaged, made of weak material and do not function properly.* ***Average*** *– Most doors in fair condition; the doors to critical areas or rooms are made of good-quality material and have good handles/locks. All doors are functioning properly.* ***High*** *– All doors are in good condition, made of good material and security procedures are in place to enhance protection from unauthorized entry. Critical areas have more security measures.*	
3.4.3 Exposure of the building ***Preparedness ratings:*** ***Zero*** *– All critical areas are exposed to risks.* ***Low*** *– Most façades and windows are completely exposed and facing an open exterior area.* ***Average*** *– Most façades and windows facing exterior areas are partly covered or protected (by other buildings, shutters, etc.).* ***High*** *– Most parts of the facility (especially the critical areas) are not exposed to the exterior, or special security measures are in place to protect all openings facing the exterior. (For example: low-rise buildings protected by high walls, or most ward windows face inner courtyards.)*	
3.4.4 Standoff distance ***Preparedness ratings:*** ***Zero*** *– The main walls surrounding a facility are directly exposed to the outside.* ***Low*** *– Limited (<10m) distance between the closest building and the perimeter of the facility.* ***Average*** *– There is a 30m standoff distance but no, or weak fence.* ***High*** *– Standoff distance is more than 30m and the perimeter consists of a solid wall (e.g. masonry or concrete wall).* ***N/A*** *– Not applicable to this situation (where the health-care facility is located within other facilities, or is so small there is no need for a standoff distance, this indicator is not relevant).*	
3.4.5 Protection of risk areas ***Preparedness ratings:*** ***Zero*** *– No consideration of critical areas.* ***Low*** *– Critical areas are identified and limited protective measures implemented.* ***Average*** *– Critical areas have been identified and protection measures are in place but are limited (owing to lack of resources). Monitoring for critical assets in place.* ***High*** *– Critical areas are properly secured. Procedures to deal with emergencies included in the overall contingency plan.* ***N/A*** *– Not applicable to this situation (where health-care facilities consist of only one specific asset, or have no risk areas, this indicator is not relevant).*	

Internal Circulation	
3.5.1 Safety of movement ***Preparedness ratings:*** ***Zero*** *– Corridors and circulation areas do not exist but are needed.* ***Low*** *– Corridors are narrow and full of obstacles, which makes access and movement difficult. Access to various rooms is difficult for wheelchairs or stretchers.* ***Average*** *– Corridors and circulation areas are clear of physical obstacles. There are clear and visible signs around and within the health-care facility, including in unauthorized areas. Most areas within the facility have only one access route.* ***High*** *– Corridors are at least two stretchers wide and do not have any physical obstacles to hinder movement. There are clear and visible signs around and within the facility, including in unauthorized areas.* ***N/A*** *– Not applicable to this situation (where there are no corridors, or patients or staff don't need to move around the facility, or when the facility is small and consists of just one room, this indicator is not relevant).*	
3.5.2 Safety of stairways ***Preparedness ratings:*** ***Zero*** *– Stairs cannot be used owing to damage or physical obstacles.* ***Low*** *– Stairs are damaged, or prone to damage, and no maintenance is conducted. Physical obstacles hamper movement.* ***Average*** *– All stairways are equipped with railings and are generally in good condition. They are not inspected or maintained regularly.* ***High*** *– The stairs are not damaged and are wide enough for the needs of the facility. Stairs are fitted with railings. There are no obstacles in the way. Stairs in high-traffic areas are inspected regularly.* ***N/A*** *– Not applicable to this situation (where the health-care facility does not have stairs, this indicator is not relevant).*	
3.5.3 Safety of the elevator system ***Preparedness ratings:*** ***Zero*** *– Elevators are not functioning.* ***Low*** *– Elevators are damaged and they function intermittently.* ***Average*** *– Elevators are functioning and are maintained regularly.* ***High*** *– Elevators are functioning well. They are maintained regularly and measures are in place to protect them from any potential damage. Personnel informed about the restrictions on their use during emergencies.* ***N/A*** *– Not applicable in this situation (where the health-care facility does not have elevators, this indicator is not relevant).*	
3.5.4 Evacuation routes ***Preparedness ratings:*** ***Zero*** *– No exit and evacuation routes available.* ***Low*** *– Exit and evacuation routes are not clearly marked and are blocked.* ***Average*** *– Some exit and evacuation routes are marked and most of them are clear of physical obstacles.* ***High*** *– Exit and evacuation routes clearly marked and free from physical obstacles. Personnel are aware of the routes. Drills and training are conducted frequently.*	
Self-sufficiency and Safety of Basic Infrastructure	
3.6.1 Safety of telecommunications systems ***Preparedness ratings:*** ***Zero*** *– No communication system.* ***Low*** *– Communication equipment is in poor condition, unreliable and has no protective measures. There is no alternative communication system, or it does not work.* ***Average*** *– Communication equipment is in fair condition, with limited protective measures. Communication system is generally reliable. Limited back-up system in place but personnel are not trained.* ***High*** *– Communication equipment is in good condition, is regularly maintained and protective measures are in place. A back-up communication system is in place and maintained regularly. Staff are informed and well-trained.*	

3.6.2 Safety of water supply ***Preparedness ratings:*** ***Zero*** *– No water supply.* ***Low*** *– Water infrastructure is in poor condition and/or poorly maintained. Reserve of less than a day (based on average daily usage of 50–80 litres per bed*). Water quality is lower than the local average.* ***Average*** *– Current infrastructure is in good condition and regularly maintained. Reserve of between one and three days. Water quality is similar to local standards.* ***High*** *– Current infrastructure is in good condition and regularly maintained. Water meets recognized standards of quality. Back-up available to provide at least three days of water to all critical areas. Plans for rationalization of consumption exist and the relative infrastructure is in place.*	
3.6.3 Safety of electrical equipment ***Preparedness ratings:*** ***Zero*** *– The existing electrical network is severely deficient.* ***Low*** *– Power supply is not stable. The internal electrical network is in poor condition and presents various risks (switchboards in bad state and not protected, cables and mains connections exposed). There is no back-up system for power and generator is in poor condition (if generator is available).* ***Average*** *– The overall condition of the network is acceptable and works well under normal conditions. The main elements are protected (switchboards, connections, transformers, etc.) Alternative sources are not fully stable but will cover the minimum needs of the critical areas and kick in automatically. Generators are in fair condition, protected and occasionally tested.* ***High*** *– Main network elements are well-protected (buried cables, locked boxes for switchboard, etc.). The network is documented and maintenance plans exist. Back-up systems exist and will activate automatically in an emergency; they are well-maintained and will ensure continuity of service. Generators function without any disruptions and are protected and tested frequently.*	
3.6.4 Safety of medical-waste disposal ***Preparedness ratings:*** ***Zero*** *– Disposal of medical waste is currently inadequate and there is no back-up plan.* ***Low*** *– The existing infrastructure is acceptable for the current situation but there are no back-up plans for the disposal of medical waste.* ***Average*** *– The existing infrastructure is in good condition. There is a back-up plan but resources for implementing it are limited and staff are not trained.* ***High*** *– Existing infrastructure is in good condition. There is a workable back-up plan to dispose of medical waste and personnel are trained in regular and emergency procedures.*	
3.6.5 Safety of sewage disposal ***Preparedness ratings:*** ***Zero*** *– Current wastewater management is not adequate for the facility.* ***Low*** *– Current system is in an acceptable condition but no back-up plans to dispose of wastewater safely.* ***Average*** *– The current infrastructure is in good condition and is secure. There is no back-up plan, but current system can handle an increase in capacity. Personnel are partially trained in case of emergency.* ***High*** *– The current infrastructure is in good condition and is secure. There is a back-up plan to dispose of wastewater, and personnel are trained. The back-up infrastructure is in place and well-maintained.* ***N/A*** *– Not applicable to this situation (where a health-care facility is within another facility that manages sewage disposal, or the facility does not produce wastewater, this indicator is not relevant).*	
3.6.6. Safety of storage and evacuation of dead bodies ***Preparedness ratings:*** ***Zero*** *– Regular process to dispose of dead bodies does not meet the demands of the facility.* ***Low*** *– Procedures for dealing with mass-casualty incidents do not exist, or exist only on paper.* ***Average*** *– A system for mass-casualty incidents exists but resources are insufficient to ensure it can function adequately.* ***High*** *– Procedures and system for mass-casualty incidents exist and there are sufficient resources to implement them. Personnel have been trained.* ***N/A*** *– Not applicable to this situation (where management of dead bodies is not part of the daily operations of the facility, this indicator is not relevant).*	

GLOSSARY

Dashboard: The Excel application associated with this manual presents the results of the survey in graphic form, as a dashboard. The dashboard comprises four parts: 1. Facility Preparedness; 2. Priority of Interventions; 3. Qualitative Overview; and 4. Quantitative Overview of the Overall Survey Results. All four sections are explained in Part 3 of this manual.

Evaluation: In this manual, the word evaluation is used in relation to the confidence of the assessor in his or her definition of the level of risks to which the health-care facility is exposed.

Exposure: This is a key concept in this survey. It is the factor (or combination of factors) that represents the impact of a given hazard on the health-care facility's operations. In this manual, it refers both to external and internal factors. The former includes external elements on which the facility may depend, such as essential services (water, power, sewage, fire response, etc.). The latter refers to the actual configuration of the facility and how this has a bearing on the impact of a given hazard.

Facility: Any type of health-care facility can take this survey – even temporary or mobile structures. It is up to the assessor to make judgements and adapt the scoring to the specific features of the facility he or she is assessing. However, given the simplified nature of this assessment, small and medium-sized facilities are best suited to this methodology. A capacity of 100 beds is a good threshold. Bigger facilities can also be surveyed. They must simply be partitioned into meaningful sections so that scores are not flattened out to an average value but the issues relevant for each section can still be recorded.

Hazard: This term is used in the sense of 'source of risk', which may cause a disruption of the capacity of the health-care facility to accomplish its mission of providing care to those in need.

Heavy weapons: One of the three hazards identified in the general risk analysis to be performed. Refer to Part 2, Module 1 for a detailed explanation.

Indicator/Item: In this survey, these terms are used synonymously. They are the actual survey questions that must be answered in order get the results required. Each indicator/item explores an issue deemed relevant to the preparedness level of the facility. Indicators are further grouped into Categories and Domains.

Infrastructure: One of the two domains. It encompasses everything relating to the physical structure of the health facility, whether it is a temporary or permanent structure.

Intrusion: One of the three hazards identified in the general risk analysis to be performed. Refer to Part 2, Module 1 for a detailed explanation.

Likelihood: Qualitative measure of the estimated probability of a certain hazard occurring. It is the key measure of the initial risk assessment embedded in the survey. Its importance is clear from the fact there are dedicated questions designed to cross-check the confidence of the assessor in their estimates of the likelihood of hazards occurring.

Manual: The manual, together with the associated Excel application, constitutes the Security Survey for Health Facilities.

Mass influx: One of the hazards identified in the general risk analysis to be performed. Refer to Part 2, Module 1 for a detailed explanation.

Methodology: The specific process used in this survey to analyse the information from the questionnaire and produce the final results. It involves the implementation of a framework to assess vulnerability by aggregating the results by means of a compensatory measure (preparedness) based on the user's own ordinal measurement (score) and an embedded expert-agreed weighting.

Management: One of the two domains. It encompasses everything relating to the procedures and practices followed to prevent disruption of services.

Preparedness: The single measure describing the level to which the facility is prepared to deal with the risk(s) to which it is exposed.

Scenario/score: The term scenario is used in this manual to describe the possible configurations that best fit the answer to each indicator. The scenario incorporates the features that constitute the specific indicator, and the related scores that can be applied go from 'zero' to 'high', via intermediate steps.

Survey: The term survey is used in this manual to refer to the entire process described. It is used in the same way as assessment.

Vulnerability: This survey implements a methodology that assesses vulnerability. The process as a whole seeks to identify the issues that can be addressed in order to lessen the vulnerability of the facility as much as possible. The section of this manual on methodology explains the distinction between Net Vulnerability and Total Vulnerability and their relation to Preparedness.

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International Committee of the Red Cross
19, avenue de la Paix
1202 Geneva, Switzerland
T +41 22 734 60 01
shop.icrc.org

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