

# INGRID

DISABILITY INCLUSION IN HOSPITAL DISASTER RISK MANAGEMENT



Pan American  
Health  
Organization



World Health  
Organization  
REGIONAL OFFICE FOR THE Americas



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# PREFACE

**INGRID-H**— Disability Inclusion in Hospital Disaster Risk Management —is an “evaluation - action” methodology intended to improve the level of inclusion of people with disabilities in health disaster risk management, particularly in hospital preparedness and response to emergencies and disasters.

This technical resource is developed in three chapters. Chapter 1 highlights the objectives of INGRID-H, the limits of the study and the methodology used for its calculation. Chapter 2 corresponds to a necessary conceptualization of Inclusion for Disaster Risk Management (INGRID), its principles and its operational framework. Chapter 3 focuses on the methodological cycle for the application of INGRID-H, which allows the development of a step-by-step process based on three phases:

The first is **evaluation**, in which a baseline is established on the current level of inclusion of people with disabilities in hospital response preparedness for emergencies and disasters, and leads to the creation of an action plan for the continuous improvement in inclusion for disaster risk management.

The second phase is **implementation**, which is divided into three steps:

- a) Visibility and participation activities, that aim to improve in the short term (30 days) visibility and representation of people with disabilities in the hospital.
- b) Autonomy activities, that aim to improve at the medium- and long-term conditions that allow people with disabilities to perform autonomously in the hospital.
- c) Strengthening response capacity activities, that aim to improve preparedness for response, particularly the updating of procedures in the hospital plan for response to emergencies and disasters, so that it includes the specific needs of people with disabilities.

The third phase is **verification**, where actions are established with the objective of assessing the disability variable in the hospital emergency and disaster response plan, through inclusive simulation exercises and simulations.

The implementation of INGRID-H will not only contribute to the fulfillment of the rights of people with disabilities, but will also contribute to the efforts of the countries to have a safer, more inclusive and resilient health sector.







# ACKNOWLEDGMENTS

The “Disability Inclusion in Hospital Disaster Risk Management” (INGRID-H) methodology was developed and carried out through a participation process, focused on the rights and needs of people with disabilities in emergency and disaster situations.

The Pan American Health Organization would like to acknowledge all the people and organizations that participated in this process, and those who have directly intervened in the revision of the INGRID-H methodology.

Special mention goes to the professionals from Chile, Ecuador and Mexico who participated in the pilot and revision phases, at the following hospitals:

CHILE: Ministry of Health of Chile  
Dra Eloiza Diaz de la Florida Hospital  
Peñaflor Hospital

ECUADOR: Ministry of Public Health  
Enrique Garcés Hospital  
Ambato Teaching General Hospital  
Riobamba Teaching General Hospital  
San Vicente de Paúl Hospital  
Hospital for Comprehensive Care of Older Adults  
Albert Gilbert Pontón Hospital

MÉXICO: Mexican Social Security Institute\*  
Specialties Hospital  
Oncology Hospital  
Cardiology Hospital  
Pediatrics Hospital

\* Siglo XXI National Medical Center. High specialty medical units

The development of this methodology and its tools, as well as the implementation of solutions in the pilot phase, has been possible thanks to the financial support of the Department of Health and Human Services of the United States (HHS).

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# ACRONYMS

**CRPD:** Convention on the Rights of Persons With Disabilities

**ICF:** International Classification of Functioning, Disability and Health

**INGRID (formerly DIRR):** Disability Inclusion in Disaster Risk Management (Spanish acronym for *Inclusión para la gestión del riesgo de desastres*)

**INGRID-H:** Disability Inclusion in Hospital Disaster Risk Management (Spanish acronym for *Inclusión para la gestión del riesgo de desastres en hospitales*)

**PAHO/WHO:** Pan American Health Organization / World Health Organization

# Glossary of TERMS

**Accessibility.** The combined constituents of the constructed space that allow for access, movement, and use by people with disabilities. This includes modifications of furniture to meet the needs of people with different types and degrees of disability (1).

**Accessible emergency route.** The uninterrupted and obstacle-free evacuation path that provides a route from any point of a building to a public street. It includes vertical and horizontal paths and safe areas (10).

**Autonomy.** A condition that allows persons with disabilities to perform actions independently, without the physical or communications environment being a source of vulnerability during a disaster.

**Capacity.** The combination of all the strengths, attributes and resources available within a community, society, or organization that can be used to achieve agreed goals (2).

**Chain of accessibility.** The set of elements that, as the user interacts with the constructed environment, permit the activities planned in that environment to take place—in other words, the elements that allow movement from a starting point to a destination to unfold smoothly and without a break for all people (4).

**Disability.** Refers to impairments, activity limitations, and participation restrictions. Disability is the interaction between individuals with a health condition (e.g. cerebral palsy, Down syndrome and depression) and personal and environmental factors (e.g. negative attitudes, inaccessible transportation and public buildings, and limited social supports) (5).

**Disaster risk management.** The systematic process of using administrative directives, organizations, and operational skills and capacities to implement strategies, policies, and improved coping capacities in order to lessen the adverse impacts of hazards and the possibility of disaster (2).

**Disaster.** A serious disruption of the functioning of a community or a society involving widespread human, material, economic or environmental losses and impacts, which exceeds the ability of the affected community or society to cope using its own resources (2).



**Hospital emergency and disaster committee.** This is the body within a hospital that is responsible for articulating, directing, evaluating, and coordinating the hospital's activities before, during, and after an emergency or disaster, with the participation of all of the staff—also known as the emergency risk management committee (6).

**Hospital emergency and disaster response plan.** A hospital's documented multi-hazard plan to respond to emergencies and disasters that has been systematically examined and updated, and that defines the measures to be taken before, during, and after any type of emergency or disaster that the hospital may face (6).

**Inclusive risk management.** Management activities that address and attempt to correct or reduce existing disaster risk, taking into account population groups in conditions of vulnerability (2).

**International Classification of Functioning, Disability and Health (ICF).** The ICF classifies and codes disabilities based on the impairments, activity limitations, and participation restrictions associated with them (5).

**Performance level.** This refers to the outcomes that show the dynamism of people's activities regardless of their capacities (8).

**Person with disabilities.** Any person with a physical, mental, or sensory deficiency, whether permanent or temporary, that limits the capacity to perform one or more essential everyday activities, and that can be caused or aggravated by the economic or social environment (5).

**Rebuilding.** Medium- or long-term sustainable reconstruction and restoration of the vital infrastructure, services, dwellings, facilities, and livelihoods necessary for the full functioning of a community or society affected by a disaster, following the principles of sustainable development and “rebuilding better” in order to prevent or reduce the risk of future disasters (2).

**Recovery.** Recovery or improvement of livelihoods and health, as well as the goods, systems, and activities (economic, physical, social, cultural, and environmental) of a community or society affected by a disaster, following the principles of sustainable development and “rebuilding better” in order to prevent or reduce the risk of future disasters (2).

**Rehabilitation.** Reestablishment of the basic services and facilities needed for the functioning of a community or society affected by a disaster (2).

**Response.** The provision of emergency services and public assistance during or immediately after a disaster in order to save lives, reduce health impacts, ensure public safety and meet the basic subsistence needs of the people affected (2).

**Risk management.** The systematic approach and practice of managing uncertainty to minimize potential harm and loss (2).

**Risk.** The combination of the probability of an event and its negative consequences (2).

**Signage.** This is the information provided for orientation and information, whether in auditory, visual, symbolic, or tactile form (11).

**Technical aids.** Technological and material devices that make it possible to enable, rehabilitate, or compensate for one or more functional, motor, sensory, or intellectual limitation of persons with disabilities (3).

**Threat.** A human process, phenomenon, or activity that can cause death, injury, other health effects, damage to goods, social disruption, or economic or environmental harm (2).

**Universal design.** The concept of creating products and environments designed to be usable by all people to the greatest extent possible, without need of adaptation or specialization (7).

**Visibility.** In order to conceptualize the dimensions involved in analyzing Disability Inclusion in Disaster Risk Management (INGRID), visibility is defined as an organization's ability to identify, recognize, and arrange for the specific needs of persons with disabilities.

**Vulnerability.** The characteristics and circumstances of a community, system, or material asset that makes it vulnerable to the harmful effects of a hazard (2).



# INTRODUCTION

The impact of disasters is greater in the Western hemisphere than anywhere in the world except the Asian continent. Around a quarter (21%) of all disasters occurring in the world between 2008 and 2017 took place in the Region of the Americas, creating 254,334 victims, and causing damage equivalent to approximately US\$592 billion. The most common events were water- and weather-related, representing 6% of deaths and 79% of injuries in this period (12). In addition to hydrological and meteorological events, seismic activity, volcanic eruptions, landslides, and events such as fires and social disturbances, among others, can have major effects on populations, infrastructure, and elements such as health services, which are essential for providing care during and after emergencies and disasters.

The Sendai Framework for Disaster Risk Reduction 2015-2030 declares it urgent and essential to predict disaster risk, plan measures, and reduce risk in order to protect people. Moreover, risk reduction practices should reflect a broader preventive approach that considers hazards from multiple perspectives, such as multisectorality, inclusiveness, and accessibility; and they should focus on actions such as monitoring, evaluating, and understanding disaster risk (13). Similarly, comprehensive plans should be adopted that promote inclusion, efficient use of resources, mitigation of climate change, and resiliency in the face of disaster situations (14).

The purpose of the all-inclusive and accessible approach is to reduce the risks that disproportionately affect populations in conditions of vulnerability and, particularly, people with disabilities, as reflected in greater mortality, morbidity, and difficulty in disaster situations (15). The fact that people with disabilities are usually excluded from disaster risk management policy-making and planning (13) increases their vulnerability and creates difficulties in responding to victims after a disaster. For all of these reasons, efforts should be made to include people with disabilities and their families in disaster risk management, and greater emphasis should be placed on preparedness for emergency and disaster response, especially in essential areas like health.

It is essential to have health facilities whose services, in the immediate wake of an emergency or disaster, remain accessible, and whose operations remain functional at their maximum installed capacity with the facilities' usual infrastructure (6). This means that health workers should be prepared to respond to all types of threats, on the “leaving no one behind” prin-

ciple; this includes workers, patients and their family members, and victims of events, and relies on all of a facility's elements. Moreover, health facilities' infrastructure should make it possible for people with disabilities to go about their business autonomously, i.e., facilities should comply with regulations on universal access and universal design.

In supporting the efforts of the countries' health sectors to comply with article 11—"Situations of risk and humanitarian emergencies"—of the United Nations Convention on the Rights of Persons with Disabilities (CRPD), this document presents a methodology for fostering inclusiveness in hospital disaster risk management, with attention to the needs of persons with disabilities (16). The methodology has been titled Disability Inclusion in Hospital Disaster Risk Management, using the Spanish acronym INGRID-H.





# CHAPTER 1:

## Objectives, limitations, and methodology

### OBJECTIVES

The objective of INGRID-H is to improve the level of preparedness in hospitals for responding to emergencies and disasters due to any type of event (natural phenomena; biological, chemical, or radiological hazards; armed conflicts and other hazards of a social nature), with an emphasis on persons with disabilities in the hospital setting.

### SPECIFIC OBJECTIVES

- To facilitate the capacity of persons with disabilities to receive information, move, or evacuate themselves independently, without the physical or communications environment making them vulnerable to potential disasters (autonomy).
- To promote the strengthening of hospital capacities—by means of equipment, procedures, and trained personnel—to support persons with disabilities who are unable to act autonomously during an emergency or disaster.
- To identify critical points and decision-making, through an index that reflects health facilities' level of inclusion and establishes actions to create short-, medium- and long-term improvements.

### LIMITATIONS

The INGRID-H methodology is designed for health personnel working in disaster risk management, as well as personnel in public and private hospitals at the local, subnational, and national levels.

Although the methodology has been designed to reduce disaster risks for persons with disabilities working in health facilities, it also helps facilities address the needs of others, such as patients and visitors.

While INGRID-H was designed for use in hospitals with over 100 beds, it can also be applied to low-complexity health care facilities.

## METHODOLOGY USED IN DESIGNING INGRID-H

INGRID-H was designed with both qualitative and quantitative methods, and included:

- A review of literature on the rights, vulnerabilities, and specific needs of persons with disabilities during emergencies or disasters.
- Workshops with experts on disaster risk management and disability, in designing the evaluation variables and qualitative basis for measurement. These experts included persons with disabilities.
- Pilot studies at hospitals in Chile, Ecuador, and Mexico, which were used in completing the design.
- Set theory for quantitative assessment of the hospital disaster risk management index. The index is constructed based on a number of evaluation parameters (items), grouped and categorized in five areas: (1) visibility of persons with disabilities; (2) participation of persons with disabilities; (3) universal access; (4) response capacities developed; and (5) hospital emergency and disaster response plan.

Each item is evaluated—as to whether it is exclusive, probably inclusive, or inclusive—using parameters that have been established previously through qualitative means, with a specific weight given to each item, based on the evaluator’s observations.

In order to assure that the assessment of an item is located within one of the sets of results, an order of priority was first established for each evaluation parameter. For example, under “Visibility,” one of the items deals with the availability of information on persons with disabilities working in the institution. Within this item, the evaluation parameters included the availability of data such as age, gender, type of disability, workplace location, etc., and the parameters were ranked within the item and within the area of evaluation.

Finally, to calculate the overall index, each area and evaluation item was individually weighted by experts to determine its contribution to the overall value.



## CHAPTER 2:

# Inclusion in disaster risk management

Several ways of referring to the inclusion of people with disabilities have arisen since 2013. In order to standardize concepts in this and future publications, the term ‘INGRID’ has been adopted as the acronym for Disability Inclusion in Disaster Risk Management (2). INGRID is the Spanish acronym for *Inclusión para la Gestión del Riesgo de Desastres*.

INGRID involves using disaster risk reduction policies and strategies to prevent new risks (prospective disaster risk management) to mitigate existing disaster risks (corrective disaster risk management), and to manage residual risk that cannot effectively be reduced. This calls for preparedness, response, and recovery activities (compensatory disaster risk management), while considering the needs and participation of persons with disabilities at the same level of priority as the general population, in order to be fully compliant with the CRPD (2, 16).

INGRID is gaining increasing strength, and is being given the importance it merits in the policies, plans, and projects of governments, civil society, international agencies, etc. As previously mentioned, it is important to enhance the visibility and participation of persons with disabilities by implementing universal access and by eliminating barriers to information and communication. This paves the way for responding to emergencies and disasters in a way that takes account of the needs of persons with disabilities (17, 18).

All these policies, plans, and projects are of urgent importance, since persons with disabilities can be affected disproportionately in emergency situations and their specific needs have often not been taken into account. Indeed, it has been shown that mortality among persons with disabilities in disaster situations is two to four times higher than among the population without disabilities (19).

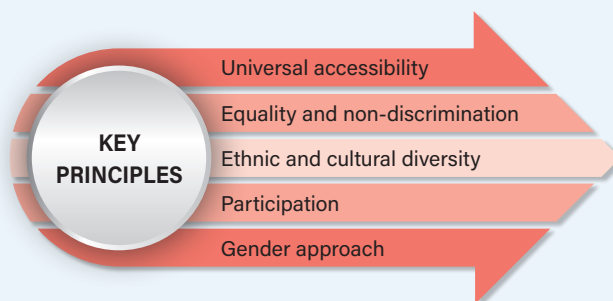
In 2013, a worldwide United Nations survey on disability and disasters pointed to several critical issues (20):

- Persons with disabilities stated that they are rarely consulted on their needs, i.e., information on their needs has not been gathered.
- Lack of universal access limits and impedes the ability of persons with disabilities to adequately communicate and receive information. This also hinders the evacuation process.
- Preparedness, response, and recovery plans do not include measures to address the needs of persons with disabilities.

These critical issues can be addressed based on a number of principles, which constitute the foundation of INGRID.

## KEY PRINCIPLES OF DISABILITY-INCLUSIVE DISASTER RISK MANAGEMENT

Although the United Nations Convention on the Rights of Persons with Disabilities and the Sphere Humanitarian Charter (21) establish several general principles in this area, it is important to emphasize five key principles and how they are applied in disability-inclusive disaster risk management. The principles that should be invoked in all phases of disaster risk management are:



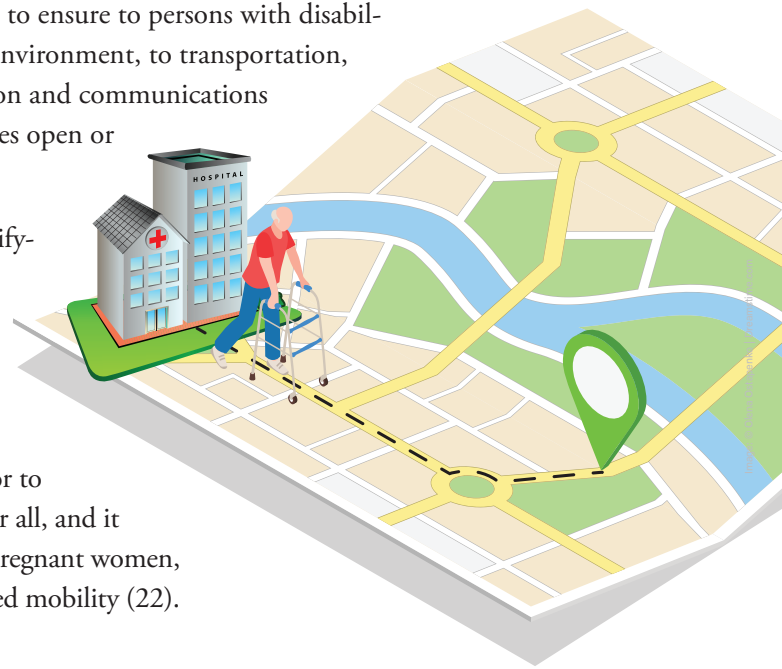
### Universal accessibility

This is the criterion that should be met by all goods, services, environments, processes, tools, objects, products, and devices, to ensure they can be safely, autonomously, and easily understood and used by all people. The framework of universal accessibility requires that all of the above be conceived or planned from the start, as well as used, by all people to the greatest extent possible (1).

In all infrastructure works—and specifically in the design, planning, construction, and re-modeling of health facilities—the chain of accessibility should be preserved. This means that movement between a starting point and a destination is feasible continually and without interruption for all people, and particularly for those with limited mobility. The elements that make up this chain of accessibility in hospitals include alarm systems, the physical factors involved in evacuation routes, emergency exits, and all of the elements that make it possible for persons with disabilities to reach a safe area.

Article 9 of the United Nations Convention on the Rights of Persons With Disabilities (CRPD) urges States Parties to “take appropriate measures to ensure to persons with disabilities access, on an equal basis with others, to the physical environment, to transportation, to information and communications, including information and communications technologies and systems, and to other facilities and services open or provided to the public...”

Accessibility is fundamental for Member States, since by ratifying the Convention they are instrumental in guaranteeing this right. Moreover, the term is gathering strength and no longer focuses solely on tangible aspects, but also takes into account access to information, communication, services, and technology. According to the 2018 Zero Project Report, accessibility is not limited to access ramps, or to persons with physical disabilities; universal accessibility is for all, and it particularly benefits persons with disabilities, older adults, pregnant women, families with children under 5, and other people with limited mobility (22).

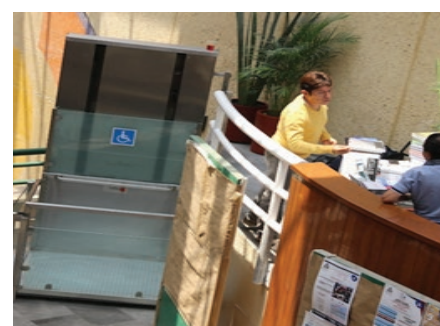
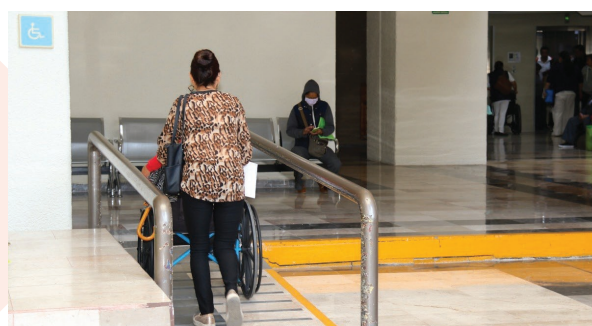


Following are some illustrations of accessibility measures:

- **Physical environment:** for example, floor surfaces that persons with visual disabilities can feel at entries and exits, two-lane ramps, anti-skid tape at the edges of stairs, etc.
- **Communication and information:** for example, sign language interpretation for hearing-impaired people, evacuation signage that is easy to understand for persons with intellectual disabilities, instructions on emergency procedures in braille for blind people, etc.
- **Information and Communications Technologies:** for example, vibratory or visual alarms for hearing-impaired people, audible alarms or public address messages for blind people.

Correct use of accessibility measures involves a strong regulatory component. Some countries have developed local regulations, or standards based on international standards, for implementation of accessibility measures in hospitals. Regardless of the regulation being applied, the objective of accessibility measures is to achieve:

- **Safety:** For all people, compliance with the accessibility standards prevents the environment from becoming a threat (11). Noncompliance creates danger for people.
- **Autonomy:** Compliance with accessibility standards makes it possible for a person to manage independently in an environment or situation of vulnerability (11). Noncompliance impedes people's ability to manage independently.
- **Convenience:** Compliance with accessibility standards makes it possible for people to carry out their daily activities simply (11). Noncompliance prevents daily activities from being carried out simply.





## Equality and nondiscrimination

Disaster risk management should take account of all people, with special emphasis on those who are most vulnerable or require priority attention, such as persons with disabilities.

“Discrimination on the basis of disability” means “any distinction, exclusion, or restriction because of disability which has the purpose or effect of impairing or nullifying the recognition, enjoyment or exercise, on an equal basis with others, of all human rights and fundamental freedoms in the political, social, cultural, civil, or any other field. It includes all forms of discrimination, including denial of reasonable accommodation” (16).

## Ethnic and cultural diversity

Persons with disabilities in indigenous and Afro-descendant populations can be subject to greater discrimination in disaster situations as a result of cultural differences and constraints on communication and information, among other factors. Accordingly, with the support of local leaders and experts on the subject, consideration should be given to the cultural contexts and traditional and ancestral knowledge bases of these peoples.

## Participation

Persons with disabilities are more likely to be abandoned during disasters and emergency evacuations (20). In this connection, they have the right to participate in planning, preparing, executing, and monitoring programs for disaster risk management. They also have a right to be recognized and respected as citizens and human beings who can make a significant contribution before, during, and after a disaster.

## Gender perspective

All persons with disabilities, regardless of sexual orientation, have a right to the same opportunities under INGRID. Violence prevention should be an important priority, particularly in situations of humanitarian aid. We should take account of the fact that women, adolescents, and girls with disabilities can be more vulnerable to sexual violence, and that the necessary preventive measures should therefore be taken.



## REFERRING TO THEM APPROPRIATELY IS THE STARTING POINT FOR INCLUSION

In 2006, during the 67th General Assembly, the United Nations CRPD proposed that “**persons with disabilities**” is the proper term for referring to this segment of the world’s population. Thus, this is considered the only appropriate term for use at the world level.

## OPERATIONAL FRAMEWORK FOR THE INCLUSION OF PERSONS WITH DISABILITIES IN HOSPITAL DISASTER RISK MANAGEMENT

The operational framework for including persons with disabilities in disaster risk management within the health sector outlines the horizontal actions that should be carried out as facets of the reduction, preparedness, response, and recovery phases.

For the disaster reduction and preparedness phases, actions that should be carried out for the inclusion of persons with disabilities have been identified. These include making, adjusting, and executing policies, laws, standards, and programs, as well as developing accessibility standards and plans in the urban and rural environments, that guarantee access to health services.

Implementation of protocols for inclusive alert and alarm systems, to remain active before and during a disaster, begins in the preparedness phase. In this phase, response plans are also prepared or updated, inclusive simulations and drills are held, evaluation is carried out, and previous interventions are improved.

In the response phase of a disaster, procedures and protocols are activated that take account of the special characteristics of persons with disabilities, with emphasis on individual needs, whether in relation to evacuation, rescue, or medical care. Also included here are the activation of multisectoral coordination mechanisms, designed to guarantee access to health care and to assistive devices, while also ensuring access to basic services, food, and temporary shelter. These actions should remain active until evaluations indicate otherwise.

The recovery phase includes early recovery, rehabilitation, and rebuilding. In this phase, multisectoral coordination continues, infrastructure is rehabilitated with the application of universal access standards, and reconstruction activities are facilitated.

The operational framework emphasizes identification (**visibility**) and **participation** of persons with disabilities throughout the various phases; it is therefore essential that data such as habitual physical location, degree of autonomy and independence, level of representation, and other such factors, be recorded.

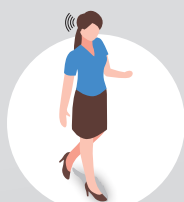


## Operational Framework for the Inclusion of Persons with Disabilities in Disaster Risk Management

| PROSPECTIVE<br>RISK MANAGEMENT                                                                                                                                                          | CORRECTIVE<br>RISK MANAGEMENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | COMPENSATORY DISASTER RISK MANAGEMENT                                                                                                                                                                                                                                                                                                                                                                     |                     |                                                                                                                                                                                    |                |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
|                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | BEFORE THE DISASTER                                                                                                                                                                                                                                                                                                                                                                                       | DURING THE DISASTER | AFTER THE DISASTER                                                                                                                                                                 |                |
| REDUCTION                                                                                                                                                                               | PREPAREDNESS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | RESPONSE                                                                                                                                                                                                                                                                                                                                                                                                  | RECOVERY            | REHABILITATION                                                                                                                                                                     | RECONSTRUCTION |
|                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                           |                     |                                                                                                                                                                                    |                |
| Creation, adjustment and execution of policies, laws, regulations, programs and financing that promote the inclusion of people with disabilities in all sectors and all aspects of IDRM |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                           |                     |                                                                                                                                                                                    |                |
| Development of standards and accessibility plans in the urban and rural environment that guarantee access to health services, evacuation routes, safe areas, and temporary housing      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                           |                     |                                                                                                                                                                                    |                |
| Identification: make people with disabilities visible                                                                                                                                   | <ul style="list-style-type: none"> <li>Who are the persons with disabilities?</li> <li>Where are the persons with disabilities?</li> <li>What do the persons with disabilities need?</li> <li>Management of information on disabilities: System for updating information, and coordination with those responsible for risk management</li> </ul>                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                           |                     |                                                                                                                                                                                    |                |
| Participation:                                                                                                                                                                          | Representation of persons with disabilities with community-based participation approaches; People with disabilities, the people who help them and the organizations that represent them should be included in decision processes, including risk assessments                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                           |                     |                                                                                                                                                                                    |                |
| Communication                                                                                                                                                                           | <ul style="list-style-type: none"> <li>Accessible communication and information resources for people with hearing, visual and intellectual disabilities in case of disasters</li> <li>Application of procedures and protocols for early warning and alarm that consider accessibility of persons with disabilities.</li> <li>Assessment of the level of preparedness before disasters</li> <li>Strengthen the institutional capacities of health personnel, persons with disabilities and their caregivers</li> <li>Response plans</li> <li>Development of simulation exercises</li> <li>Evaluation and improvement of interventions</li> </ul> | <ul style="list-style-type: none"> <li>Application of procedures and protocols for evacuation, rescue and medical attention with emphasis on the particularities and individual needs</li> <li>Activation of multisectoral coordination mechanisms to guarantee access to health care and assistance devices; water, sanitation and hygiene; food security and nutrition and temporary housing</li> </ul> |                     | <ul style="list-style-type: none"> <li>Refurbishment of infrastructure applying universal accessibility regulations</li> <li>Rebuild better: safe, green and accessible</li> </ul> |                |

## TYPES OF DISABILITY

According to the International Classification of Functioning, Disability and Health (ICF), disability is an umbrella term for impairments, activity limitations, and participation restrictions. It denotes the negative aspects of the interaction between an individual (with a health condition) and that individual's contextual factors (environmental and personal factors) (23).



### HEARING

This consists of total or partial impairment of the sense of hearing, as it affects not only the ability to hear, but also the development of speech. Thus, some hearing-impaired people communicate through sign language, while some can read lips (24).



### PHYSICAL/MOTOR

This is defined as a constraint resulting from something that limits or impedes motor coordination or the control of a person's movements, whether as a result of accident, disease, or congenital condition. The person cannot use or move his or her upper or lower limbs, or entire body, making technical assistance necessary for mobility, through devices such as wheelchairs, crutches, canes, prostheses, etc. (24).



### INTELLECTUAL

This is an impairment of intellectual functioning that creates substantial limitations on certain abilities usually present in everyday life. When this is severe, a person depends on permanent assistance and care from another person (24).



### PSYCHOSOCIAL

This refers to the limitations of people who suffer from temporary or permanent mental dysfunctions that affect their ability to carry out one or more everyday activity or their ability to exercise their human rights. Included here are people who suffer sequelae of a mental illness, characterized by disorders that are predictably permanent and that affect the adaptive behavior that determines a state of well-being in the areas of thinking, sensation, emotions, mood, or behavior, interfering with the person's ability to develop in the familial, social, educational, or work areas (24).



### VISUAL

This refers to the partial or total loss of eyesight (visual acuity). A person with this disability confronts three life difficulties: mobility, orientation, and communication (24).



### MULTIPLE

This involves the presence of two or more types of disability—physical, sensory, intellectual, and/or psychosocial—leading to functional limitations in more than one system of the human organism (24).



## CHAPTER 3:

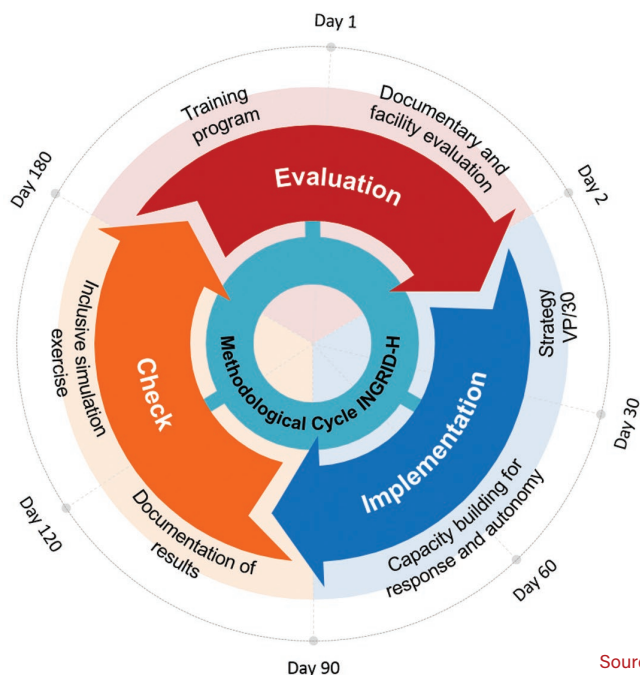
# Disability Inclusion in Hospital Disaster Risk Management (INGRID-H)

### **PREPAREDNESS FOR HOSPITAL EMERGENCY AND DISASTER RESPONSE, WITH EMPHASIS ON PERSONS WITH DISABILITIES**

Preparedness for hospital emergency and disaster response, with an emphasis on persons with disabilities, involves the knowledge and capacities hospitals develop in order to predict, respond to, and recover effectively from the impact of probable, imminent, or present disasters. Preparedness activities in a hospital should not be specific or different for persons with disabilities, who must be effectively considered across the different areas involved in a hospital's disaster planning.

INGRID-H is an “evaluation-action” methodology designed to improve the level of training for hospital response to emergencies and disasters caused by any type of danger, with a focus on persons with disabilities. Implementation of the methodology is achieved throughout a methodological cycle.

## INGRID-H METHODOLOGICAL CYCLE



Source: PAHO/WHO, 2018

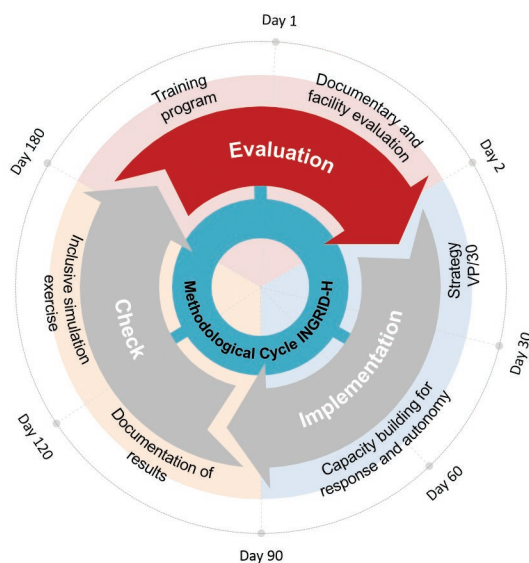
INGRID-H is based on the INGRID principles and on the operational framework for including persons with disabilities in disaster risk management for health.

The INGRID-H methodological cycle is an outline of activities that should be completed in an estimated time period, occurring in three phases:

- a) **Evaluation.** Evaluation is based on an index that establishes a hospital's base-line level of preparedness for response to emergencies and disasters. To this end, the methodology includes a training program for health facilities that are to be evaluated.

Once the INGRID-H methodology is incorporated in the institution's culture, the INGRID-H index is expressed in percentages, consisting of the five components detailed below:

:



1. **Visibility of persons with disabilities.** This component establishes whether persons with disabilities are registered in the institution's personnel database and in its work environments, along with various data such as the following:

Visibility of persons with disabilities

Does the hospital have a staff identification list with the information of persons with disabilities?

☒ Yes

☐ No

Select the type of information that is collected with the staff identification list about persons with disabilities

Age

Gender

Type of disability

Classification of functioning

Usual location inside the hospital

Specific needs in case of emergency

☐

☐

☐

☐

☐

☐

Select the option that best suits the format type of the staff list:

Printed format

Digital format

Printed and digital format

1

☐

☐

☐

Are periodic updates made to the staff identification list?

☐ Yes

☐ No

Select the options that best suit the hospital situation regarding the emergency and disaster response plan:

The response plan includes information on persons with disabilities

The response plan includes actions to cover the specific needs of persons with disabilities

There is a process to periodically update the response plan with the information and specific needs of the staff

☐

☐

☐

CONTINUE

2. **Participation of persons with disabilities.** This component makes it possible to ascertain whether persons with disabilities are represented on the Hospital Emergency Committee, and whether they are consulted on any activities relating to disaster risk management, as outlined below:

Participation

Are persons with disabilities consulted and involved in disaster risk management in the hospital?

Is there at least one representative of persons with disabilities on the hospital committee?

☐ Yes

☐ No

Are people with disabilities consulted about activities related to disaster risk management in the hospital?

☐ Yes

☐ No

CONTINUE

**3. Universal accessibility.** This component is designed to determine whether the hospital infrastructure, the physical environment, and other factors for risk management meet the criteria for universal accessibility, which are indispensable to fostering the autonomy of persons with disabilities within the hospital.

Evaluating universal accessibility requires a tour through the hospital to determine how many of the elements being analyzed are present, along with their characteristics, according to the parameters defined by INGRID-H or by local regulations (9).

The accessibility parameters evaluated are indicated below:

**Universal Accessibility**  
 The evaluation parameters have been taken from international technical standards and previous accessibility studies. It is recommended to review the local regulations before conducting the evaluation.

**Are the evacuation alarms of the hospital accessible to persons with disabilities? Select the options that best suit the hospital situation:**

|                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                              |                                                                                                                                                      |                                                                                                                                                                                                                                                              |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>More than 80% of alarm devices are visible by color and lighting</p> <p>At least 50% of alarm devices are visible by color and lighting</p> <p>Less than 50% of alarm devices are visible by color and lighting</p> | <div style="border: 1px solid black; padding: 5px; width: 30px; margin: 0 auto;"> <div style="text-align: center;">1</div> <div style="text-align: center;">○</div> <div style="text-align: center;">○</div> <div style="text-align: center;">○</div> </div> | <p>More than 80% of alarm devices are audible</p> <p>At least 50% of alarm devices are audible</p> <p>Less than 50% of alarm devices are audible</p> | <div style="border: 1px solid black; padding: 5px; width: 30px; margin: 0 auto;"> <div style="text-align: center;">3</div> <div style="text-align: center;">○</div> <div style="text-align: center;">○</div> <div style="text-align: center;">○</div> </div> |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>Are emergency and evacuation signs accessible to persons with disabilities?</b></p> <p>Signs are at a visible height in case of agglomeration (a minimum height of 2.10 m, 7 ft or that defined in local standards is recommended)</p> <p style="text-align: right;"><input type="checkbox"/></p> <p>Signs are visible even in case of power outage</p> <p style="text-align: right;"><input type="checkbox"/></p> <p>Signs are present throughout all evacuation routes</p> <p style="text-align: right;"><input type="checkbox"/></p> | <p><b>Are communication and information resources accessible to persons with disabilities?</b></p> <p>They are accessible in tactile or audible formats for people with visual impairments</p> <p style="text-align: right;"><input type="checkbox"/></p> <p>They are easy to understand for people with intellectual disabilities</p> <p style="text-align: right;"><input type="checkbox"/></p> <p>They contain graphics and are accessible in sign language for people with hearing impairments</p> <p style="text-align: right;"><input type="checkbox"/></p> |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**Are the evacuation routes accessible to persons with disabilities? Select the options that best suit the hospital situation:**

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                              |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>More than 80% of the evacuation routes are connected to evacuation stairs at a short distance. A distance of no more than 25 m or 82 ft is recommended to take as a reference.</p> <p>At least 50% of the evacuation routes are connected to evacuation stairs at a short distance. A distance of no more than 25 m or 82 ft is recommended to take as a reference.</p> <p>Less than 50% of the evacuation routes are connected to evacuation stairs at a short distance. A distance of no more than 25 m or 82 ft is recommended to take as a reference.</p> | <div style="border: 1px solid black; padding: 5px; width: 30px; margin: 0 auto;"> <div style="text-align: center;">1</div> <div style="text-align: center;">○</div> <div style="text-align: center;">○</div> <div style="text-align: center;">○</div> </div> | <p>More than 80% of evacuation routes are obstacle-free along their entire length (a minimum circulation of 150 cm or 60 in is recommended).</p> <p>At least 50% of evacuation routes are obstacle-free along their entire length (a minimum circulation of 150 cm or 60 in is recommended).</p> <p>Less than 50% of evacuation routes are obstacle-free along their entire length (a minimum circulation of 150 cm or 60 in is recommended).</p> | <div style="border: 1px solid black; padding: 5px; width: 30px; margin: 0 auto;"> <div style="text-align: center;">2</div> <div style="text-align: center;">○</div> <div style="text-align: center;">○</div> <div style="text-align: center;">○</div> </div> | <p>More than 80% of evacuation routes have non-slip, firm, and hard surfaces</p> <p>At least 50% of evacuation routes have non-slip, firm, and hard surfaces</p> <p>Less than 80% of evacuation routes have non-slip, firm, and hard surfaces</p> | <div style="border: 1px solid black; padding: 5px; width: 30px; margin: 0 auto;"> <div style="text-align: center;">3</div> <div style="text-align: center;">○</div> <div style="text-align: center;">○</div> <div style="text-align: center;">○</div> </div> |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**CONTINUE**



4. **Capacities developed for disaster response.** This field is designed to establish whether the staff members involved in response are trained in disability-inclusive disaster risk management, and whether the facility has the support devices needed during an emergency, as shown in Annex 6.

**Capacities developed for disaster response**

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                    |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>The personnel assigned to respond in case of emergencies and disasters:</b></p> <p>The personnel have been trained on inclusive communication and how to treat persons with disabilities <input checked="" type="checkbox"/></p> <p>The personnel have been trained on evacuation measures for persons with disabilities <input type="checkbox"/></p> <p>The personnel have been trained in the last two years to respond in case of emergencies and disasters with persons with disabilities <input type="checkbox"/></p> | <p><b>The hospital has:</b></p> <p>Support devices for evacuation in case of emergency on all floors <input type="radio"/></p> <p>Support devices for evacuation in case of emergency at least on the floors where a person with disability works. <input type="radio"/></p> <p>The hospital has no support devices for evacuation in case of emergency. <input type="radio"/></p> |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

1

**CONTINUE**

5. **Hospital plan for response to emergencies and disasters.** This component helps detect whether the needs of persons with disabilities are included in the hospital emergency and disaster response plan, and whether the plan is updated, shared, and tested periodically, as indicated below:

**Hospital disaster plan**

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                             |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>The hospital disaster plan:</b></p> <p>The hospital disaster plan includes updated procedures for evacuation of people with disabilities <input type="checkbox"/></p> <p>The hospital disaster plan details the roles and responsibilities of the first respondents <input type="checkbox"/></p> <p>The plan updates every two years <input type="checkbox"/></p> <p><b>The forms of the hospital disaster plan:</b></p> <p>The forms for collecting data about post-disaster victims include disability variables. <input type="checkbox"/></p> <p>The forms, in any format, are readily available for disaster response teams. <input type="checkbox"/></p> <p>No cuenta con formularios que incluyen la variable de discapacidad. <input type="checkbox"/></p> | <p><b>The procedures for evacuation of the hospital disaster plan:</b></p> <p>The procedures include the specific needs of persons with disabilities <input type="checkbox"/></p> <p>The procedures are circulated among all the staff <input type="checkbox"/></p> <p>The procedures are tested at least once a year (drills) <input type="checkbox"/></p> |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

1

**SAVE AND PROCESS FORM**

To varying degrees, the five evaluation fields affect the autonomy of persons with disabilities, as well as the institution's disaster response capacity.

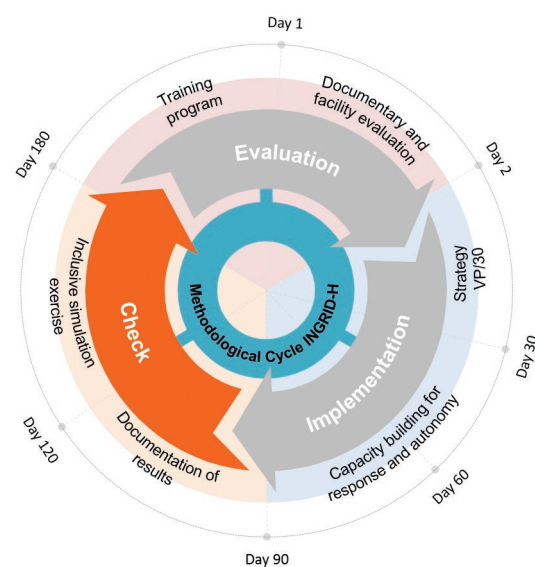
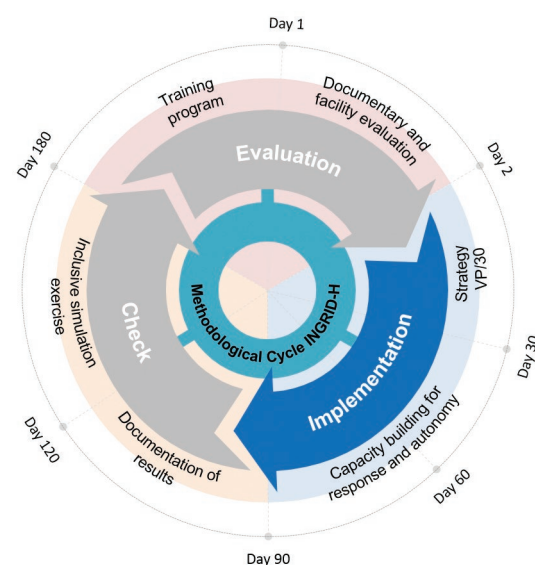
## b) Implementation, which includes:

- 1) Actions to enhance visibility and participation—30 (VP/30)—which seek to increase the visibility of persons with disabilities and their representation on the Hospital Disaster Committee in the short term, i.e., within 30 days of the INGRID-H evaluation.

The form in Annex 3 can be used as a model for gathering information from persons with disabilities (in accordance with the relevant institutional procedures and rules) in order to increase their visibility. This can take the form of surveys, workplace interviews, or other appropriate methods.

- 2) Actions to increase autonomy, seeking medium- and long-term improvements in the conditions that enable persons with disabilities to manage autonomously in the hospital. This can be achieved, for example, by improvements in universal accessibility or through participation or simulations.
- 3) Actions to strengthen response capacities, aimed at improving functioning and training for response in situations where persons with disabilities are present.

- c) **Verification**, which incorporates in the hospital response plan the actions that have been implemented, so as to prepare and carry out inclusive simulations and drills, with an emphasis on the disability variable.





## PREPARATORY ACTIVITIES FOR APPLICATION OF THE INGRID-H METHODOLOGY

### Familiarization with and presentation of the INGRID-H methodology

This activity is coordinated by the facilitators. It consists of establishing communication with the health facility's senior management in order to explain the methodology's objectives, importance, and benefits to the Organization. This meeting can be in person or virtual.



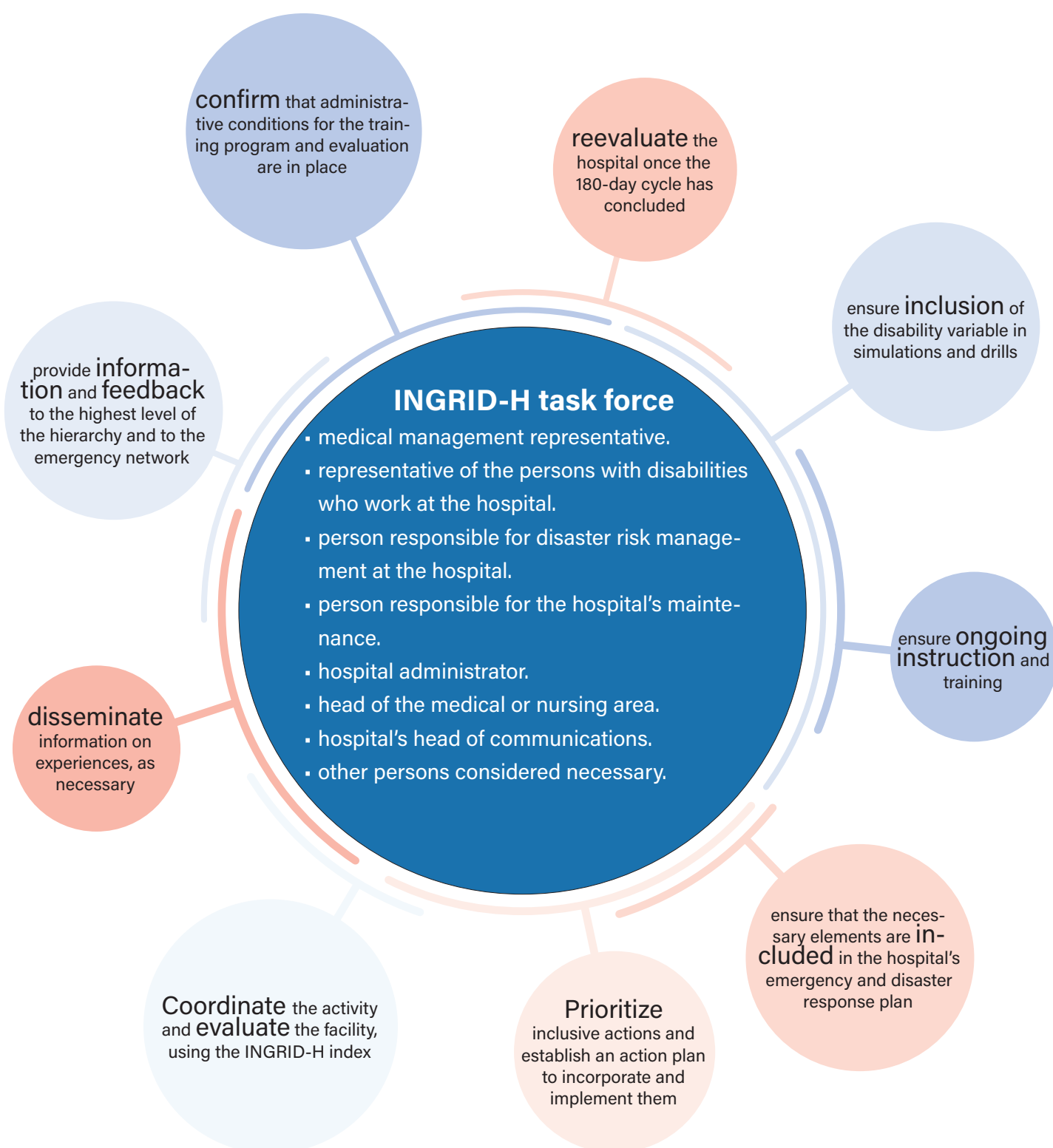
### Formation of the INGRID-H task force

The Hospital Emergency and Disaster Committee, or its country equivalent, will assume responsibility for implementing INGRID-H, establishing a task force to assume direct responsibility for the actions involved.

This should be done at least two weeks before implementation of the methodology. The facilitators and the task force will plan the activities together based on the proposed agenda, and will arrange for the necessary resources.

The date and time of the evaluation will be set, the necessary institutional arrangements made (announcements, permissions, photographic record, etc.), and the documents and forms needed for the evaluation prepared.

It is suggested that the team that is created include people who have been at the institution for at least a year, so that they are familiar with the hospital's infrastructure and organization. An exception to this is justified in the case of a person with disabilities. Thus, the team would be composed of the following:



The size of the team will depend on the institution's level of complexity. Once the INGRID-H task force is formed, a person will be chosen to lead the activities.

It is recommended that this person be confirmed or designated by the hospital's highest authority, and that he/she have the capacity/power to make decisions with respect to strengthening the preparations.

## Training program

The person who leads the task force will convene the training sessions, at which the IN-GRID-H methodology will be reviewed prior to its implementation:

- The team will be trained on the tools and issues related to INGRID-H.
- Activities to evaluate the INGRID-H index will be planned collectively.
- The floor plan of the building will be available, along with a list or database of the hospital's personnel and the hospital's disaster preparedness plan.





## EVALUATION USING THE INGRID-H INDEX

### Documentary evaluation

This activity involves reviewing the documents related to hospital disaster risk management, through a directed search for information on the components of the INGRID-H index, most importantly, to determine:

- Whether there is a census containing disaggregated information on persons with disabilities working at the facility;
- Whether the proceedings of the Hospital Committee on Emergencies and its minutes contain information on the representation of persons with disabilities and their participation in decision making;
- Whether there is documentary evidence of actions to build awareness and provide training for personnel regarding disaster risk management, with a focus on persons with disabilities; and
- Whether the Hospital Emergency and Disaster Response Plan contains information on evacuation procedures for persons with disabilities.

### Evaluation of the facility

A visual inspection of the facility provides documentation of inclusive actions that have been implemented to improve accessibility for persons with disabilities in the context of emergency and disaster response.

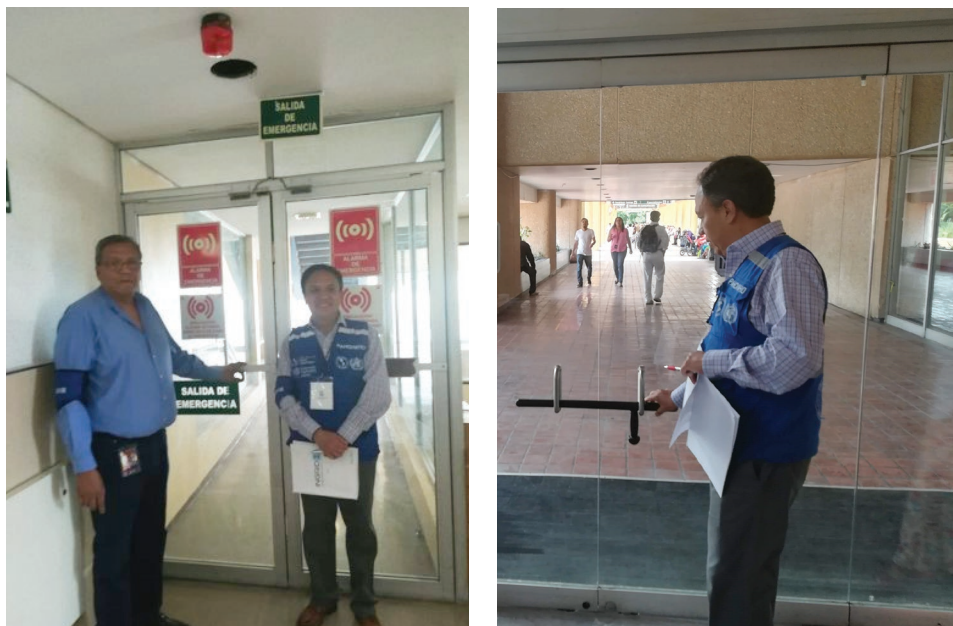
Beginning the tour of the hospital in the areas where persons with disabilities work, and identifying entire evacuation routes, the team should

review the following elements included in the INGRID-H index:

- Condition of the alarms, and whether they are audible or visible; the accessibility of signage and communication and information resources throughout the evacuation routes;
- Access to the evacuation routes from stairs or emergency exits without obstacles, along with hard, anti-slip floors; and
- Support devices for the evacuation of persons with disabilities on all of the floors.



There should be an overall evaluation of the condition of the chain of accessibility that allows persons with disabilities to move from a starting point to a safe or lower-risk area.



## Results obtained by implementing INGRID-H

Based on the results of the INGRID-H evaluation, the hospital can be assigned one of three possible levels of inclusiveness for hospital disaster risk management: inclusive, probably inclusive, or exclusive.

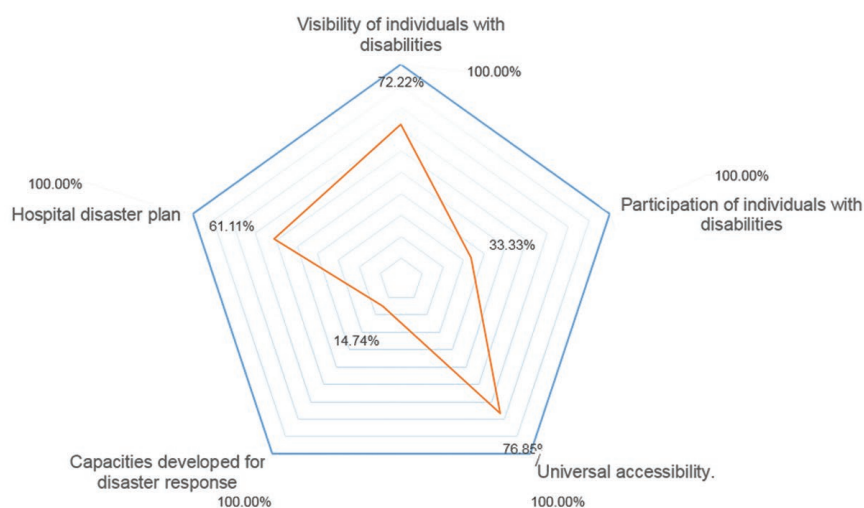
### Levels of inclusive risk management

| EXCLUDING<br>(MINOR) < 44.9% | POSSIBLY INCLUSIVE<br>(EQUAL; OR MAJOR >= 44.9% (MINOR) <72.5%) | INCLUSIVE<br>(MAJOR) >=72.5% |
|------------------------------|-----------------------------------------------------------------|------------------------------|
|                              | 54.22%                                                          |                              |

Source: PAHO/WHO, 2018

Using the index, each of the five evaluation components can be individually assigned to one of the three levels of inclusiveness, as shown in the following.

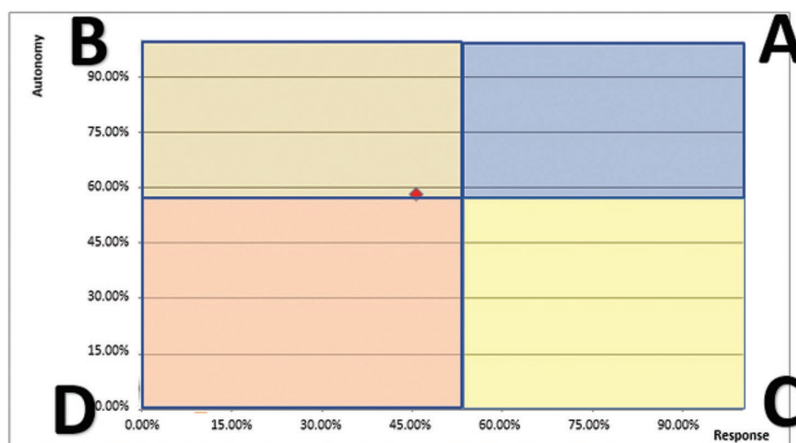
## Levels of inclusiveness in hospital disaster risk management, by evaluation component



Source: PAHO/WHO, 2018

Finally, the index makes it possible to place the hospital in one of four possible inclusive risk management scenarios. The definition of the scenarios is based on two variables: capacity for autonomy and response capacity.

## Scenarios of inclusive risk management by parameter evaluated



Source: PAHO/WHO, 2018



### Scenario A: autonomy and response capacity

If the results obtained with INGRID-H for the institution are in quadrant A, this indicates that persons with disabilities can inform themselves, move about, and evacuate in emergency situations, whether autonomously or with the assistance of personnel assigned for this purpose.

Even when a hospital's results are in this quadrant, data and processes, as well as actions (simulations and drills), need to be continually updated.

### Scenario B: autonomy, but with low response capacity

If the results obtained with INGRID-H for the institution are in quadrant B, there is considered to be a latent risk for persons with disabilities, due to the lack of response capacity. This means that although the hospital is favorable to the autonomy of persons with disabilities, risk remains in cases where the person cannot act autonomously. It is recommended that the action plan give priority to measures that increase response capacity, such as training personnel on evacuating persons with disabilities.

### Scenario C: response capacity, but with low autonomy

If the results obtained with INGRID-H for the institution are in quadrant C, there is considered to be a latent risk for persons with disabilities, due to lack of autonomy. This means that although the hospital has resources such as personnel trained to respond, they may be insufficient to help all people who require support in an emergency. It is recommended that priority be given to actions that improve universal access, visibility, and participation by persons with disabilities.

### Scenario D: low autonomy and low response capacity

If the results obtained with INGRID-H for the institution are in quadrant D, persons with disabilities in the facility are considered to be highly vulnerable in emergency situations. Urgent actions should be undertaken to improve autonomy and response capacity.

## REPORT ON INGRID-H FINDINGS

After the INGRID-H evaluation has been completed, a report will be generated with the findings. In addition, a basic action plan will be created with suggested strategies for ongoing improvement.

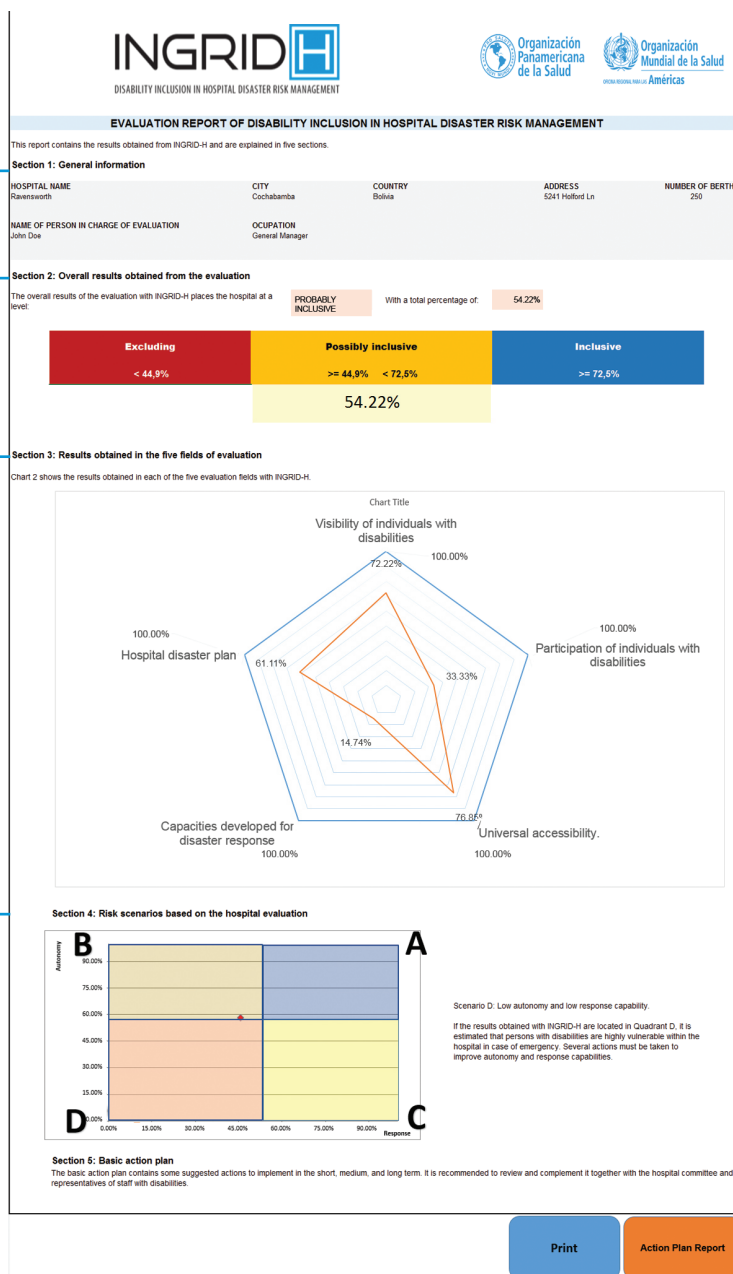
The report on the INGRID-H index should include the following sections:

**Section 1:** General data on the institution.

**Section 2:** Overall results of the evaluation, with the percentage obtained and the classification of the hospital as inclusive, probably inclusive, or exclusive.

**Section 3:** A graphic report showing individualized findings for the five aspects of the INGRID-H evaluation. This shows the level of inclusive each aspect evaluated.

**Section 4:** A table of coordinates showing aspects related to the autonomy of persons with disabilities, and the hospital's response capacity. This identifies four possible scenarios.





## PREPARATION OF THE BASIC ACTION PLAN:

This plan is composed of recommendations based on the hospital evaluation, but does not exclude broad recommendations that the facilitators and the task force may issue. The action plan and report on findings should be delivered to the hospital's highest authority in order to initiate efforts to implement improvements.

The VP/30 strategy and the strengthening of capacities for response and autonomy should be set forth in the document.

|                                                                                         |                                                                                                                                              | BASIC ACTION PLAN                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                   |                                                   |
|-----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|
|                                                                                         |                                                                                                                                              | SHORT TERM (maximum 30 days from the evaluation)                                                                                                                                                                                                                    | MEDIUM TERM (maximum 90 days from the evaluation)                                                                                                                                                                                                 | LONG TERM (more than 90 days from the evaluation) |
| Visibility of persons with disabilities                                                 | Does the hospital have a staff identification list with the information of persons with disabilities?                                        | Create a staff identification list.                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                   |                                                   |
|                                                                                         | Select the type of information that is collected with the staff identification list about persons with disabilities                          | Establish a method to collect disaggregated data of personnel with disabilities in the hospital, including their names, types of disabilities, age, gender, usual location in the hospital, classification of functioning, and specific needs in case of emergency. |                                                                                                                                                                                                                                                   |                                                   |
|                                                                                         | Select the option that best suits the format type of the staff list                                                                          | Update the staff identification list with the information about personnel with disabilities and make it available in various formats.                                                                                                                               |                                                                                                                                                                                                                                                   |                                                   |
|                                                                                         | Are periodic updates made to the staff identification list?                                                                                  | Based on all available information from staff with disabilities, update the hospital's response plan.                                                                                                                                                               | Establish a systematic process to update the staff identification list within the general management system of the hospital.                                                                                                                      |                                                   |
|                                                                                         | Select the options that best suit the situation in the hospital regarding the emergency and disaster response plan                           |                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                   |                                                   |
| Participation                                                                           | Are persons with disabilities consulted and involved in disaster risk management in the hospital?                                            | Reúna al personal con discapacidad para que designen a un representante para el Comité Hospitalario. Bríndele a la persona designada la información sobre sus nuevas responsabilidades y oportunidades dentro del comité.                                           | Establezca un método para consulta a todo el personal con discapacidad sobre sus necesidades y las acciones que creen necesarias para la gestión del riesgo de desastres. Incorpore la información recogida en el plan de respuesta hospitalario. |                                                   |
| Universal Accessibility<br>The evaluation parameters have been taken from International | Are the evacuation alarms of the hospital accessible to persons with disabilities? Select the options that best suit the hospital situation. |                                                                                                                                                                                                                                                                     | Acquire and install inclusive emergency and evacuation signs throughout all evacuation routes in the hospital. Please check the architectural and emergency plans of the hospital to identify entrances, exits, etc.                              |                                                   |
|                                                                                         | Are emergency and evacuation signs accessible to persons with disabilities?                                                                  | Install inclusive emergency and evacuation signs at a height that can be distinguished in case of crowding. It is recommended to locate signs at a minimum height of 2.10 m or 7 ft.                                                                                | Acquire and install inclusive emergency and evacuation signs throughout all evacuation routes in the hospital. Please check the architectural and emergency plans of the hospital to identify entrances, exits, etc.                              |                                                   |

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# ANNEXES

## Annex 1:

Suggested basic components  
for the inclusion of persons with  
disabilities in the hospital emergency plan

| Component                                | Description in the plan                                                                                                                                                           | Elements of the plan to consider with regard to persons with disabilities                                                                                                                                                                                                                                                                                                                                                                     |
|------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| General information                      | General information on the hospital that provides a clear idea of its complexity and the services it offers.                                                                      | The services provided to persons with disabilities, for example, rehabilitation services.                                                                                                                                                                                                                                                                                                                                                     |
| Situation in disasters and emergencies   | This refers to the current environment and to the historical analysis of adverse events that have occurred in the community and in the hospital.                                  | If pertinent, point out problems that have arisen with persons with disabilities in past adverse events, such as tragedies in the evacuation process.                                                                                                                                                                                                                                                                                         |
| Inventory of resources – hospital survey | This describes the resources that the hospital has for dealing with an emergency in a disaster situation. This description of resources is based on performing a hospital survey. | Describe whether the hospital has skills for the care of persons with disabilities, for example: whether there are people assigned to support the evacuation of persons with disabilities; location of personnel trained in sign language; whether there are wheelchairs for evacuation via ramps. Also, describe whether there are safe areas for persons with disabilities, such as spaces adapted for wheelchairs, emergency buttons, etc. |
| Theory and mission                       | This describes the impact of an adverse event on the health unit.<br>The mission is the set of fundamental actions that should be carried out during such events.                 | In preparing the hypothesis, take into account persons with disabilities based on the part of the hospital where they work, as well as health services where persons with disabilities, such as hospital users, may be found.<br>The hospital's mission should include care for persons with disabilities.                                                                                                                                    |

| Component                             | Description in the plan                                                                                                                                                                                                 | Elements of the plan to consider with regard to persons with disabilities                                                                                                                                                                                                                                                                                                                                                                                                                               |
|---------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Organizing the response               | This refers to the structure that the hospital has for taking the planned response measures.                                                                                                                            | Consider persons with disabilities in the structure of the plan. For example, persons with disabilities who know sign language are important for communicating with others with the same disability.                                                                                                                                                                                                                                                                                                    |
| Operational procedures                | Actions that the Emergency Operations Committee, the department heads, the assistance and support teams, the operational brigades, the personnel in general, and users and visitors should perform during an emergency. | Persons with disabilities who work at the hospital should be taken into account in the hospital's response brigades.<br>Persons with disabilities should be considered a priority group.                                                                                                                                                                                                                                                                                                                |
| Interinstitutional coordination       | There should be support from community institutions that are important partners in optimizing the emergency and disaster response.                                                                                      | Relief institutions such as the fire department, police, and Red Cross, should be informed of the hospital's emergency plan, which includes persons with disabilities, their workplaces in the hospital, evacuation requirements, technical assistance needed, medicines, etc.<br>Also consider the support that can be provided by public or private institutions that work with persons with disabilities and that have professionals who, at the time of an emergency, can provide response support. |
| Referral and counter-referral network | There should be documentation of the hospitals and other health care facilities to which, and from which, patient referrals or cross-referrals are conducted.                                                           | The plan should make clear the hospitals or other health facilities to which evacuees with disabilities, who have been injured during the adverse event in the hospital, will be sent.                                                                                                                                                                                                                                                                                                                  |
| End of the emergency                  | It is important to know in what situation and through what method of communication the hospital's senior authority will declare the end to the disaster response.                                                       | The plan should describe the mechanism that will be used to inform persons with disabilities of the end of the emergency.<br>A person responsible for someone with disabilities should have and communicate this information to the person with disabilities.                                                                                                                                                                                                                                           |



## Annex 2:

# Suggestions for inclusive simulations and drills <sup>(25)</sup>

After the hospital disaster preparedness plan is updated, it is suggested that there be a simulation or drill in the 90 days following the INGRID-H evaluation, one of the purposes of which is to weight the disability variable. It is important to clearly define the objective of the simulation or drill, bearing in mind that the goal is to implement corrective actions and improvements.

### Simulation

The simulation is a desktop exercise in which participants make decisions about a hypothetical case. The planning of the simulation should consider including persons with disabilities who can participate in decision-making or identify their needs in carrying out the exercise. The script to be used can take into account the effects on people, infrastructure, and on the hospital's services. It should include persons with disabilities, for example, patients who arrive at the hospital with injuries due to the event and who have a disability. Portions of the hospital where persons with disabilities are likely to be found should also be taken into account (giving consideration to the possibility that infrastructure may collapse or suffer severe, moderate, or slight damage; the amount and types of damage; consequences; etc.). Examples include physical rehabilitation services, outpatient ophthalmology services, otorhinolaryngology services, and physical therapy.

The evaluation instruments used in the exercise should include items for scoring whether, and if so how well, the needs of persons with disabilities were met.

## Actions that can be incorporated in a simulation:

### **In the simulation scenario**

Describe the characteristics of, and specific information on, the region or locality where the simulated events occur, including information on persons with disabilities.

If the scenario is limited to the hospital, persons with disabilities can be considered either as being affected by the event or as active participants in the response.

### **Roles of the participants**

It is recommended that, in assigning roles (hospital director, members of the Hospital Emergency and Disaster Committee, department heads, etc.), the participation of persons with different types of disabilities be considered.

### **Instruments for evaluating the exercise**

Items should be included to assess whether or not the needs of persons with disabilities were met.

### **In the unfolding of the situation**

In the description of the situation that unfolds as a result of the event – in terms of the effects on people and on the hospital's infrastructure and services – include persons with disabilities, such as patients who arrive at the hospital with injuries caused by the event and who have a disability. Also consider parts of the hospital (with total collapse or with severe, moderate, or slight damage; amount and types of damage; consequences, etc.) where persons with disabilities are normally found—hospital personnel, users of rehabilitation services, outpatients in ophthalmology, otorhinolaryngology, physical therapy, etc.

## Drill

The drill is a practical exercise that evaluates procedures, actions, skills, timing, coordination, and general management of the event being acted out. In the script for the drill, the stage is to be an actual physical space with the conditions needed for the exercise. The scenario should take account of factors related to persons with disabilities, such as the presence or absence of wheelchairs, crutches, etc.

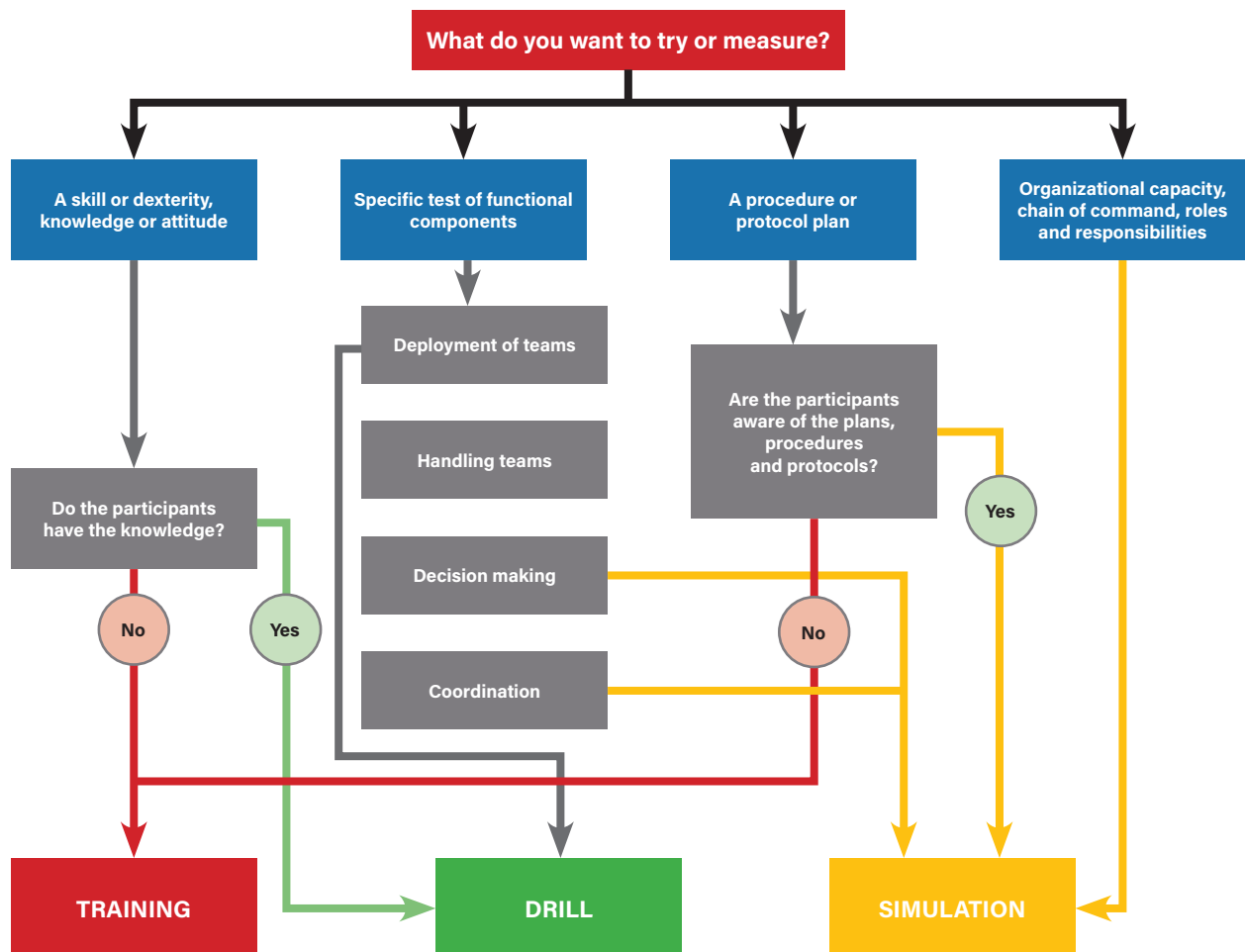
The hypothetical situation will normally include participants' actions at the time of the alarm. Thus, persons with disabilities who require support for performing certain actions should be included. The wounded (serious, moderate, and slight) are also part of the drill; here too, persons with disabilities should be included.



Safety conditions. Serious considerations should be given to the safety conditions in place during the exercise. There should be an observer group and a first aid group, for example, when using stairways to evacuate people in wheelchairs, given the danger of a fall in these areas. Furthermore, the persons with disabilities should be thoroughly informed about their roles within the hospital's emergency plan, their roles in the drill, actions they are expected to take during the exercise, support they will receive during the exercise from hospital personnel, and alert and alarm mechanisms used to signal the beginning and end of the exercise.

The following diagram is presented to help in selecting the most suitable type of exercise:

### Decision tree for selecting the type of exercise



Adapted from: World Health Organization. WHO Simulation Exercise Manual. Geneva: WHO; 2017.

The decision tree diagram begins with asking what one wishes to test or measure. The answer to this question leads to one of four lines of questions, with their respective procedures, as shown in the diagram.

If the response is “an ability, skill, knowledge, or attitude,” one must ask whether the participants have the requisite knowledge. If the answer is “no,” training is needed; if “yes,” a drill will be carried out.

If the response is “a specific test of functional components,” one must ask whether deployment, management of equipment, a decision-making space, and coordination are in place. The first two require a simulation, while the latter two call for a drill.

If the response is “a plan, procedure, or protocol,” one must ask whether the participants have the relevant knowledge. If the response is “no,” training is needed; if “yes,” a simulation will ensue.

Lastly, if the response is “the capacity for organization, chain of command, roles, and responsibilities,” a simulation will be carried out.

# Suggested form for identifying persons with disabilities

[illegible]







**Pan American  
Health  
Organization**



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Organization**  
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