

INTEGRATED DISEASE SURVEILLANCE AND RESPONSE TRAINING COURSE



THIRD EDITION



PARTICIPANT GUIDE

COURSE 5: APPLICATION OF INTEGRATED DISEASE SURVEILLANCE AND RESPONSE (IDSR) STRATEGY TO EMERGENCY OR FRAGILE HEALTH SYSTEM CONTEXTS

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This booklet comprises the following module of the Integrated Disease Surveillance and Response Training Course:
Module 1: Tailoring Integrated Disease Surveillance and Response (IDSR) to Emergency or Fragile Health System contexts

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MODULE 1: TAILORING IDSR TO EMERGENCY OR FRAGILE HEALTH SYSTEM CONTEXT

The modules comprising the Integrated Disease Surveillance and Response Training Course were prepared by the WHO Health Emergencies (WHE) Programme with active participation and involvement of programmes dealing with disease surveillance at the WHO Regional Office for Africa (AFRO), Brazzaville, Congo with technical reviews provided by the U.S Centers for Disease Control and Prevention (CDC) and the U.S. Agency for International Development (USAID). While the contents of this course are in the public domain and may be used and reproduced without permission, please refer to the suggested citation: WHO-AFRO & CDC (2019). *Integrated Disease Surveillance and Response Training Course, Participant Guide: Module 10*. Brazzaville, Republic of Congo and Atlanta, USA.

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FOREWORD

In 1998, the World Health Organization (WHO) Regional Office for Africa (AFRO) together with technical partners adopted a strategy for developing and implementing comprehensive public health surveillance and response systems in African countries, initially called integrated disease surveillance (IDS). However, to highlight the linkage between surveillance and response, the strategy was later re-named integrated disease surveillance and response (IDSR). The first edition of the IDSR technical guidelines (2002) was widely adopted by Member States. Although progress towards a coordinated, integrated surveillance system was variable, almost every country in the region, invested human and material resources to strengthen capacities for public health surveillance systems in order to prevent, timely detect, and respond appropriately to public health threats.

The coming into force, in 2007, of the international health regulations (IHR 2005), the emergence of new diseases, conditions and events and the formulation of strategies for disaster risk management (DRM) resulted in the need to revise the first edition of the IDSR guidelines. There was also a need to address the increasing burden of non-communicable diseases. Further, there was a need to strengthen community-based surveillance for early detection, rapid confirmation and response to public health threats. Moreover, alignment with broader system strengthening objectives was required. Hence, in 2010, the second edition of the IDSR guidelines was developed.

Despite the availability of the IDSR technical guidelines, the region continues to face challenges in public health surveillance systems, with respect to the capacity to prevent, detect and respond to public health threats. The unprecedented Ebola Virus Disease (EVD) outbreak of 2014 in West Africa and other recent health emergencies has shown that the IHR (2005) have not been fully implemented in many Member States. Consequently, addressing health emergencies remains a major challenge, hence in 2019 the third edition of the IDSR technical guidelines was developed.

In order to effectively build the capacity of member countries in the use of the third edition IDSR technical guidelines, the IDSR training modules have also been revised to the 3rd Edition IDSR Training Modules (TMs).

Following my election, in January 2015, as Regional Director, after internal and external consultations in May 2015, unveiled the transformation agenda of the WHO secretariat in the African region, 2015–2020. One of the five interrelated and overlapping priorities in the transformation agenda is improving health security.

I am glad to unveil the third edition of the IDSR training modules that has been prepared by the WHO Health Emergency (WHE) programme in the WHO African region with active participation and involvement of all clusters. In addition, there was active involvement of the WHO Headquarters, the Inter Country Support teams, and the hubs, the WHO country offices, Member

states, as well as, the U.S. Centers for Disease Control and Prevention (CDC) and other relevant stakeholders.

Many public health events (PHEs) and emergencies and their associated risk factors could be prevented or their effects mitigated. However, the health systems in most countries remain inadequate. To avert and mitigate the effects of future health security risks and emergencies, all Member States should implement the 3rd edition IDSR technical guidelines by training all health staff using these IDSR training course modules.

Therefore, I urge all Member States to fully implement this third edition of the IDSR training modules everywhere in the WHO Africa region because they explicitly describe what needs to be established at each level of the health system in order to detect, confirm, and respond to diseases/health events that are responsible for all preventable illness, death and disability in local communities.

The cost of good public health surveillance as a public health good is relatively very low compared to many other strategies. I appeal to all Member States, national, regional and international partners and funders that, we should begin the hard work now. Let us all embrace these IDSR training modules to strengthen capacities for preparedness, alert and response for health security in every place in the WHO African Region.

The training modules should be used by:

- health workers at all levels (including surveillance officers, clinicians, laboratory personnel and public health workers)
- regional/provincial and district health teams
- data managers
- IHR National Focal Point and other sectors implementing IHR
- competent authorities at points of entry
- veterinary and wildlife health officers
- environmental health officers
- health training institutions
- supply chain officers
- other public health experts, including NGOs

Finally, I appeal to you all to ensure that the third edition of the IDSR training modules are implemented within a broader context of health system strengthening; better coordination between human and animal health surveillance and other sectors involved in One Health approach; improved use of laboratory network capacity in surveillance and response; and better community engagement in public health interventions.

Dr Matshidiso Moeti

WHO Regional Director for Africa

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The third edition of the Integrated Disease Surveillance and Response (IDSR) Training Modules was prepared by the WHO Health Emergencies (WHE) Programme with active participation and involvement of programmes dealing with disease surveillance at the WHO Regional Office for Africa (AFRO), Brazzaville, Congo with technical reviews provided by the U.S. Centers for Disease Control and Prevention (CDC) and the U.S. Agency for International Development (USAID).

In planning to update these training modules, suggestions and advice for improving the recommendations were sought and gratefully received from the IDSR development teams who prepared the 1st and 2nd editions. This revision builds on the technical expertise from more than 100 surveillance and disease experts at WHO, CDC and Ministries of Health in African countries who conceived and produced the 1st and 2nd Editions.

The revision process involved internal WHO consultation followed by a wider consultation that involved a series of meetings with various partners and Member States. In addition, the IDSR task force was constituted to help with the revision process. The final draft was peer reviewed during in-Country Pilot IDSR Trainings in five (5) countries namely; Ghana, Liberia, Sierra Leone, Uganda and Zambia in October 2018.

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MODULE 1: TAILORING IDSR TO EMERGENCY OR FRAGILE HEALTH SYSTEM CONTEXTS

10.1 INTRODUCTION

Public Health Emergencies may result in population displacement to congested settings where basic access to water, food, shelter, and other social services are constrained. Due to the disruption of health and other social services during the emergencies, the routine national IDSR systems need to be enhanced to function optimally to meet the public health surveillance and outbreak response needs in humanitarian contexts.

This module introduces key principles of implementing IDSR in complex humanitarian emergencies. This will involve enhancing IDSR core functions to ensure early detection, assessment and response to acute public health events.

10.1.1 PURPOSE OF THIS MODULE

The purpose of this module is to equip participants with skills in implementing IDSR in complex humanitarian emergencies and fragile health systems.

10.1.2 LEARNING OBJECTIVES

On completion of this module, participants will be able to:

- (a) Define and understand the key definitions used in Emergency context.
- (b) Understand the steps in implementation of IDSR in emergencies and fragile health systems.
- (c) Enhance IDSR implementation to improve Early Warning and Response during emergencies.

10.2 PARTICIPANT'S NOTES

10.2.1 KEY DEFINITIONS USED IN EMERGENCY CONTEXTS

You can find this information in Section 10, page XX of the 3rd Edition IDSR Technical Guidelines Booklet Five.

Disaster:

- (a) A serious disruption of the functioning of a community or a society causing widespread human, material, economic or environmental losses which exceed the ability of the affected community or society to cope using its own resources
- (b) A disaster is also defined as a situation or event, which overwhelms local capacity, necessitating additional national or international assistance.

Humanitarian emergency:

This is a situation where the basic human needs of a population are threatened and therefore requires extra-ordinary measures and urgent action e.g. armed conflict, famine, natural disasters and other major emergencies.

Complex emergency:

A humanitarian crisis in a country, region or society where there is total or considerable breakdown of authority resulting from internal or external conflict and which requires an international response that goes beyond the mandate or capacity of any single and/or ongoing UN country programme

10.2.2 What happens during humanitarian emergencies and actions to take***Note these points*****The effects of Humanitarian Emergencies include:**

- (a) Humanitarian emergencies due to disasters have major implications on the populations where they occur and on their health services including surveillance systems.
- (b) Emergencies result in population displacement to congested settings where access to basic needs like water, food, shelter, health care and other social services are constrained.
- (c) This leads to:
 - (i) Deaths from common epidemic and endemic diseases.
 - (ii) Disruption of health services and the routine national public health IDSR systems.
 - (iii) Increased risk of outbreaks.
 - (iv) Delayed outbreak detection and sub-optimal response.

10.2.3 EARLY WARNING AND RESPONSE

What is Early Warning and Response?

An organized mechanism to detect as early as possible any abnormal occurrence or any divergence from the usual or normally observed frequency of diseases, conditions and events.

Why is it needed?

- (a) Emergency populations are vulnerable to excess morbidity, mortality and disability resulting from common endemic and epidemic prone diseases.
- (b) A sensitive surveillance system should be in place to facilitate rapid detection within 24 hours and response within 48 hours to disease outbreaks and public health events.

10.2.4 WHAT IS TAILORING IDSR TO EMERGENCY CONTEXT

- (a) During the acute phase of a humanitarian emergency, IDSR should be modified as soon as possible to focus on priority health problems during the emergency phase.
- (b) The tailored IDSR should focus on diseases, conditions or events for a given emergency context and should be flexible enough to respond to other emerging public health priorities.
- (c) IDSR should be enhanced within 3-10 days of grading the public health emergency to facilitate rapid detection and response to disease outbreaks and public health events.
- (d) This will reduce avoidable mortality, morbidity, and disability during humanitarian crises

10.2.4.1 Objectives of tailoring IDSR to emergency context?

The Main Objective is to:

- (a) Rapidly detect and control acute public health events of any origin, with particular attention to prioritized health risks.
- (b) Increase sensitivity of detection, quality of risk assessment, and timeliness and effectiveness of the response to acute public health risks in order to minimize the negative health consequences to the affected population.

The specific objectives are to:

- (a) detect early an acute public health events and health risks;
- (b) ensure immediate communication of information from local and intermediate levels to national levels as well as from any source identified at the national level;

- (c) verify the initial information (i.e. signal);
- (d) document the nature of the event through investigation, characterization, etiological confirmation;
- (e) perform risk assessment to determine the level of risk posed by the detected event;
- (f) ensure immediate alert mechanisms from national and/or intermediate levels to local levels;
- (g) ensure prompt investigation as necessary and implement an adequate response through mitigation and control measures, as required by the continuous risk assessment; and
- (h) alert and maintain communication/coordination with national/international stakeholders.

10.2.4.2 Critical components of tailoring IDSR to emergency context

During humanitarian crises, the following must be emphasized:

- (a) All functional static and mobile health facilities/clinics (Government and/or partner-supported clinics, IDP/Refugee camp clinics) that provide curative, disease prevention and health promotion interventions should be included in the IDSR network to enhance sensitivity of the system.
- (b) Ensure systematic and formalized data collection and analysis processes.
- (c) Epidemic intelligence should be based on two main IDSR disease/event detection methods:
 - (i) Indicator-based surveillance (which reports immediate and weekly data aggregated by health facilities).
 - (ii) Event-based surveillance (organized collection, monitoring, assessment and interpretation of unstructured ad hoc information regarding health events or risks).

(refer to introduction section, pages XX to XX of the 3rd Edition IDSR Technical Guidelines Booklet One)

10.2.4.3 Steps in implementation of IDSR in humanitarian emergencies

- (a) Rapid assessment of the situation
- (b) Gap analysis
- (c) Prioritization
- (d) Identify the additional diseases/conditions that are peculiar to the emergency situation and include it in the immediate and weekly reporting
- (e) Develop an action plan for implementation
- (f) Designate a coordination mechanism

10.2.4.4 Various actors in implementation of IDSR in humanitarian emergencies

During acute or complex emergencies, where the capacity of the National and Sub-national IDSR system in the MoH is greatly constrained, the roles and responsibilities of various actors may need to be re-enforced:

- (a) **National/Central level:** National Public Health Emergency Management Committee (PHEMC) coordinated by the national PHEOC is activated to support the coordination and response activities in the affected regions and districts.
- (b) **Regional or provincial and district level:** The regional or provincial and district PHEMC are activated: MoH and WHO working in close collaboration with the health cluster assign a partner or a focal point in each affected district to coordinate disease surveillance and outbreak response activities in the crisis-affected populations.
- (c) **Public and partner-supported health facilities or clinics:** All identified focal persons working in health facilities or mobile clinics offering curative, disease prevention, and health promotion services should implement the following:
 - (i) Detect, collect and report priority and epidemic diseases, conditions/ public health events.
 - (ii) Support the verification and investigation of outbreaks and public health events.
 - (iii) Implement public health and outbreak response measures with support from the district and national surveillance focal points.

10.2.4.5 Key structures and tools to be put in place during an acute humanitarian crisis

Use the existing national IDSR framework at national and sub-national levels with the Ministry of Health leading the efforts and supported by WHO and partners. However, during acute or complex emergencies/Humanitarian crises where there is disruption of the existing national disease surveillance, preparedness and response system and the capacities of the Ministry of Health are greatly compromised or diminished, then WHO working with the health cluster partners should take lead in coordinating and implementing surveillance, outbreak preparedness and response activities.

Your Facilitator will demonstrate the key structures and tools to be put in place during an acute humanitarian crisis.

You can read this information in Section 10, pages XX to XX of the 3rd Edition IDSR Technical Guidelines Booklet Five

10.2.4.6 *Key elements of outbreak preparedness and response in emergencies or fragile health systems*

Note the following points:

The key elements of preparedness and response in crisis affected populations should include the following:

- (a) Strengthening existing or forming new multisectoral outbreak control teams at national and sub national levels, with roles and responsibilities designated for each team member.
- (b) Updating existing or developing new outbreak prevention and response plans that incorporate risks unique to crisis affected populations.
- (c) Development or updating (if necessary) of standard line-list forms for data collection during an outbreak.
- (d) Development and distribution of standard treatment protocols for key diseases, with strategies for training of staff.
- (e) Calculation of potential attack rates for epidemic-prone diseases, where possible.
- (f) Pre-positioned stockpiles of essential treatment supplies to initiate outbreak control.
 - (i) e.g.: oral rehydration salts, intravenous fluids, vaccination materials, personal protective equipment, transport media for samples, water purification supplies and information leaflets on preventive measures for health staff or the community
- (g) Procurement of laboratory sample collection materials for the priority diseases, and identification of a competent laboratory for confirmation of cases.
- (h) Identification of potential sites for isolation and adequate treatment of patients, or for extra capacity in the event of a surge in cases (e.g. a cholera treatment centre).
- (i) Implementation of relevant prevention measures based on the risk assessment of diseases.
 - (i) e.g. measles and cholera vaccination, indoor-residual spraying of dwellings and distribution of long-lasting insecticide-treated nets to prevent outbreaks of measles, cholera, and malaria.

Alert and Action (epidemic) thresholds used in crisis affected populations

- (a) Thresholds are used for the following in crisis affected populations:
 - (i) Assess severity of the humanitarian crisis based on the crude mortality rate (CMR) and under five mortality rate (U5MR).
 - (ii) Alarm systems for detecting possible outbreaks.
- (b) Once the thresholds are reached the following actions should be instituted promptly to prevent excess morbidity and mortality:
 - (i) Verifications, investigations, and response

Outbreak investigation (Refer to section 4 of the 3rd Edition IDSR Technical Guidelines Booklet Three)

- (a) Investigation should begin as soon as an alert detected by surveillance has been verified.
- (b) The investigations should be undertaken by rapid response teams at national and sub-national levels that have been established as part of the national IDSR framework.
- (c) Investigations should follow existing IDSR outbreak investigation tools and guidelines that have been customized to address the unique needs of crisis affected populations.

Outbreak response

- (a) Outbreak response should follow the existing national IDSR framework at national and sub-national levels with the country's existing structures leading the efforts
- (b) However, during acute or complex emergencies where the capacities of the Ministry of Health are greatly compromised or diminished, WHO working with the health cluster partners should take lead in coordinating and implementing outbreak response activities.
- (c) Strengthening existing or formation of new multi-sectoral outbreak control teams at national and sub national levels, with roles and responsibilities designated for each team member as set out in the IDSR outbreak response guidelines (Refer to section 4 of the 3rd Edition IDSR Technical Guidelines Booklet Three.
- (d) Health, Water Sanitation and Hygiene (WASH) cluster partners should support outbreak response activities in crisis affected populations.

10.2.5 LESSONS LEARNT AND SUSTAINABILITY DURING RECOVERY PHASE OF THE HUMANITARIAN CRISIS

- (a) During the recovery phase of the crisis, the Ministry of Health should work with WHO and partners to re-establish all the IDSR structures and focal points in the crisis affected populations.
- (b) Conduct an evaluation to assess what happened, why it happened and document lessons learnt and gaps identified to inform the recommendations to prevent future occurrence.

10.2.6 PRACTICE EXERCISE 1



Exercise 1

Instructions

You will read through the case study for Exercise 1 for about 10 minutes. You will then answer all the questions that follows in an assigned group by your Facilitator. You should refer to sections 5 and 10 of the 3rd Edition IDSR Technical Guidelines Booklets Three and Five whilst answering the questions.

You will be asked by your Facilitator to present the answers during plenary discussions.

Case Study

Dr Salifu have been posted newly (a month ago) as the District Director of Health Services of Kamila District in Country X in the Central Africa. Just as he was familiarising himself with working in his new district, on 15 July 2018 a torrential rain with storms causing massive mud slides and flooding hit the district. Reports from the disaster management authority indicated that several communities have been affected in the district. An estimated 12,000 houses have been destroyed rendering over 10,000 people homeless. Many have been injured and it is feared that many are also dead. The exact number of casualties and deaths is unknown. Many social services including transportation, telecommunication, water and electricity supply, health delivery services etc. have been disrupted in the affected communities.

Questions

1. Define what is a disaster?

6. Describe the main components of the plan of action for implementing IDSR strategy in this humanitarian emergency situation

7. The District public health emergency preparedness and response committee during their first meeting decided to conduct risk assessment of the disaster area so a team was constituted to implement the task. Advise the team how they will conduct the risk assessment.

10.2.7 PRACTICE EXERCISE 2



Exercise 2

Instructions

You will read through the case study for Exercise 2. This is a follow-up information to the case study in exercise 1. You will have about 10 minutes to read the case study and then answer all the questions that follow.

You should refer to sections 4, 5, 10 and 11 of the 3rd Edition IDSR Technical Guidelines Booklets Three, Five and Six whilst answering the questions.

Case Study

The internally displaced persons from the flood and mud slides disaster which recently occurred in Kamila District in Country X in Central Africa have temporarily been sheltered in a camp in North Bumbala Sub-district, in the eastern part of the district. The created camp is congested and overcrowded with poor sanitation facilities and water supply. On 1 August 2018, the District Disease Control Officer of Kamila District notified the District Director of Health Services by telephone of an increasing number of persons with diarrhoea and vomiting reporting to the clinic at the camp in the North Bumbala Sub-district. The report indicated that 50 cases of diarrhoea and vomiting including 34 deaths have occurred.

Questions

1. What should the District Director of Health Services do?
2. The District Director of Health Services among other decisions taken, decided to send a public health emergency rapid response team to the field. What should be the right composition of the team?
3. List the potential risk factors for transmission of the disease in the camp

4. As of 10 August 2018, 31 of the cases tested positive for cholera RDT and 13 were culture confirmed. The PHERRT presented outbreak report to the PHEMC confirming an outbreak of Cholera in the camp.

What are the control measures the team have to put in place to stop the outbreak?

10.5 SUMMARY

POINTS TO REMEMBER:

- (a) During emergencies, the routine national public health IDSR strategy need to be enhanced to function optimally to meet the public health surveillance and outbreak response needs in humanitarian contexts.
- (b) Use the existing national IDSR framework at national and sub-national levels with the Ministry of Health leading the efforts and supported by WHO and partners.
- (c) During the recovery phase of the crisis, the Ministry of Health should work with WHO and partners to re-establish the IDSR structures and focal points in the crisis affected populations.

10.6 REFERENCES

- (a) Technical Guidelines for Integrated Disease Surveillance and Response (IDSR) Third Edition, WHO AFRO. 2019
- (b) Emergency response framework, 2nd Edition. World Health Organization 2017
- (c) Guidance on using the “Rapid risk assessment, acute events of potential public health concern” template, WHO