Participant's manual
Integrated Disease Surveillance and Response
Liberia

Adapted November 2016

Participants' Manual for Regional Training of Trainers

Integrated Disease Surveillance and Response

Republic of Liberia

Instructions to Participants

November 2016

Introduction

The participant's manual provides instruction and suggestions for the training modules for *Integrated Disease Surveillance and Response in Liberia*. This training is intended for County level health officers who conduct IDSR activities. The course is laid out in 10 modules. By the end of the course, participants will be familiar with the National Technical Guidelines for Integrated Disease Surveillance and Response and capable of utilizing them appropriately in their position.

1.0 Teaching Methods

This training is designed to first provide participants with information then provide examples of how to apply the information and conclude with an opportunity to practice applying the information or skill.

Readings- As participants you will be asked to read short sections from the technical guidelines for content. This helps you learn the content and show where you can find information within the technical guidelines in the future.

Lectures- Several lectures will be conducted on the content from the technical guidelines. These lectures will be brief and are intended to provide information to the participants in a method that can be more engaging than reading because it is an interactive method of teaching.

Small Group Discussion- As participants you will be asked to do several exercises in pairs or small groups. This will provide you with the opportunities to practice using the information you have learned. Small group work is particularly helpful for people who are intimidated by larger groups.

Large Group Discussion- You will also participate in several discussions with the entire group. The facilitator will provide the discussion topics and follow-up questions and to moderate the discussion.

3.0 Training Agenda

The training agenda is provided below with estimated times for each exercise and breaks. The modules may take more time than is allotted here. Times are provided as estimations.

Time	Activity	Facilitators
Monday (Day One)		
8:00-8:30	Registration of Participants and Breakfast	Secretarial team
8:30-8:35	Prayer	Participant
8:35-8:45	Opening Remarks	MOH
8.45- 9.15	Pretest	Participants
9.15- 9.35	Facilitation skills	MOH/partner
Introduction and Overview of IDSR and IHR		
9:35 -11:00	Overview	DPC/CDC and WHO
Module 1: IDSR Leadership and Coordination		
11:00-11:30	Introduction	DPC/CDC and WHO
11:30-12:00	Plenary Discussion	All
12:00-13:00	LUNCH BREAK	All
Module 2: Identify Cases of priority diseases, conditions and events		
14:40-14: 50	Introduction (20 minutes)	MOH/WHO
	Exercise 1 (40 minutes)	Group Work
	Exercise 2 (40 minutes)	
	TEA BREAK	All
14:50- 17:10	Exercise 3 (40 minutes)	Group Work
	Exercise 4 (40 minutes)	
	Plenary Presentations (1 hour)	Participants
17:10-17:20	Wrap up from Day 1	All
Tuesday (Day Two)		

8:00-8:30	Registration of Participants and Breakfast	Secretarial team
8:30-8:35	Opening prayer	Participants
8.35 – 8.50	Recap of day 1	Secretarial team
Module 3: Laboratory specimen collection, handling and documentation		
8:50-: 12.00	Introduction (20minutes)	DPC and WHO/CDC
	Exercises 1 (20 minutes)	Participants
	Exercise 2 (10 minutes)	
	Exercise 3 (30 minutes)	
	Exercise 4 (30 minutes)	
	Exercise 5 (30minutes)	
	Plenary Presentations (50 minutes)	
12:00-13:00	LUNCH BREAK	All
Module 4: Report Priority Diseases, Condition and Events		
13:00-15:50	Introduction (20 minutes)	DPC and WHO/CDC
	Exercise 1 (30 minutes)	Participants
	Exercise 2 (30 minutes)	Participants
	Exercise 3 (30 minutes)	Participants
	Plenary Presentations (1 hour)	Participants
15:50-16:00	TEA BREAK	All
16:00-17:00	Wrap up from Day 2	All
18:00-19:00	Facilitator's meeting	Facilitators
Wednesday (Day Three)		
8:00-8:30	Registration of Participants and Breakfast	Secretarial team
8:30-8:35	Opening prayer	Participants
8.35-8.50	Recap	
Module 5: Analyze and Interpret Data		
8:50-12.00	Introduction (10 minutes)	DPC and WHO/CDC
	Exercise 1 (1 hour)	Participants
	Exercise 2 (1hour)	Participants
	Exercise 3 (1 hour)	
	Exercise 4 (1hour)	Participants
12:00-13:00	LUNCH BREAK	All
13:00-16:00	Exercise 5 (1hour)	Participants

	Exercise 6 (1 hour)	Participants
	Plenary Presentations (1 hour)	Participants
16:00-16:20	TEA BREAK	All
16:20-16:30	Wrap up from Day 3	All
18:00-19:00	Facilitator's meeting	Facilitators
Thursday (Day Four)		
8:00-8:30	Registration of Participants and break fast	Secretarial team
8:30-8:35	Opening prayer	Participants
8.35-8.50	Recap	
Module 6: Investigate and Confirm suspected cases, outbreak and other events of public health importance		
8:50-9:00	Introduction (10 minutes)	MOH/WHO/CDC
9:00-9:30	Exercise 1 (30 minutes)	Participants
9:30-10:00	Exercise 2 (30 minutes)	Participants
10:00-10:30	Exercise 3 (30 minutes)	Participants
10:30-11:00	Exercise 4 (30 minutes)	Participants
11:00-11:30	Exercise 5 (30 minutes	Participants
11:30-12:30	Plenary discussion (1 hour)	All
12:30-13:30	LUNCH BREAK	All
Module 7: Preparedness and Response to Outbreak and other Public Health Events		
13:30-15:30	Introduction (10 minutes)	MOH/WHO/CDC
	Exercise 1 (10 minutes)	Participants
	Exercise 2 (40 minutes)	Participants
	Plenary Presentations (1 hour)	Participants
Module 8: Monitoring and Evaluation Introduction		
15:00-17:00	Introduction (10 minutes)	MOH/WHO
	Exercise 1 (20 minutes)	Participants
	Exercise 2 (30 minutes)	Participants
	Plenary presentation (module 8) 1 hour	Participants
17:00-17:10	Wrap up from Day 4	All
17: 15-18:15	Facilitator's meeting	Facilitators
Friday (Day Five)		
8:00-8:30	Registration of Participants and Break fast	Secretarial team
8:30-8:35	Opening prayer	Participants

8:35-8.55	Recap	
Module 9: Communicate Public Health Information		
8:55-11:15	Introduction (20 Minutes)	DPC and WHO/CDC
	Exercise 1 (30 minutes)	Participants
	Exercise 2 (30 minutes)	Participants
11:15-11:25	LUNCH BREAK	All
11:25-12:25	Plenary Presentation(1 hour)	Participants
Module 10: Supervision and provide feedback		
12:25-16:45	Introduction (20 minutes)	
	Exercise 1 (40 minutes)	
	Exercise 2 (40 minutes)	
	Exercise 3 (40 minutes)	Participants
	Plenary Presentations (1 hour)	
16:45 -17:00	Wrap up	All
17:00-18:00	Facilitator's meeting	Facilitators
Saturday (Day six)		
8:00-8:30	Registration of Participants and Breakfast	Secretarial team
8:30-8:45	Opening prayer/ Recap	Participants
8:45-10:15	Leadership and coordination (participants practice facilitation skills)	Participants
	Plenary Presentations (30 minutes)	
10:15-11:05	Summary of Presentations and issues arising. (30 minutes)	DPC and WHO/CDC
	Adaptation of training materials (20 minutes)	
11:05-11:35	Plenary Presentations (30 minutes)	Participants
11:35-12:00	Post test (25 minutes)	Participants
12:00-13:00	Closing session (60 minutes)	CHT, WHO,CDC,AFENET, Partners
	Remarks	
13:00-13:10	Announcement (10 minutes)	DPC
13:10-14:10	LUNCH BREAK	All
14:10	Departure	All

4.0 Logistics

a. Checklist of supplies needed for participants:

* Name tag and holder * Pencil and sharpener * Note pad * Eraser *Ruler * Calculator (if available) *Pen * Participant's manual * National IDSR technical guidelines guidelines

FACILITATION SKILLS

1.0 Introduce yourself

Effective Facilitation

IDSR TOT, Liberia

1

2

Presentation outline

- Objectives of the presentation
- Experiences sharing on facilitation skills
- Qualities of a good facilitator
- Tips in facilitation
- Getting prepared
- Group dynamics

3

Objectives of the presentation

- To define the roles of a facilitator
- To share experiences in facilitation and identify successes and challenges
- To describe good facilitation skills
- To identify ways of managing group dynamics in facilitation

4

Experience sharing

- Role plays

1. Demonstrating poor facilitation skills
2. Demonstrating good facilitation skills

5

Discussion

Discuss each of the facilitation skills

1. Strengths
1. weaknesses

7

Qualities of a Good Facilitator

- Understands the characteristics of the audience (age, sex, literacy, etc)
- Is knowledgeable on subject (read widely)
- Good communicator (audible, maintain eye contact, body language, mannerism, etc)
- Ability to listen, be flexible but stay focused
- Ability to apply a sense of humor where appropriate
- Ability to appreciate differing point of views
- Encourages active participation
- Ability to maintain participants interested/alert

8

Tips in Facilitation

1. Setting ground rules
2. Building rapport/ice breakers
3. Acknowledging contributions
4. Probing
5. Encourage active participation
6. Reflecting and clarifying
7. Keep participants awake/alert

9

Getting prepared

- Test your presentation technology-projector, PA system, cameras, etc
- Prepare a good PPT
  #of words, spellings, photos, facts, animations, preferable to use blue or black markers
  Avoid reading word per word of PPT
- Have both hard and soft copies of your presentation (plan B)
- Have all required training materials
- Adequately rehearse your presentation

10

1. Setting Ground Rules

- Brainstorm examples of how we set ground rules

11

2. Building rapport/ice breakers

- Brain storm on how to build rapport

12

3. Acknowledging Contributions

- That is an excellent point …
- That's a good point. I am putting it in the parking lot and we will discuss it later …
- Use any affirming response that is sincere and within your style of conversation …
  - Excellent
  - Exactly
  - Great
  - Thanks

13

4. Probing

- Can you tell us more about that idea.. …
- Say it in a different way …
- This doesn't seem consistent with your data—help me understand how it relates …
- Is there another way to look at this …
- Will this make a difference with the students …
- Is this the best approach …
- How does that build on …

14

5. Encourage Active Participation

- Does anyone else have another idea …
- I haven't heard from …
- I want to give all those that haven't spoken a chance to talk …
- Do people think we have it right …
- Who can tell me the main point …

15

6. Reflecting and Clarifying

- What I heard is .....Am I right.....?
- So you are saying ...
- Do we all agree ...
- What do you think we have agreed to ...
- What makes his position unacceptable ...

16

Keep participants awake

- Avoid distractors like noise, **give more examples.....**
- Engage them through e.g brainstorming sessions, group activities
- Move around the class when presenting (though limited)
- Ask questions
- Involve the participants eg writing on the flipcharts, VIP cards etc

17

Adult learning

- Adults have a right to their opinion – respect them
- Do not keep them in long sessions
- Give them practical sessions and less of lectures
- Some mothers come with their babies –be flexible

18

Group Dynamics

19

Problem	Common Mistake	Effective Response
Domination by a highly verbal member	Inexperienced facilitators often try to control this person. "Excuse me Mr. Q, do you mind if I let someone else take a turn?" Or, even worse, "Excuse me, Ms. Q, you're taking up a lot of the group's time..."	When one person is over-participating, everyone else is under-participating. So, focus your efforts on the passive majority. Encourage them to participate more. Trying to change the dominant person merely gives that person all the more attention.
"Having sessions in sessions", losing concentration, some sleeping, etc	It's tempting to try to "organize" people by getting into a power struggle with them. "Okay, everybody, let's get refocused and have one session." This only works when the problem isn't very serious.	Aim for a break as soon as possible. People have become undisciplined because they are overloaded or worn out. After a breather, they will be much better able to focus.

20

Low participation by the entire group	Low participation can create the impression that a lot of work is getting done in a hurry. This leads to one of the worst errors a facilitator can make: assume that silence means consent, and do nothing to encourage more participation.	Switch from large-group open discussion to a different format that lowers the anxiety level. Often, small groups encourage active participation.
Arguing about trivial procedures	Lecture the group about wasting time and spinning our wheels. Space out, doodle, and think to yourself, "It's their fault we're not getting anything done."	Have the group step back from the content of the issue and talk about the process. Ask the group, "What is really going on here?"

21

Problem	Typical Mistake	Effective Response
Someone becomes loud and repetitive	At lunch, talk behind the person's back. Tell the person in charge that s/he must take more control. Confront the person during a break. Then, when the meeting resumes, act surprised when his/her anxiety goes through the roof!	People repeat themselves because they don't feel heard. Summarize the person's point of view until s/he feels understood. Encourage participants to state the views of group members whose views are different from their own.
Someone discovers a completely new problem that no one had previously noted	Try to come up with reasons why the group would not need to focus on that issue. Pretend not to hear the person's comments.	Wake up! This may be what you've been waiting for: the doorway into a new way of thinking about the whole situation.

22

Minimal participation by members who don't feel interested in the topic	Act as though silence signifies agreement with what's been said. Ignore them and be thankful they're not making trouble.	Look for an opportunity to have a discussion on, "What's important to me about this topic?" Have people break into small groups to begin the discussion. This gives everyone time to explore their own stake in the outcome.
Poor follow through on assignments	Give an ineffective pep-talk. Ignore it. "We didn't really need that information anyway." Put most of the responsibility on one or two people.	Have people do assignments in teams. Organize a plenary session at a midpoint before the assignment is due. This gives anyone having trouble a chance to get help.

23

Problem	Typical Mistake	Effective Response
Failure to start on time and end on Time	Wait for the arrival of all the people who count. This obviously means starting late, but hey, what else can you do? When it's time to end, go overtime without asking. If anyone has to leave, they should tiptoe out.	Start when you say you're going to start. (Waiting encourages lateness.) If you must go overtime, call a break so people can phone home. If going overtime is recurrent, improve your agenda planning.
Two people locking horns	A lot of time can get wasted trying to resolve a conflict between two people who have no intention of reaching agreement. People often use one another as sparring partners, in order to clarify their own ideas.	Reach out to other members and say, "Who else has an opinion on this issue?" or, "Let's step back for a minute. Are there any other issues that need to be discussed?" Remember: don't focus your attention on the dominant minority, focus on the passive majority.

24

One or two silent members in a group whose other members participate actively	"Mr. Z, you haven't talked much today. Is there anything you'd like to add?" This may work when a shy member has non-verbally indicated a wish to speak. But too often, the quiet person feels put on the spot and withdraws further.	"I'd like to get opinions from those who haven't talked for a while." Breaking into small groups works even better. Small groups allow shy members to speak up without having to compete for air time.
Whispering and side jokes/diverter/time wasters	Facilitators commonly ignore this behavior in the hope that it will go away. Sometimes it does, but it frequently gets worse.	With warmth and humor, make an appeal for refocusing/sharing the joke. "As you know, those who don't hear the joke often wonder if someone is laughing at them." If the problem persists, assume there's a reason. Has the topic become boring and stale? Do people need a break? Or the reverse; maybe everyone needs time for small group discussion.

25

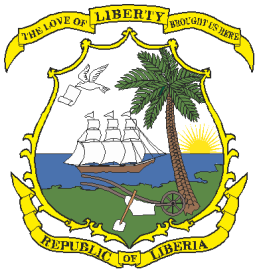
Questions???

26

INTRODUCTORY MODULE

Introduction and Overview of IDSR and IHR

Adapted 2016



World Health Organization

1.0 Objectives:

By the end of this module, the participant will be able to:

1. Describe the objectives of Integrated Disease Surveillance and Response
2. Describe the objectives for this training and how to participate
3. Recognize how to apply the skills learned in the course

2.0 What is IDSR?

The main points of IDSR:

- Integrated Disease Surveillance and Response (IDSR) is a strategy of the World Health Organization Regional Office for Africa for improving epidemiologic surveillance and response in the African region. Surveillance is the ongoing systematic collection, analysis, and interpretation of health data.
- It includes the timely dissemination and use of information for public health action.
- Integrated Disease Surveillance and Response (IDSR) is a strategy for coordinating and integrating surveillance activities by focusing on the surveillance, laboratory and response functions of the national disease surveillance system.
- Scarce resources are combined to collect information from a single focal point at each level.

The objectives of the IDSR are to:

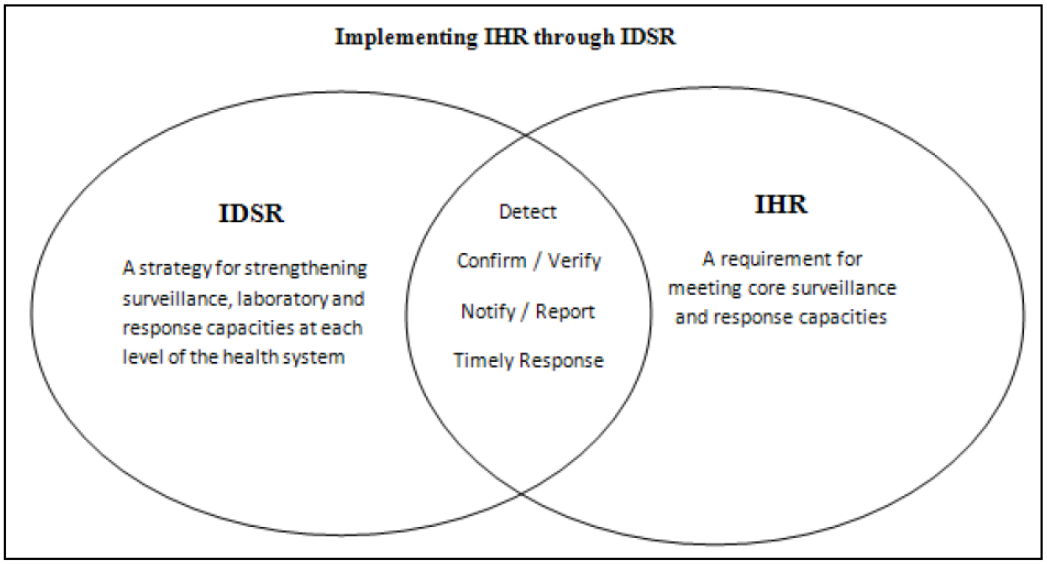
- Conduct effective surveillance activities
- Integrate multiple surveillance systems to use resources more efficiently
- Improve the use of information for detecting, investigating and responding to public health threats
- Improve the flow of surveillance information throughout the health system

3.0 What is International Health Regulations

The main points of IHR:

- The purpose of the International Health Regulations (IHR) is to prevent, protect against, control and provide public health response to the international spread of disease in ways that are relevant and restricted to public health risks, and which avoid unnecessary interference with international traffic and trade. IHR (2005) is a binding and legal instrument.
- Among the several requirements in the IHR (2005) is a call for strengthening of national capacity for surveillance and control of public health events of national and international concern.
- The IHR (2005) is not a separate surveillance system. Instead, it requires strengthening the existing surveillance capacities in countries so that they meet international standards.
- Member States in the African Region recommended that IHR (2005) be implemented within the IDSR framework. This means that IDSR and IHR share common functions such as detection, reporting, confirmation, verification, notification, reporting and timely response.

Describe the following graphic and how it demonstrates the overlap of IDSR and IHR (2005)



4.0 Define disease surveillance

Review the definition of disease surveillance for different health levels:

- **Surveillance** is the ongoing, systematic collection, analysis, and interpretation of health data. It includes the timely dissemination of the resulting information to those who need it for action. Surveillance is also used for planning, implementation, and evaluation of public health practices at any level of the health system. There are several types of surveillance used in disease programs:
- **Health facility- or community-based surveillance:** a term to describe when a particular location is the focus of surveillance activities
- **Sentinel surveillance:** a health facility or reporting sit designated for early warning of pandemic or epidemic events. The site is usually designated because it is representative of an area or is in an area of likely risk for a disease or condition of concern.
- **Laboratory-based surveillance:** surveillance conducted at laboratories for detecting events or trends that may not be seen as a problem at other locations

- **Disease-specific surveillance:** This is surveillance that involves activities aimed at targeted health data for a specific disease.

- **Event-based surveillance:** This is surveillance that involves activities aimed at collecting health data on specific events

Regardless of the type of surveillance, remember that surveillance is data that is used for action!

5.0 How are surveillance functions presented in this training?

The *National Technical Guidelines for Integrated Disease Surveillance and Response* (2016) presents a comprehensive vision of a disease surveillance and response system in Liberia. In IDSR, all levels of the health system are involved in surveillance activities for responding to priority diseases and conditions. These activities include the following core functions:

- Identify cases and events
- Report suspected cases, conditions or events to the next level
- Analyze and interpret findings
- Investigate and confirm suspected cases, outbreaks or events
- Prepare to respond to public health events
- Respond to public health events
- Communicate with and provide feedback to health workers and the community
- Evaluate and improve the system.

The matrix on pages 22 to 27 of the National Technical Guidelines for Integrated Disease Surveillance and Response (2016) illustrates the skills and activities for carrying out these functions at each level of the health system. While the modules in this course are relevant for any level of the health system, each module in this course is from the perspective of how the County can carry out each function.

6.0 Purpose of the training

The purpose of this training is to improve the skills and knowledge of health staff to carry out activities that contribute to the national disease surveillance, laboratory and response system. These are skills which should result in more timely detection and response to the leading causes of illness, death and disability in communities and improve their well-being.

Through the modules in this course, you will be able to practice using skills that will help to strengthen the use of data for action at all levels (national, county, district, health facility and community).

Disease surveillance and response systems in the country face serious challenges in achieving reliable surveillance and response outcomes. The minimum IHR core capacities requirements for surveillance (reporting, notification, verification, and response) and appropriate capacities at the points of entry are not yet achieved. In order to address these shortcomings, the *National Technical Guidelines for Integrated Disease Surveillance and Response* (IDSR) and this set of training modules on IDSR have been developed for use by health workers to enhance the implementation of IDSR skills and activities.

7.0 Learning objectives

The general objective:

The general objective of this training is for health workers to have the opportunity to practice skills and activities involved in surveillance and disease control. They will gain appropriate knowledge and skills for using data to detect and respond to priority diseases, conditions and events and thereby reduce the burden of illness, death and disability in communities.

The specific objectives:

The specific objectives of this training are to enable participants to:

1. Acquire knowledge and skills in Management and Leadership for IDSR implementation
2. Identify cases, conditions and events of public Health importance
3. Acquire skills in laboratory specimen collection, handling and documentation
4. Report suspected cases or conditions or events of public Health importance
5. Analyze and interpret data on priority diseases and events
6. Investigate and confirm suspected cases, outbreaks or events
7. Be prepared for outbreaks or events of public health concern.
8. Respond to outbreaks or events of public health concern
9. Supervise and provide feedback
10. Monitor and evaluate IDSR/IHR Implementation

Course materials:

National Technical Guidelines for Integrated Disease Surveillance and Response in Liberia(2016)

Training modules for integrated disease surveillance and response

International Health Regulations (2005), second edition

Annex 1: Presentation on Introduction and Overview of IDSR and IHR

Introduction and Overview of IDSR and IHR

IDSR Regional Level Training

Group Introductions

Your Name

Your Title

Your District

How have you used IDSR?

Learning Objectives for this Training

Participants will gain:
1. Knowledge of the IDSR Guidelines

2. Skills for applying the information in the IDSR Guidelines and using data for action

3. Skills for using the IHR (2005) decision instrument

Background of IDSR

•Integrated Disease Surveillance strategy adopted by Member states in 1998

•IDSR Technical Guidelines developed in 2001 with emphasis on:
–Epidemic prone diseases
–Diseases targeted for elimination and eradication
–Diseases of public health importance

•Revised IDSR Technical Guidelines (2016) include :
–Non communicable diseases
–Public Health Emergencies of International Concern (IHR 2005)

Objectives of IDSR

•Conduct effective surveillance activities

•Integrate multiple surveillance systems to use resources more efficiently

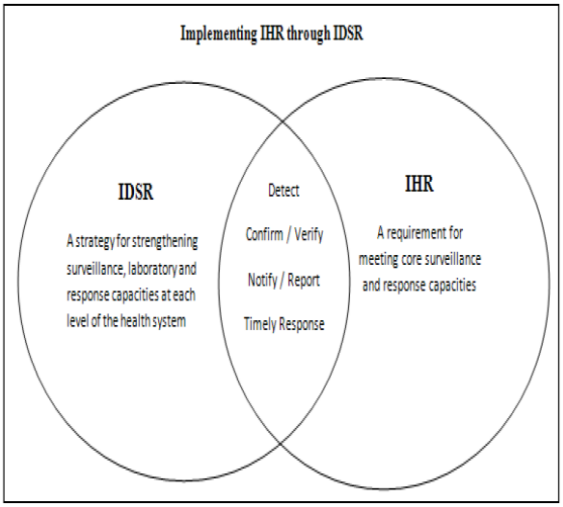
•Improve the use of information for detecting, investigating and responding to public health threats

•Improve the flow of surveillance information throughout the health system

International Health Regulations (2005)

•The IHR (2005) is not a separate surveillance system. Instead, it requires strengthening the existing surveillance capacities in countries so that they meet international standards.

•Member States in the African Region recommended that IHR (2005) be implemented within the IDSR framework.



Disease Surveillance

•Surveillance is the ongoing, systematic collection, analysis, and interpretation of health data.

•Timely dissemination of the resulting information to those who need it for action.

•Used for planning, implementation, and evaluation of public health practices at any level of the health system.

Regardless of the type of surveillance, remember that surveillance is data that is used for action!

Training Layout

•This is a 6 day training

•We will cover 10 modules that address different aspects of the IDSR strategy

•You will be asked to think of examples and practices from your own County

•All content information you will need is in your module and the IDSR Technical Guidelines. You will take both home with you for reference

Module Structure

Each module:

•Begins with information that can be read or given as a presentation

•Uses exercises and case studies –Most derived from real reported events

•Concludes with a summary of points to remember

Points to Remember

1. This course was developed for health workers to enhance the implementation of the IDSR strategy

2. Data used for action saves lives

Thank you!

Let's Get Started

MODULE 1

IDSR Leadership and Coordination

Module facilitation time	4 Hours 30 Minutes
Introductory Presentation and questions	Introductory presentation and plenary: 30 Mins
Group Work Exercises	1. Exercise 1: Liberia IDSR strategy and System: 45 Mins. 2. Exercise 2: Stakeholders Mapping and key functions 3. Exercise 3: IDSR Coordination and Feedback
Logistic Requirements	○ Sheets ○ Flip Charts ○ Paper glue ○ Post it ○ Markers
References documents	○ IDSR Technical Guidelines Liberia July 2016 ○ Community Event Based Surveillance ○ Liberia Epidemic Preparedness and Response (EPR) Plan ○ MNDSR technical guidelines and SOPs

Developed November 2016

World Health Organization

"Partnering with Local Management/Administrative Structures and stakeholders to implement IDSR"

1.1.0 Introduction

Public Health Surveillance (PHS) and public health actions functions are fundamental for national and global health security. This requires both technical and managerial capacities of all at governance and leadership levels. Recent outbreaks such as the EVD demonstrated the importance of effective coordination and leadership in PHS and response systems. The International Health Regulations (IHR) 2005 underscore the commitment to the goal of global security and request all Member States to establish and implement effective surveillance and response systems to detect and contain public health threats of national and international importance.

Since 2004, The Public Health Surveillance (PHS) system in Liberia has adopted the IDSR strategy as the platform to implement PHS. It is comprised of key operational areas called core functions: legislation, finance and policy framework, coordination (through Intersectoral collaboration, networking and partnerships) Identify, Report, Analyze, Investigate and Confirm, Epidemic Preparedness. Other support components include; Communication, Monitoring and Evaluation and Feedback, laboratory, logistics training, standard guidelines, etc.

Leadership and coordination function of IDSR encompasses a variety of goals such as eradication or elimination (e.g. of guinea worm, measles) and surveillance for acute flaccid paralysis. Surveillance systems also serve to monitor trends of endemic diseases, progress towards disease control objectives, and to provide information which may be used to predict outbreaks and evaluate the impact of disease prevention and control programmes.

IDSR leadership and Coordination is critical to efficient and effective disease prevention and control. County leaders must have information about the public health events occurrence to lead, coordinate, and plan and maintain prevention and control programs. The goal is to help leaders at all levels understand the IDSR strategy in Liberia. Become familiar with the various IDSR models (Syndromic, case-based or indicator, CEBS, etc) and public health surveillance approaches and types. It will reinforce linkages between public health surveillance, public health actions and their positions of leadership.

1.1.1 Purpose of the module

Through the course of IDSR, leadership and coordination, competencies are needed across all levels to ensure effective information flow and integration. This module aims to sensitize and motivate Local administrative leaders' and stakeholders to guide health care workers and front line public health workers in their roles and responsibilities as planners, advocators, resource mobilizers and supervisors in the implementation IDSR. It helps to reinforce coordination roles, assist in networking, and enhance local ownership.

This module is built on the elements of Liberia's IDSR core functions and structures, the tiers of health service delivery, local political administrative structures and functions as they work together. Partnering will and should be different in different places depending on local needs, resources and capabilities.

This module is based on general principles and should be used to guide county leadership on sensitization, advocacy tool, coordination framework, and core functions in IDSR implementation.

1.1.2 Target Audience

This module is intended for:

- County Health Officers
- County Superintendents
- District Commissioners
- County/District Hospital Administrators
- District Health Teams;
- Local leaders; and
- Administrators, Partners, etc.

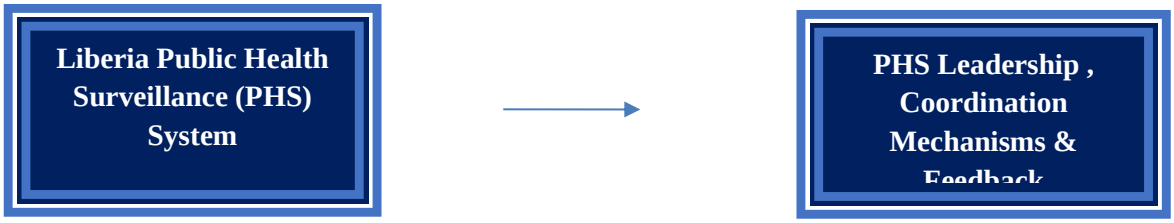
1.2 Learning Objectives:

At the end of this module, each participant should be able to:

- Describe current types and approaches of public health surveillance in Liberia;
    - Type of PHS (Global and in Liberia)
    - Types of Public Health Coordination platforms
    - Levels of PHS service delivery and Core Functions
- Map critical local stakeholders and describe optimal coordination framework and key roles; and
- Describe Public Health Surveillance Feedback System

1.3 Content of Module 1: Leadership and Coordination

This module contains the following sections.



How to Use this module

This module is divided into two sessions covering public health surveillance systems, PHS Stakeholders and coordination including feedback. .

Session one covers an introductory presentation followed by plenary. The competencies presented and discussed in this session is covered in one hour.

Session two covers 3 group work sessions: IDSR core functions in relations to the levels of service delivery; mapping critical stakeholders including existing and potential functions in the coordination and implementation of IDSR; IDSR support Coordination local mechanism and feedback. Each group work is covered in 30-45 Mins and 15 Mins for Plenary

Public Health Surveillance In Liberia

The Public Health surveillance strategy depends on the diseases under surveillance, the objectives of the surveillance system, the methods for conducting surveillance and how surveillance data are used to inform public health policy and practice.

Liberia has a structured approach to strengthening national surveillance systems through prioritization of diseases for active surveillance, systematic assessments of existing systems, development of strategic and operational plans to strengthen the systems, implementation of these plans, and monitoring and evaluation

The structure of the IDSR system is defined by the national health policy, public health law and regulations, including IHR 2005. The strategy for implementing activities, the implementers and stakeholders, and how they relate to each other and to the various networks and partnerships is describe in this session.

Session One:

Your facilitator will make the introductory presentation followed by plenary (question and answer time with participants) to discuss the current types and approaches of public health surveillance in Liberia including other global strategies and coordination frameworks (IHR, GHSA, IDSR, One Health, EPRC, STCC, etc).

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- **References**
- IDSR Technical Guidelines Liberia July 2016
- Community Event Based Surveillance
- Liberia Epidemic Preparedness and Response (EPR) Plan
- MNDSR technical guidelines and SOPs
- Liberia JEE Report
- IHR 2005
- Liberia GHSA Road Map

What Is Disease Surveillance?

Disease surveillance is the ongoing, systematic collection, collation, analysis, and interpretation of data related to disease. It includes the timely dissemination of analyzed data to those who need it for action. Surveillance data are used for planning, implementing, and evaluating public health practices at all levels of the health system. There are several types of surveillance used in disease programs:

Healthcare facility based or community-based surveillance: a term to describe when a particular location (such as healthcare facility or community) is the focus of surveillance activities.

Sentinel surveillance: a health facility or reporting site designated for early warning of pandemic or epidemic events. The site is usually designated because it is representative of an area or is in an area of likely risk for a disease or condition of concern.

Laboratory-based surveillance: surveillance conducted at laboratories for detecting events or trends that may not be seen as a problem at other locations.

Disease-specific surveillance: surveillance that involves activities aimed at targeted health data for a specific disease.

Event-based surveillance: surveillance that involves activities aimed at collecting health data on specific events.

Regardless of the type of surveillance, the important issue is that the health data are used for public health action.

Diseases, Conditions and Events under Surveillance in Liberia

Diseases of public health importance in Liberia were identified and categorized into 3 reporting frequencies: those that are designated for routine reporting to district, county or national level on a monthly basis; those that are diseases, conditions and events of international concern that require reporting under International Health Regulations (IHR) 2005 to World Health Organization (WHO); and those that are of high epidemic potential or high morbidity/mortality and require immediate and weekly reporting. IDSR supports the integrated surveillance of all of these diseases, conditions and events. The diseases, conditions and events selected for reporting are collectively referred to as **priority diseases and conditions**.

The priority diseases for IDSR in Liberia are selected based on the following criteria:

- Diseases with high epidemic potential for serious public health impact due to their ability to spread rapidly within Liberia and internationally
- Conditions that require notification under IHR
- Diseases or conditions which are principle causes of morbidity and mortality in the region
- Non-communicable disease priorities in Liberia
- Diseases for which effective control and prevention interventions are available for addressing the public health problems they pose
- Diseases for which intervention programs exist (supported by MOH and WHO) for prevention and control, eradication or elimination

The priority diseases, conditions and events that are reportable in Liberia are listed in **Table 1**. Every Healthcare Facility (HCF) in Liberia is required to report any case or suspected case that presents at the facility or community level to the district level.

Table 1 shows the epidemic prone diseases, conditions and events requiring immediate reporting (column 1); diseases or events of international concern that must be notified under IHR (column 2); and diseases and conditions that are under routine monthly surveillance in the Health Management Information System (HMIS) (column 3).

TABLE 1. PRIORITY REPORTABLE DISEASES, CONDITIONS AND EVENTS, LIBERIA, 2016

Immediately reportable epidemic prone diseases/conditions and events	Diseases or events of international concern that are notifiable under IHR 2005	Monthly reportable diseases/conditions of public health importance
Acute Bloody Diarrhea (*Shigella*) Acute Flaccid Paralysis (AFP) Cholera (Severe AWD) Human Rabies Lassa Fever Maternal Deaths Measles Meningitis[1] Neonatal Deaths Neonatal Tetanus Viral Hemorrhagic Fevers (including Ebola Virus Disease) Yellow Fever Unexplained cluster of health events Unexplained cluster of deaths	Guinea Worm (*Dracunculiasis*) Human Influenza (due to a new subtype) Severe Acute Respiratory Syndrome (SARS) Smallpox Other Public Health Event of International Concern (PHEIC) Includes: infectious, zoonotic, food borne, chemical, radio nuclear, or due to unknown condition	Acute Watery Diarrhea Acute Viral Hepatitis Adverse Events Following Immunization (AEFI) Cataract Diabetes Diarrhea w/dehydration (in <5 years) Encephalitis Epilepsy HIV/AIDS (new cases) Hypertension Hookworm Injuries (RTAs, domestic violence) Malaria Malnutrition (< 5 years) Mental Health Onchocerciasis Pertussis (Whooping Cough) Severe Pneumonia (<5 years) Schistosomiasis Sexual Assault STIs Trachoma Trypanosomiasis Tuberculosis Typhoid Refer to Health Management Information Systems monthly reporting tools (DHIS2)

One Health Strategy

"The One Health concept recognizes that the health of humans is connected to the health of animals and the environment" (source: http://www.cdc.gov/onehealth). The One Health strategy promotes the integration and coordination within and across many sectors for disease surveillance, outbreak investigation and response activities. It ensures the strengthening of each sector and enhances inter-sectoral linkages for efficient use of scarce resources, effective and timely involvement of all sectors for improved disease prevention and control.

Together with MOH, the other sectors in Liberia include Environmental Protection Agency, Ministry of Agriculture, and Forestry Development Authority. The goal of One Health is to achieve optimal health for people, animals and the environment.

Integrated Disease Surveillance and Response

The World Health Organization (WHO) Regional Office for Africa (AFRO) proposed an integrated disease surveillance and response approach for improving public health surveillance and response in Africa linking community, health facility, district, county, and national levels. This was widely adopted in Africa, including Liberia, in 2004. Surveillance activities for different diseases often involve similar functions (detection, reporting, analysis and interpretation, feedback, and action) and use the same structures, processes and personnel. IDSR promotes rational use of resources by integrating and streamlining common surveillance activities. Instead of using scarce resources to maintain separate activities, resources are combined to share activities and processes and to collect information from a single focal point at each level.

Objectives of IDSR in Liberia

The broad objective of IDSR in Liberia is to contribute to the reduction of mortality, morbidity and disability from diseases through accurate, complete and timely reporting and analysis of data for public health action. Specific objectives are to:

- Strengthen the capacity to conduct effective surveillance activities; train personnel at all levels; develop and carry out plans of action; and advocate and mobilize resources.
- Integrate multiple surveillance systems so that resources can be used more efficiently.
- Improve the use of information to enable rapid detection, analysis and response to suspected epidemics and outbreaks; to monitor the impact of interventions; and to facilitate evidence-informed public health policy, planning and action.
- Improve the flow of surveillance information across levels of the health system.
- Strengthen laboratory capacity for pathogen detection and monitoring of drug resistance.
- Increase involvement of clinicians in the surveillance system.
- Emphasize community participation in detection and response to public health problems.

What is an Integrated System?

Integration refers to harmonizing different methods, software, data collection forms, standards and case definitions in order to promote consistent information gathering and to maximize efforts among all disease prevention and control programs and stakeholders. Counties use a common reporting form, a single data entry system for multiple diseases, and common communication channels. Training and supervision are integrated, common feedback is provided, and other resources such as computers and vehicles are shared.

IDSR involves coordination of surveillance activities and joint action (planning, implementation, monitoring, evaluation) whenever it is possible and useful.

IDSR and International Health Regulations (2005)

The purpose of the International Health Regulations (IHR) 2005 is to prevent, control and respond to the international spread of diseases while avoiding unnecessary interference with international traffic and trade.

IHR (2005) is a binding legal instrument in effect in 196 WHO member states, including Liberia, that aims to help the international community prevent and respond to acute public health risks that have the potential to cross borders and threaten people worldwide. The IHR obliges member states to meet minimum core capacity requirements for surveillance and response including at points of entry, i.e. ports, airports and ground crossings.

IHR (2005) promotes cross-border collaboration which can be supported by a functional IDSR program. IHR (2005) has introduced the notion of "event-based" surveillance to IDSR in order to address rumors of "unexplained illness or clusters" as an event category for reporting from lower levels to national level. IDSR and IHR share common functions (detection, reporting, confirmation and verification, notification and reporting and timely response).

Session Two:

Group Work 1: 45 minutes

Each level of the health system (Community, Health Facility, District, County, and National) plays some role in each surveillance function. The levels are defined as the community, healthcare facility, district, county, and national. These are described in more detail in the below table

Instructions:

a. Participants are divided into groups of five, based on the levels of service delivery (Community, Health Facility, District, County and National)

b. Materials for this session include flip chart, markers, paper glue, post it sheets with core functions typed…….

c. Participants will prepare flip charts and draw 5 columns with headings indicating the core functions of IDSR: Identify, Report, investigation, Prepare, Response and Communication

d. Using paper glue, they will paste the post it sheet to the correct core functions

IDSR Core Functions and Activities by Health System Level – Refer to page 22 of the IDSR technical guidelines

Public Health Surveillance Leadership, Coordination Mechanisms and Feedback

Leadership is the ability to direct the operations, activities or performance of an organization or group of people (e.g. EPI team) towards assigned goal and achieve definite results.

Liberia public health surveillance structure is divided according to the levels of service delivery; At the community level Community Health Volunteers (CHVs), Community Health Assistance (CHA),; Health Facility focal point at the Health Facility; District Surveillance Officer (DSO) at the District; County Surveillance Officers at the County; and National Surveillance Focal person at the national Level. At each level of the national health system, various leadership functions are developed, depending on the responsibility of each officer and the nature of the changes envisaged.

Thus, ***at the National level***, the Surveillance Officers are more concerned with policies and guidelines, advocacy, monitoring, evaluation, supervision and mobilizing resources for change.

At County level, the leadership is expressed through motivation, mobilization of resources and their allocation, training, technical support through follow-up, supervision and feedback.

At the district and health facility level, leadership quality is integrated into the daily routine of t and is more related to communication, motivation, supervision, stimulation of community participation and inter-sectoral collaboration, as well as actual implementation of PHS activities

Providing leadership within the PHS system will command the participation of not only the above direct staff and offices, but other stakeholders and implementers include the disease-specific programmes, public health laboratories, and public health training institutions, resources individuals and other informal institutions.

The flow of surveillance data through the system, and the dissemination and utilization of information needs to be clear and known by the leaders and stakeholders, and the mechanism for response should be well coordinated across the different levels of surveillance.

This session takes you through the PHS leadership roles of key IDSR Managers and Stakeholders and local coordination mechanism

. **To provide effective leadership, the PHS Officer must**

- Have a clear understanding of the IDSR Strategy, core functions and other support components
- Undertake planning and implementation of IDSR
- Understand all the specific aspects of health and other sectors that collaborate/overlap with IDSR e.g. The National Public Health Reference Lab, National Health Promotion, HMIS, EPI, etc

- Be capable of making a timely identification and reporting of all Public Health Events would affect the attainment of the objectives
- Be confident in his or her capacities and competence
- Be capable of motivating others and stimulating their commitment to IDSR.
- Build solid team and delegate authority where necessary

Below is the list of Job Description of CSO, DSO, National Surveillance Officers. The list is not exhaustive;

Job Descriptions of Key PHS Officers and Local Stakeholders based on Core functions (Refer to page 195 of the IDSR technical guidelines)

County Surveillance Officer:

The county surveillance officer (CSO) is responsible for coordinating all disease surveillance and response including public health event activities in the county and reports to the County Health Officer (CHO).

Identify

- Ensure coordination between Community Health Department Director to oversee and support community services and CEBS with District
- Ensure reliable supply of data collection and reporting tools are available for reporting sites
- Ensure laboratory specimen collection and transport material is available
- Ensure a log of specimens sent for laboratory confirmation is maintained

Report

- Ensure DSOs know and use standard case definitions for reporting priority diseases and conditions
- Provide instructions and supervision for surveillance and reporting priority diseases and conditions
- Receive weekly surveillance data on Monday mornings from the District Surveillance Officer (DSO) and review the quality
- Report weekly and monthly surveillance data on time to the National Level Disease Prevention and Control (DPC)
- Harmonize monthly IDSR and HMIS data

Analyze and Report

- Ensure accuracy of denominators for use within County
- Aggregate data from DSO reports and maintain an up to date archive of all surveillance data
- Analyze data by time, place and person
- Weekly update graphs, tables, and charts to describe reported diseases, events and conditions
- Calculate rates and thresholds and compare current data with previous periods to make conclusions
- Describe risk factors for priority diseases or conditions

Investigate and Confirm

- Arrange and support investigation of reported diseases or events
- Receive and interpret laboratory results
- Report laboratory results to DSO
- Compile District levels line lists of suspected cases
- Report any confirmed outbreak to DPC
- Ensure specimen collection kits for investigation activities are available

Prepare

- Convene emergency preparedness and management committees
- Develop and manage contingency plans
- Conduct training and simulation exercises for staff
- Periodically conduct risk assessment for risk factors and potential hazards
- Organize and support Rapid Response Team

Response

- Select and implement appropriate public health response
- Activate epidemic preparedness and response committee and plan response
- Conduct training for emergency activities
- Plan timely community information and education activities
- Document response activities
- In case of epidemics, sends daily district sit-reps to the MOH

Communicate (Feedback)

- Alert nearby areas and districts about the outbreak including cross border areas
- Give feedback to districts on surveillance and data quality findings
- Give districts regular, periodic feedback about routine control and prevention activities
- Conduct County level surveillance review meetings to include key community members and partners
- Produce a monthly county surveillance bulletin

Monitor & Evaluate

- Monitor, evaluate and take action to improve program targets and indicators for measuring quality of the surveillance system for district and health care facilities
- Conduct regular supervisory visits with DSOs
- Monitor and evaluate timelines of response to outbreaks
- Provide regular assessment of staffing needs for IDSR implementation and inform the next level
- Assess acceptability of response to community and refine as needed
- Ensure involvement of partners in surveillance and response activities

District Surveillance Officer:

The District Surveillance Officer (DSO) is responsible to implement and coordinate IDSR activities at the district level. They detect, report and respond to priority diseases and public health events in the district. They report to the county surveillance officer but also to the district health officer as the immediate supervisor.

Identify

- Support HCF to verify alerts from the community
- Collect surveillance data from health care facilities and the community and review the quality
- Ensure reliable supply of data collection and reporting tools are available at reporting sites
- Ensure all healthcare facilities have materials for laboratory collection and transport
- Ensure reliable supply of data collection and reporting tools are available at reporting sites
- Participate in and support CEBS training with community members

Report

- Maintain a list of all reporting sites in the district
- Make sure healthcare facilities know and use standard case definitions for reporting priority diseases, conditions and events
- Ensure CEBS workers (CHVs, CHAs etc) have community based case definitions for reporting priority diseases, conditions and events
- Provide instructions and supervision for surveillance and reporting priority diseases and conditions for healthcare facilities and communities.
- Report data on time to the County Surveillance Officer (CSO)

Analyze and Interpret

- Use and refine the denominators e.g. catchment populations
- Aggregate data from healthcare facility reports and maintain an up to date archive of all data
- Analyze data by time, place and person and maintain an updated district analysis summary tables, graphs and charts for reported priority diseases, conditions and events
- Assist healthcare facilities to update graphs, tables, and charts to describe reported diseases, events and conditions
- Compare data and make conclusions about trends and thresholds

Investigate and Confirm

- Arrange and lead investigation of reported diseases, conditions or events
- Maintain an updated line list for cases of suspected priority diseases, conditions and events reported in the district
- Assist healthcare facility in safe collection, packaging, storage and transport of laboratory specimens for confirmatory testing
- Maintain an updated samples collected and results log at the district.
- Receive laboratory results from CSO, give feedback to healthcare facility
- Report findings of outbreak investigation to the CSO and DHO

Prepare

- Participate in emergency preparedness and response committees
- Participate in risk mapping of potential hazards
- Organize and support District Outbreak and Rapid Response Teams
- Participate in and support training and simulation exercises for preparedness of health facilities and district staff

Respond

- Together with CSO, select and implement appropriate public health response
- Plan timely community information and education activities for HCF and communities
- Document response activities based on IDSR outbreak reporting format (for Liberia)
- In case of epidemics, sends daily district sit-reps to the CSO

Communicate (Feedback)

- Alert nearby areas and districts about outbreaks or events
- Give healthcare facilities regular feedback on surveillance activities, priority events and about routine control and prevention activities
- Give feedback on surveillance and data quality findings to DHO and CSO
- Support healthcare facilities to engage communities on surveillance activities
- Conduct regular district level surveillance review meetings to include key community members and partners

Monitor, Evaluate and Improve

- Conduct regular supervisory visits to healthcare facilities
- Monitor and evaluate program timeliness and completeness of reporting from healthcare facilities in the district
- Monitor and evaluate timeliness of response to outbreaks
- Gather information from affected communities on needs and impact of response

Health Facility Surveillance Focal Person

The Surveillance Focal Person (SFP) is a clinician who has been identified as the focal person for reporting IDSR Case Alerts to the District Surveillance Officer (DSO). It is often the Officer in Charge. The SFP plays a role in verifying and reporting the Community Event-Base Surveillance (CEBS) alerts received by the community. Their responsibilities are:

Identify

- Use standard case definitions to detect, confirm and record priority diseases or conditions
- Ensure specimen are collected safely, in correct packaging and storage
- Ensure transport of laboratory specimens for confirmatory testing
- Verify alert triggers from the community
- Co-organize and lead training of Community Health Assistants (CHAs)/Community Health Volunteers (CHVs) with the Community Health Surveillance Supervisor (CHSS)
- Ensure appropriate storage of surveillance materials

Report

- Complete the weekly IDSR ledger and report it to DSO
- Report case-based information for immediately reportable diseases
- Feedback summary data to community level
- Pass all CEBS forms to the DSO

Analyze and Interpret

- Prepare and update graphs, tables, and charts on healthcare facility walls to describe reported diseases, events and conditions
- From the analysis, report to the DSO any disease or condition that
- Exceeds an action threshold
- Occurs in locations where it was previously absent
- Presents unusual trends or patterns

Investigate and Confirm

- Together with DSO undertake detailed case investigation of any persons with suspected priority diseases
- Report laboratory results when received to the CEBS worker

Prepare and Respond

- Participate in emergency preparedness and response committees as required
- Participate in response training and simulation exercises
- Ensure healthcare facility has all essential supplies required

Communicate (Feedback)

- Manage cases and contacts according to standard case management guidelines
- Take relevant additional control measures
- Participate as part of rapid response team

Proposed Roles of Local Authorities (Offices of Superintendent, Chiefs...) at County and district levels:

- Mobilize support for the implementation of IDSR at the County and district levels
- Ensure adequate logistics and financial support for IDSR implementation
- Provide a legal/policy framework for District commissioners and county stakeholders to support the implementation of IDSR activities.

Role of External Partners

The role of international and local partners in IDSR implementation amongst others shall be to:

- Collaborate with all tiers of government to improve disease surveillance and response activities by providing technical and logistic support.
- Support the establishment of IDSR focal points at all levels.
- Support research on IDSR.
- Serve on the NSTCC and county health coordination committees.
- Mobilize resources from other interested parties to support IDSR implementation.

Coordination

Coordination refers to working or acting together effectively for the efficient use of available but limited resources and avoid redundancy of efforts. Examples of coordination mechanisms in Liberia; National Epidemic Preparedness Response Committee (NEPRC), Incidence Management System (IMS), National Health Coordination Committee, etc.

Coordination involves information sharing, joint planning, monitoring and evaluation in order to provide accurate, consistent and relevant data and information to policy-makers and stakeholders at regional, inter-country and national levels. To facilitate coordination and collaboration, a national, county and district multi-sectoral, multidisciplinary co-ordination body or committee is constituted. It is responsible for coordination of surveillance activities in close collaboration or synergy with the committee set up for epidemic response

Surveillance of communicable diseases requires concerted efforts and collaboration between stakeholders and partners in and between countries. At county level, inter-sectoral collaboration and coordination between key partners is crucial for the implementation of effective and comprehensive surveillance systems.

Various surveillance networks and partnerships exist at county level and between counties. The laboratory network is a good example of a country-level network, while collaboration on surveillance and response activities between countries bordering one another represents inter-country networking. Inter-sectoral collaboration is a necessity in order to implement early warning and response functions. Liberia has both **Technical and Policy Coordination Structures that support IDSR Implementation:**

- Legislation, Finance and Policy Makers: e.g. HSCC, HCC, NEPRC, IMS, ICC
- Technical: e.g. NTSCC, TCC, Technical Working groups

Partnership Coordination and Collaboration.

The Ministry of Health shall be responsible for the coordination of the activities of all partners involved in IDSR implementation and resource mobilization using the existing mechanism at all levels.

Community partnerships

There is no single formula for establishing beneficial partnerships with communities except perhaps that we must always include respect. The communities' role in Integrated Disease Surveillance and Response is as both full partner and beneficiary. We provide service to the community and they are a chief source of how we detect and respond to events of concern. Therefore, we need to involve key members and groups in the community to work with health facilities and districts in the planning, implementation, and evaluation of IDSR

Exercise 2:

Instructions:

a. Divide participants into groups of four, based on IDSR staffing pattern: (DSOs, Health Facility staff, district authority, partners, etc…….) Other support structures include County and district authorities and partners)
b. Divide a flip chart into 4 headings, DSO, Health Facility, County and District Leaders, Local and International Partners.
c. Under each heading, participants should;
    I. List 5 major responsibilities of DSO and Health Facility Focal Person
    II. List 5 key roles county and district authorities could perform to support IDSR coordination and implementation in the county
    III. List 5 key roles Local and International partners could perform to support IDSR coordination and implementation in the County
d. List one coordination structure at county and district level that supports IDSR implementation and 3 key roles each

MODULE 2

Module facilitation time	3 Hours 30 Minutes
Introductory Presentation and questions	Introductory presentation and plenary: 1hr Mins
Group Work Exercises	4. Exercise 1: Case study on source of information: 30 Mins. 1. Exercise 2: Update county procedures for surveillance and response 30mins. 3. Exercise 3**:** participants will answer questions about standard case definitions 30 Mins. 4. Exercise 4. Case study using the skills learn from module one 30Mins,
Logistic Requirements	○ Sheets ○ Flip Charts ○ Paper glue ○ Post it ○ Markers ○ CEBS Job Aid
References documents	○ IDSR Technical Guidelines Liberia July 2016 ○ Community Event Based Surveillance SOP

Adapted November 2016

World Health Organization

1.0 Introduction

Your facilitator will read for you introductory notes

1.1 Learning objectives

In this module, you will learn and practice the following:

2. Standard Case definitions and how to use them to identify diseases, conditions and events for reporting to the health system.
3. The role of Community Based Event Surveillance in IDSR
4. Update information about their catchment population

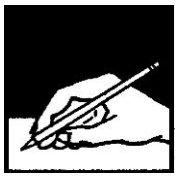
2.2 Use case definitions to identify diseases and conditions for reporting to the next level

Turn to the IDSR technical guidelines on page 28 to read detailed information.

Your facilitator will also read for you additional information and guide you on how to look for case definitions from the IDSR technical guidelines

Table 1.1 shows the Healthcare Facility case definitions for priority diseases and conditions that should be reported immediately.

Your facilitator will present information about identifying sources of information for disease events in a community and about using standard case definitions at the county, health facility and community. You may also read this information on page 28 of the *National Technical Guidelines* and review the points in Annex 1A. When you have finished, begin Exercise 1.



Exercise 1

In this exercise, you will practice identifying sources of information. Read the scenario and answer the questions. When you have completed the exercise, your facilitator will conduct a group discussion.

This exercise will take 30-40 minutes

Case study: A cluster of deaths from a mysterious disease

A local FM station, Radio Kintoma announced that a cluster of deaths from a mysterious disease occurred in Kpakpambu town, Kolahun District, Lofa County. The patients are presenting with high fever, severe headache, muscle pains and sore throat. According to the radio report, four adults and two children have died within the last four days from the same community. The district health authorities are now investigating the outbreak.

1. The district health team has been gathering information to verify the report on the radio. What are possible sources of information about health events in your county?

2. What type of information would you gather from each of the sources you have listed?

3. Think about the most recent outbreak or unusual health event that happened in your district. Describe the event and list the sources of information.

2.3 Update district procedures for surveillance and response

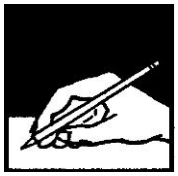
At least once a year, your district should update information about the catchment area. This is so that you will have up-to-date information about the target populations and public health activities in the district.

For example, you may want to update the population size, location and risk factors for target populations such as:

1. Children less than one year (infants)
2. Children less than 5 years of age
3. School-aged children
4. Women of childbearing age
5. All adults and children of different age groups
6. People living in refugee settlements in your district
7. People living in migrant mining communities; Fishing communities and plantation workers (mobile population)
8. Also include the location of major public health programs in your county such as public, private, and non-governmental organizations that provide clinical services or public health activities. Examples include safe drinking water projects, immunization services, maternal and newborn care, or programs for feeding malnourished children.
9. Include in the update a list of the health facilities, Points of Entry and other locations that are sources of information about health events in the county. Make sure that the focal points at these locations know the priority diseases, conditions and events that are of concern and provide them with information about the case definitions and when to report.

Your facilitator will present information about improving procedures for surveillance in the county and the importance of involving the community.

You may also read this information in Section 1 of the *National Technical Guidelines on page 28*. When you have finished reading the information, you may begin Exercises 2 and 3.



Exercise 2

In this exercise, you will review how standard case definitions are used in your county. This exercise will take 30-40 minutes

1. On the next page, look at the chart that lists priority diseases, conditions and events. Circle those that are included in the list of priority diseases, conditions and events in your district.

2. Next to each disease that you circled in question 1, place a tick mark (√) to show whether reporting sites use a standard case definition to report cases or deaths to the county.

3. How often do you update the description of key target populations in your catchment area?

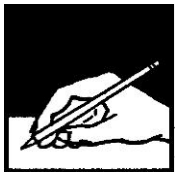
4. How often do you update the list of reporting sites in the district/county?

5. Do all sites know what diseases to report and the case definitions for reporting them?

6. Do you include laboratory sites in your list?

Table 1.2 National priority diseases for IDSR reporting in Liberia, 2016

Immediately notifiable diseases and events (active surveillance)	Diseases or events of international concern reportable under IHR 2005	Routine reporting: other major diseases, events or conditions of public health importance
Acute Bloody Diarrhea (*Shigella*) Acute Flaccid Paralysis (AFP) Cholera (Severe AWD) Human Rabies Lassa Fever Maternal Deaths Measles Meningitis1 Neonatal Deaths Neonatal Tetanus Viral Hemorrhagic Fevers (including Ebola Virus Disease) Yellow Fever Unexplained cluster of health events **Unexplained cluster of deaths**	Guinea Worm (*Dracunculiasis*) Human Influenza (due to a new subtype) Severe Acute Respiratory Syndrome (SARS) Smallpox Other Public Health Event of International Concern (PHEIC) **Includes: infectious, zoonotic, food borne, chemical, radio nuclear, or due to unknown condition**	Acute Watery Diarrhea Acute Viral Hepatitis Adverse Events Following Immunization (AEFI) Cataract Diabetes Diarrhea with dehydration in <5 years Encephalitis Epilepsy HIV/AIDS (new cases) Hypertension Hookworm Injuries (RTAs, domestic violence) Malaria Malnutrition < 5 years Mental Health Onchocerciasis Pertussis (Whooping cough) Severe Pneumonia <5 years Schistosomiasis Sexual Assault STIs Trachoma Trypanosomiasis Tuberculosis Typhoid
Diseases targeted for eradication or elimination		
Guinea worm		



Exercise 3

In this exercise, you will practice finding case definitions in the *National Technical Guidelines*.

In the table below, there are columns with headings for a **suspected case** and a **confirmed case** definition at the district or health facility. There is also a column for signs or symptoms that are used for reporting a **suspected case by the community**.

The information for completing this exercise can be found in Annex 9 starting on page 149 to 193 the IDSR Technical Guidelines or to Annexes 1A and 1B (pages 77 through 83). Ask for help if you can't find this information.

The purpose of this exercise is to show you where to find information about case definitions for confirmed and suspected cases at the Health Facility and Community levels.

When you have located the missing definition, record it in the table below. The first example for cholera has been done for you.

Table 1.2: ANSWER. Using Standard Case Definitions

Disease	**Defining a confirmed case**	**Defining a suspected case**	
		Health facility	**Community**
Cholera	*A suspected case in which Vibrio cholerae has been isolated in the stool.*	*Any person aged 5 years or more with severe dehydration or dies from acute watery diarrhea.*	*Any person 5 years of age or more with lots of watery diarrhea*
Cholera	\		
Meningococcal meningitis			

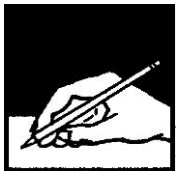
Disease	Defining a confirmed case	Defining a suspected case	
		Health facility	Community
Acute hemorrhagic fever syndrome* *Probable case definition should be added Contact should also be added			
Poliomyelitis			
Ebola			
Dracunculiasis			
Neonatal tetanus			

2.3 The role of Community Event Based Surveillance (CEBS) in IDSR

CEBS is the foundation of IDSR. The engagement and participation of the community in surveillance ensures additional sources of information are engaged and linked to IDSR.

This includes routine detection and reporting the occurrence of all suspected cases of priority diseases and events of public health concern as well as actively finding suspect cases in the community through household visits and rumor investigations.

Increased surveillance may be required among certain groups of people including healthcare workers, school children, animal health workers and travelers coming from countries affected by a disease outbreak, communities along the borders, mobile fishing communities, palm plantation workers, motor bike riders and any vulnerable populations



Exercise 4

In this exercise, you will utilize all of the skills they have learned in Module 1.

Read the case study below and then answer the questions at the end of the report. Be prepared to contribute your answers to a group discussion.

You will need to use the list of case definitions in Annexes 1A or 1B in the *National Technical Guidelines* to answer each question.

You can also look for the information in Annex 9 of the IDSR technical Guidelines.

Case Study: Suspicious death in private medical centre, Gbarnga, Bong County

On the 17th of January 2010 (3.00 am), a 23 year-old woman named Lorpu died from viral hemorrhagic fever. Her death occurred within 48 hours of admission to a private hospital. Bong, district had been experiencing viral hemorrhagic fever outbreak among the population. So the District Health team was asked to investigate Lorpu's death.

The team learned that Lorpu was first admitted for her illness to a private medical centre in Gbarnga city on 11 January 2010. She said her symptoms began on 8 January 2010. Her main complaints were severe abdominal pain, high fever and vomiting. She developed persistent high fever and weakness and was referred to a private hospital on 15 January 2010.

At the private hospital, the attending physician suspected hemorrhagic illness because the patient reported exposure history to a relative who died from bleeding one week after providing care. Lorpu was involved in providing care at home.

The team also learned that the patient had been in close contact with her relative who died of bleeding illness on 06 January 2010 (2.00 am).

Due to the circumstances of her death and exposure, the private hospital immediately alerted the District health authorities after Lorpu's death.

* * *

You are a member of the district rapid response team in the district. Based on the information in the case report, please answer the following questions:

1. What would be your suspected case definition?

2. What sources of information would you consult during the investigation?

3. What actions should be taken to improve reporting from the private health facilities where she sought care?

4. What steps would you take to improve community based surveillance for suspected cases or deaths due to priority diseases, conditions, or events?

Points to remember:

1. Use standard case definitions to ensure that all suspected cases are recorded accurately across your district.
2. Update the information about your catchment area at least once a year so that you know who your target population is and the ongoing public health activities.
3. Community Events Based Surveillance (CEBS) is the foundation of IDSR

Annex 2: Identify cases of priority diseases, conditions and events

Identify cases of priority diseases, conditions and events

Module 2

World Health Organization

Introduction

i. Each level of the health system has a role in detecting and identifying priority diseases or events.

ii. Communities are represented by local services such as CHVs/CHAs, key informants, schools, etc and have a duty to report cases to health facilities.

iii. Health facilities use the standard case definition to identify/verify and diagnose priority diseases or event then report to District level

iv. District Level receives reports from health facilities and send to county level as well as undertake appropriate analysis/action

v. County is responsible for collecting and analyzing data from districts and report to national level, responding to outbreaks and providing feedback to districts.

vi. National level sets policies and allocate resources, reports on priority diseases and events of public health concern to WHO.

Contents and Method of presentation

- This module two (2) comprises four (4) exercises which can be found in the Participants manuals.

Learning Objectives

- In this module, you will learn and practice the following:
  i. definitions and how to use them to identify diseases, conditions and events for reporting to the health system.
  ii. The role of Community Based Event Surveillance in IDSR
  iii. Report events or hazards that are not specifically included in the formal reporting system

Points to Remember

- Use standard case definitions to ensure that cases and suspected cases are recorded accurately across your community and health facility
- Update the information about your catchment area at least once a year so that you know your target populations and the ongoing public health activities

MODULE 3

IDSR Laboratory specimen collection, handling, documentation and transportation

Module facilitation Total time	3 Hours 10 Minutes
Introductory Presentation and questions	Introductory presentation and plenary: 20 mins
Group Work Exercises	1. Exercise 1: Role and responsibility of stakeholders in specimen collection: 2. Exercise 2: Appropriate specimen collection 3. Exercise 3: Laboratory confirmation for priority diseases 4. Safe and proper specimen handling and documentation 5. Specimen transportation
Logistic Requirements	○ Sheets ○ Flip Charts ○ Paper glue ○ Pens/markers ○ Triple packaging materials ○ Specimen collection guide/SOPs ○ IDSR case alert forms ○ Laboratory request and submission forms
References documents	○ IDSR Technical Guidelines Liberia July 2016 ○ Community Event Based Surveillance ○ Liberia Epidemic Preparedness and Response (EPR) Plan

Developed 2016

World Health Organization

3.0 Introduction

There are several diseases or conditions with signs and symptoms that are the same or similar to other diseases or conditions. For example, a child with fever and rash over the entire body might be diagnosed with measles, even though there could be several causes for the child's clinical presentation. Laboratory confirmation of diagnoses of diseases, conditions and events under surveillance is therefore essential for disease surveillance because laboratory results help to:

- Accurately diagnose illness in an individual patient, and
- Verify the cause (or aetiology) of a suspected outbreak.

Laboratory diagnosis is the basis for confirmation of 9 out of the 14 priority conditions in The National Technical IDSR guidelines for Liberia. The quality of lab results obtained is only as good as the quality of samples sent to the lab. Timely collection and transportation of samples to the lab is paramount to obtaining quality laboratory results.

Proper specimen collection, with respect to; the appropriate sample in the right tube/ container labeled correctly and completely, with a completely filled case alert and lab submission form and transported under the right conditions, are very important and greatly aid in timely lab diagnosis and confirmation. This ultimately supports timely surveillance, response, and minimizes delays.

Adequate and precise communication with the transporters and with the testing labs especially when high priority samples are collected and sent to the lab is important to enable timely diagnosis and enable timely response.

This course presents the main steps needed, after identification of suspects, to enable laboratory diagnosis and confirmation of priority diseases, which include:

- Roles and responsibilities of stakeholders in IDSR specimen collection
- Collecting appropriate specimens, using appropriate specimen collection containers/tubes
- Safe and proper specimen handling
- Proper documentation
- Specimen transportation
- Supply of materials
- Communication with the transportation team and the testing laboratory

This course includes several modules that will provide you with an opportunity to practice using the skills that are included in the National Technical Guidelines for Integrated Disease Surveillance and Response.

* * * *

3.1 Learning objectives

This module will describe and allow you to practice the following skills:

5. Identification of the appropriate specimen to collect and specimen container to use when suspecting a priority disease
6. Safe & proper specimen collection and handling (labeling, packaging) for priority diseases.
7. Proper documentation during specimen collection and handling including adequate filling of the IDSR case alert and lab submission form
8. Proper specimen transportation and appropriate referral labs
9. Communication with specimen transporter and testing laboratory.

3.2 Roles and responsibilities of stakeholders in IDSR specimen collection

Knowing the roles and/or responsibilities of the respective stakeholders ensures that expectations from stakeholders are clear and avoids duplication of efforts or task shifting assumptions. This prevents shifting of blame in-case of undone tasks and offers stakeholders an opportunity to take responsibility.

Note that execution of some roles and/ or responsibilities like specimen collection is solely based upon competence and confidence to perform such roles. This is usually obtained through adequate training and practice.

Roles/responsibilities of stakeholder in specimen collection and handling include:

- Personnel at the community or health facility level
    - Case/ suspect identification
    - Preparation for specimen collection
    - Specimen collection, labelling and packaging

    - Appropriate filling of required documents including IDSR case alert and lab submission form
    - Communicating with the transporter and testing laboratory
- Transporter
    - Timely and proper transportation of specimen under cold chain (2-8°C)
- Personnel at testing laboratory
    - Specimen reception
    - Conducting appropriate laboratory analysis
    - Timely reporting of laboratory results to appropriate stakeholders
- County Health Team (CHT)/ County Diagnostic Officer (CDO)
    - Monitoring, supervising and supporting personnel in the community and at health facilities
    - Distribution of specimen collection materials to facilities and/or specimen collectors
    - Distribution of specimen collection guides, SOPs and IDSR case alert and lab submission forms
    - Overseeing communication with specimen transporters and with the testing laboratory
    - Dissemination of laboratory results/ feedback to the respective facilities or personnel
    - Communication with the national lab team

*Knowing the existing testing capacity in country with respect to tests available at each public health laboratory, and the tests that are refereed out of the country helps to know where to send specimens and to understand the prolonged turn-around-time for samples referred out of the country.

Scenario

Grace clinic has a functional laboratory with newly recruited laboratory technician who has not yet been trained on specific IDSR specimen collection; however, the Officer-in-charge (OIC) of the facility was trained and is confident in IDSR specimen collection but quite busy. Who do you think should collect a specimen from a suspected EVD case seen at Grace clinic and why?

3.3 Appropriate specimen collection

For this section, refer to the IDSR Technical Guidelines: Annex 1G, the IDSR specimen collection charts and IDSR specimen collection standard operating procedures (SOPs).

It is important for one to have all required materials in place before starting specimen collection to avoid omission of essential steps, panicking, potential contamination and prolonged pain to the patient.

Proper specimen collection (the right specimen collected at the right time in the right container following the stipulated procedure) is very important as it affects the quality of samples and therefore the quality and in many cases timeliness of laboratory results.

Specimen collection charts and SOPs should be displayed in the facility's specimen collection area to serve as a quick reference and reminder to the specimen collectors.

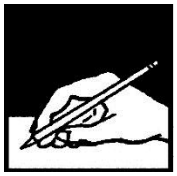
Exercise 1

Working in a group of 3 to 4 people, choose 4 priority diseases from your county and complete the table below using information from the National Technical Guidelines (Annexes 1F and 1G). For each group, each member should fill out the table for at-least 1 of the diseases.

An example has been given for Poliomyelitis. Following that example, complete the table accordingly. For EVD, part of the information has been provided, please complete the section accordingly.

Table 9.1.3: Laboratory Confirmation for Priority Diseases

Suspected disease or condition	Diagnostic test	Appropriate specimen(s) to collect	Appropriate specimen container	Quantity of specimen	Lab to send specimens to
Poliomyelitis / Acute Flaccid Paralysis (AFP)	PCR Virus culture	1.Stool 2.Whole blood	1.Stool container 2.Red-topped (plain) blood tube	1.~5g 2.~3-5mLs	NRL
Ebola Virus Disease (EVD)	PCR			3-5mls	



Exercise 2

Read the case study below and discuss the questions in groups of 2 or 3 participants.

Case Study:

On 9th October, 2011, a 19 year old man from Buchanan, Grand Bassa, named Sundaygar Cooper, suddenly developed a fever. He was taken to Well Baby clinic in Grand Bassa where he was given treatment for malaria and a possible bacterial infection, as they are the usual causes of fever in the area. Unfortunately, his condition did not respond to the treatment, and he started excreting bloody diarrhoea, bloody urine with mild bleeding from the gum. He was then rushed to the LGH in Grand Bassa.

* * *

You are working at LGH-Grand Bassa and are requested to collect a sample from Mr. Cooper. Based on the information in the case report, please answer the following questions:

5. What specimen(s) should you collect to confirm the diagnosis and why?

6. What specimen container should be used to collect the specimen?

7. Where in Liberia would you send such samples for laboratory testing?

3.4 Safe and proper specimen handling

Specimen handling includes:

- Specimen labeling
    - Specimen should be labeled with
        - Patient's name
        - Patient's unique ID (IDSR ID)
        - Sample type and the test needed (e.g; Blood - Yellow fever, stool - cholera)
    - Use a permanent marker to label the specimen tubes/ containers in a legible manner. In the absence of a permanent marker, a piece of plaster (used for wound dressing) can be stuck on the specimen container or tube and the label written on that.
- Specimen packaging
    - For IDSR priority disease, we use triple packaging
        - Triple packaging involves use of the following
            - Primary container: This is where the sample container is placed
            - Secondary container: This is where the primary container containing the tube/ container having the sample, is placed.
            - Tertiary container: This is where the secondary container with its contents is placed.
    - In the absence of appropriate containers to use for triple packaging, plastic bags can replace the primary and secondary containers.

Ensure that specimen handling is safe and properly done to avoid;

- Exposure of stakeholders (specimen collectors, transporter, testing lab personnel and the public) to potentially infectious material.
- Loss of specimens during transportation e.g spilling, thus causing delays in testing (specimen rejected or wasted during transportation, necessitating collection of another specimen).
- This causes delays in confirming the cause or an outbreak, patient management and outbreak response, and yet transmission is potentially ongoing.

3.5 Proper documentation

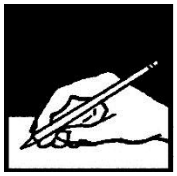
Proper documentation is very pertinent to timely diagnosis and response (patient isolation, contact tracing). Every section of the IDSR case alert and lab submission form is aimed at proper patient identification and allowing for appropriate response measures, if necessary.

Therefore;

- Completely fill all sections of the IDSR case alert and lab submission form
- Use upper case/ capital letters as much as possible while filling the form, to ease legibility.
- Use a pen or ball ink to fill the form and avoid unnecessary crossings as much as possible.
    - In case of crossing, cross out the section with one clear line and re-write in the nearest available space.
        - Do not attempt to overwrite on the crossed-out section.
- Use the most current/ updated IDSR case alert and lab submission form
    - Mention the latest version available at the time
- Have specimen ledgers or registers for documentation of all IDSR specimens given to the transporter to take to the testing lab, daily
    - This allows for tracing missing specimens and eases follow-up on feedback from the lab

Scenario

Consider a situation where a specimen that is not labelled and has an incompletely filled (missing name or ID or address) or no form at all, has a positive Ebola lab test result. What challenges do you anticipate in this situation?



Exercise 3

Using skills learned on specimen handling and documentation, read the case study and then individually label the sample container and fill the form.

Case Study:

On 29th August, 2016, Nancy Mulbah, a 22 year old female from Soul Clinic in Paynesville suddenly developed fever with jaundice, headache, weakness, vomiting and diarrhoea. She had no history of travel. She was accompanied to JDJ Hospital, the same day (29/08/2016) where Dr. Marie Flomo (0778866521) attended to her. She was then referred to the lab and had a blood sample taken by Mary Johnson (0777711232), to test for Yellow fever.

Assumption: This is the first case of this kind this year at this facility.

Label the sample container and complete the case alert and lab submission form

Exercise 4

Using skills learned on specimen handling and documentation, read the case study below and then individually label the sample container and fill the form.

Case Study:

A young girl is brought by an ambulance to Kungbor community clinic, on 15th Jan, 2015. She has a fever, red eyes and a generalized rash. She is unresponsive and cannot answer any questions. She was not accompanied to the hospital by any family members or neighbour. A blood sample was taken by Mr. Ben Sessay (0886412319). The treating clinician is Michael Vaye, his phone number is 0778866555. This is the second case of this kind the clinic has received.

Label the sample container and complete the case alert and lab submission form

Exercise 5

Using skills learned on specimen handling and documentation, read the case study below and then individually label the sample container and fill the form.

Case Study:

A 2 y/o girl – Kou Paye, is brought by an ambulance to JFK hospital, on 28th June, 2014 as a referral from Kakata. She is dehydrated with severe acute watery diarrhoea that started 2 days back. She resides in Community X in Kakata, Margibi, one of the hotspots for cholera outbreaks. The attending doctor is Flomo Y Flomo (0770826354). Louisa K (0770448989), a nurse at the

hospital helped collect the sample from the patient, that day. The sample was sent to the testing lab the same day. This is the fifth case of this kind to be received at JFK, this year.

State the appropriate specimen to be collected, label the specimen container and complete the laboratory submission form

3.6 Specimen transportation

For most of the priority diseases, laboratory identification and confirmation is based on isolation of the live pathogen, therefore, it is very important that organisms are preserved as much as possible, during transportation.

This is achieved through:

- Transportation of specimens under cold chain
    - This preserves organisms/ pathogens and therefore facilitates isolation and identification in the laboratory
    - Remember, harsh environmental conditions like extreme heat destroy the organisms.
- Use transport media while transporting specimen for cholera (Cary Blair Media), acute bloody diarrhea (Cary Blair Media), Meningitis (Transport Media) and EVD oral swab (Viral Transport Media)
    - Transport media preserves especially delicate organisms
- Send specimens to the lab as soon as possible as delays lead to deterioration of specimen quality, stress and death of organisms and increases the potential for obtaining false/ unrepresentative results upon testing in the laboratory.

*The transporter should be informed as soon as specimen collection is started

*Specimen batching at facility level (with the aim of accumulating specimens and sending many at ago) is not allowed

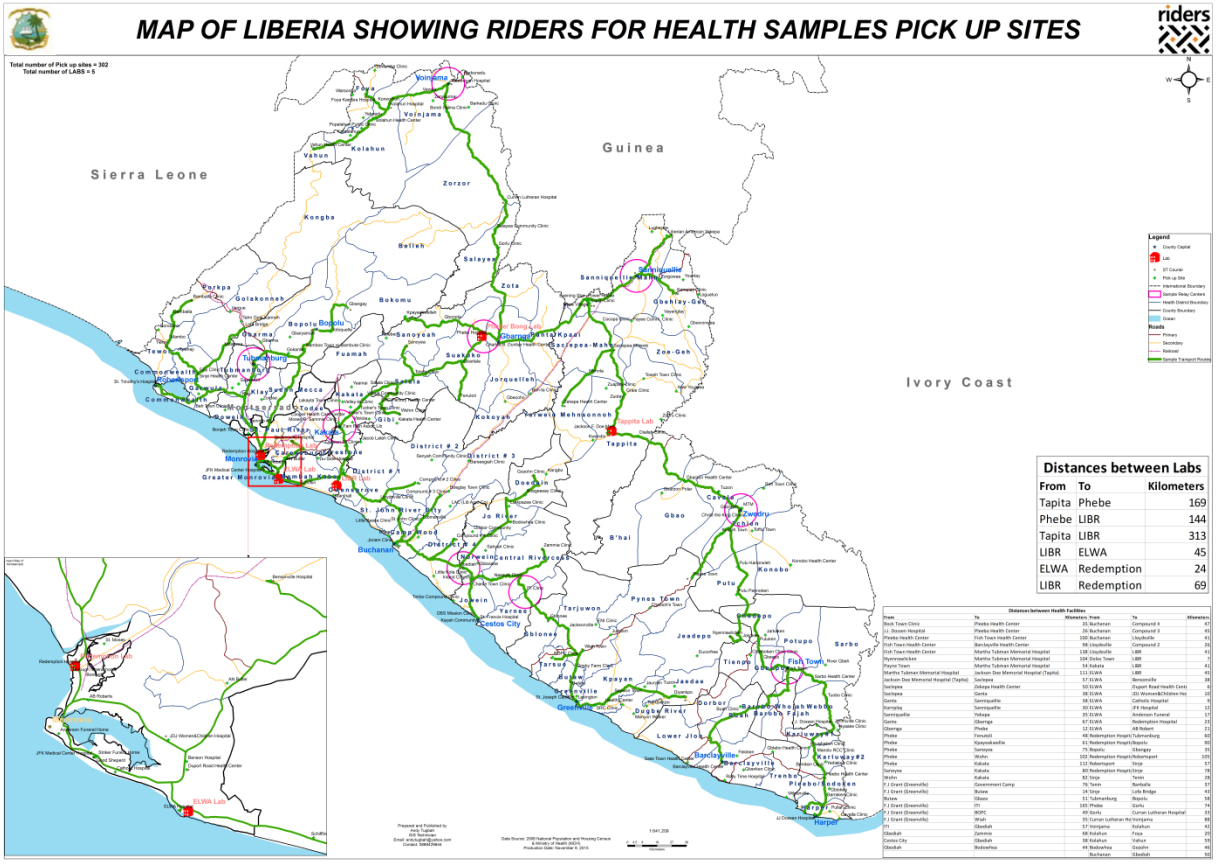
- It causes unnecessary delays that are also costly (e.g, possibility of a large-scale outbreak)
- Samples should be sent to the appropriate laboratory as soon as collected, whenever possible.

Scenario

Consider the impact of delayed diagnosis of the first Ebola case in any given EVD cluster. Discuss the possible effects of this.

The following pages contain specific information on Riders for Health pick up points and contact personnel

A map of Liberia showing current specimen pick-up and drop-off points for Riders for Health



A table showing Rider's pick-up points and focal persons per county

County	Courier Name	CUG phone number	Base station/Hubs	Regular Pickup sites	Distance from base Station (km)	Time from base Station
Bomi	Amos Washington Dukuly	0775770109	Tubmanburg, LGH	Tubmanburg, LGH	0	0
				Simby	45	54 Mins
				Sass Town	49	59 Mins
				IOM Adm. Building	5	6 Mins
				Jenneh #3	46	55 Mins
			Total sites	5		
	Isaac Dowah	0776541592	Tubmanburg LGH	Tubmanburg LGH	0	0
				gayah hill	27	32 Mins
				Mecca	54	1 Hr, 5 Min
				Goghan Town	29	35 Mins
				Beh town	46	55 Mins
			Total sites(excludes base)	4		
	Mannah K. Sennise		Tubmanburg LGH	Tubmanburg LGH	0	0
	Musa K. Fofana	0776361715		Simedarby	45	54 Mins
				Beafine	20	24 Mins
				Vongeh	42	50 Mins
				Zordee	33	40 Mins
			Total sites(excludes base)	4		
Bong	Jessy Kumakeh Kolleh	0886871523/0777934368	Fenutoli	Fenutoli	0	0
				Senutolee	50	1 Hr
				Gbatala	29	35 Mins
				Gbeconhn	61	1 Hr13 mins
			Total sites	4		
	Saturday V. S. Quellie	0770750193	Phebe	Phebe	0	0
				CB Dunbar	13	15 Mins
				Bahpa	54	1 Hr, 5 Mins
				Totota	69	1 Hr, 23 Mins
				Salala	78	1 Hr, 34 Mins
			Total sites	5		
	Aram S. Sackie	0770750192	Sanoyea	Sanoyea	0	0
				Gbonota Clinic	38	45 Mins
				Kelebei	83	1 Hr, 40 mins
			Total sites	3		
Gbarpolu	Henry Siafa	0886249600/0886037379	Bopulo	Bopulo- Chief Jallah	0	0
				Gbarma	76	1 Hr, 31 mins
				Gbangay	79	1Hr, 35Mins
			Total sites	3		
	Vicman Nyanquoi	0886411931	Koabor	Bopolu Health C	0	0
				Gokala	45	54 Mins
				Totoquelleh	31	37 Mins
				Bambuta	25	30 Mins
				Gbayamah	50	1 Hr
			Total sites	5		
	Paul Morris	0880747015	Guonwolawola	Guonwolawola	0	0
			Total sites	1		
Grand	Aaron Seh Jumah	0886381239	Varguaye	Varguaye	0	0

Cape Mount				Lofa Bridge	30	36 Mins
				Tahn	15	18 Mins
				Mbaloma	70	1 Hr, 24 Mins
			Total sites	4		
	Sarnor Sekou Wiles	0886088573	Damballa Health center	Damballa	0	0
				Bamballa	35	42 Mins
				Sinje	100	2 Hrs
			Total sites	3		
	Ronald Foley Sambola, JR	0776612498/0886612498	Mambo Health center	Mambo Health center	0	0
				Tiene Community health center	5	6 Mins
				Devox village clinis	10	12 Mins
				Kpenegi clinic	20	24 Mins
			Total sites	4		
	Augustine Mambu Koroma	0776902886	Robert sport	Robert sport	0	0
				Jundu	50	1 Hr
				St. Timothy	50	1 Hr
				Sinje	65	1 Hr, 18 Mins
			Total sites(excludes Sinje)	3		
Grand Bassa	Fayian Boakai	0770756294/0770415375/0880960909	District #3 clinic	Comp. #3 Clinic	0	0
				LAC hosp.	38	46 Mins
				Buchanan	72	1 hr, 27 Mins
				Boeglay town clinic	26	31 Mins
				Barsegiah clinic	50	1 Hr
			Total sites	5		
	Patrick Willie Debah	0770198310	SATMH Mittal Steel hospital	SATMH Mittal Steel hospital	0	0
				Boklay town Clinic	15	18 Mins
				Llodyville Clinic	35	42 Mins
				Little Bassa clinic	61	1 Hr, 13 ins
				Jacob Larteh clinic	34	41 Mins
				Owensgrove Clinic	20	24 Mins
			Total sites	6		
	Kermei Nowomu	0770756296/0776250602	District #2 clinic	District #2 clinic	0	0
				St. John clinic	26	31 Mins
				Senyah Clinic	18	22 Mins
				Edina clinic	39	47 Mins
			Total sites	3		
	Genesis Garjay	0777810032	District # 4 clinic	District # 4 clinic	0	0
				Little Kola	50	1 Hr
				Ceeybah clinic	50	1 hr
				Libinco clinic	29	35 Mins
			Total sites	4		
	Anthony Nyenti Sieh JR.	0770750175/0770253821/0888042475	SATMH Mittal Steel hospital	Lib. Gov't Hospital	0	0
	Stephen Acha Bowin	0770469346/0775296776		Joriam Clinic	9	11 Mins
				Wellbaby Clinic	10	12 Mins
				CEM Clinic	8	10 Mins
				Tubmanville Clinic	7	8 Mins
				Arcelormittal Hospital	10	12 Mins
				St. Peter Catholic Hosp.	8	95 olicC

				Camphor Mission Clinic	29	35 Mins
			Total sites	8		
Grand Gedeh	Ernest Musue	0770756284/	Martha Tubman hospital	Martha Tubman hospital	0	0
		08861224831/ 0775075031		Konabo	80	1 Hr, 36 Mins
				Bah	40	48 Mins
			Total sites	3		
	Sunnay Totaye Wonsiah	0770756285/	Martha Tubman hospital	MTMH	0	0
				Zleh Town clinic	47	56 Mins
				Gbarzon Polar	71	1 Hr, 25 Mins
				Putu Pennoken	68	1 Hr, 22 Mins
				Putu Kalwleh Town	53	1 Hr, 4 Mins
			Total sites(excudes MTMH)	4		
	Grabriel Paye Sunh	0770756286/0 880919329	Martha Tubmanburg hospital	MTMH	0	0
				Christ the King Hospital	5	6 Mins
				Tuzon Clinic	25	30 Mins
				Kumah	30	36 Mins
				Gboleken	15	18 Mins
				B&P clinic	6	7 Mins
				Galapo	6	7 Mins
			Total sites(excludes MTMH)	6		
Grand Kru	Omega Tommy Nimely	0770756278/	Barclayville county health seat	Barclayville county health seat	0	0
				Bueh	47	56 Mins
				Grand Cess	32	38 Mins
				Sass Town	44	53 Mins
				Gbleebo	35	42 Mins
			Total sites	5		
	Daniel Wesseh Donyen	0770756279/0 886956512	Barclayville county health seat	Barclayville county health seat	0	0
				Grand Cess health C	32	38 Mins
				SassTown	44	53 Mins
				Wilsonville	35	42 Mins
				Gbehken	17	20 Mins
				Feloken	16	19 Mins
			Total sites(excludesBarclayvile)	5		
Lofa	ABU Selekie Talawallay	0777522871	Voinjama	Tellewoyan Hosp.	0	0
				Bondi Clinic	30	36 Mins
				Barkedu Clinic	30	36 Mins
				Sarkonnedu Clinic	30	36 Mins
				Vezela Clinic	30	36 Mins
				Zenalomai Clinic	35	42 Mins
			Total sites	6		
	Momo Kpadebah	0886791754/0 775797474	Ganglota clinic	Foryah	30	36 Mins
				Salayea	67	1 Hr, 20 mins
			Total sites	2		
	Worloba Monbolia Barhar	0880462681	Carren Lutheran hosp	Carren Lutheran hosp		
				Golu	75	1 Hr, 30 mins

			Total sites	2		
	Edwin Tamba Nyumah	0775724215	Foya	Foya	0	0
				New Foyah	1	1 Min
				foryah Mehdicomma	50	1 Hr
				Kolahun Health	40	48 Mins
				Faryah Saluba	45	54 Mins
			Total sites	5		
	Francis Boakai Kamara	0886892501	Vahun,	Vahun Health Center	1	1 Min
				Kamatahun	50	1 Hr
			Total sites	2		
	Kamara Isaac Boakai	0886859384	Kolahun	Kolahun Hosp.	0	0
				Bolahun H/C	45	54 Mins
				Balahun Faith Clinic	35	42 Mins
				Popalahun Clinic	25	30 Mins
				Korworhun Clinic	30	36 Mins
			Total sites	5		
Margibi	Aaron Kollie Papaye	0886794300	Kakata	CH Rennie	0	0
				City Clinic	3	7 Mins
				Barkolleh	5	6 Mins
				Cinta	27	32 Mins
				Kakata Health center	5	6 Mins
				KRTTI	3	4 Mins
				New destiny	4	5 Mins
				Weala	26	31 Mins
				Gbeyta	28	34 Mins
				Kendei	25	30 Mins
			Total sites	10		
	Tarnue Seymour	0886474055/0 77474055	Kakata - CH Rennie hospital	CH Rennie Hospital	0	0
				Laykateh	17	20 Mins
				PPAL	3	4 Mins
				Tubee F. Home	7	8 Mins
				kakata Health	5	6 Mins
				Barkolleh	3	4 Mins
				St. Margretta	1	1 Mins
				City Clinic	5	6 Mins
				Moses clinic	4	5 Mins
			Total sites(excludes CH Rennie)	8		
	Josephus Sabate Kambo	0770750184	Worhm town	Worhm town	0	0
				Peter Town	10	12 Mins
				Vakama	12	14 Mins
				SRC	20	24 Mins
				Yanwelle	24	29 Mins
				Gleegbah	18	22 Mins
			Total sites	6		
	Jerry Sackie Somabai	0776525614/0 886982691	Dollo's town	Dollo's town	0	0
				Cotten Tree	13	16 Mins
				Duside Hospital	30	36 Mins
				Unification Town	8	10 Mins
				Kelvin Clinic	29	35 Mins
				Dolo Hospital	9	11 Mins
				Charlesville	34	41 Mins

			Total sites	7		
Maryland	Augustine Mieh Bobby	0770756295/0880898121/0777853682	Pleebo Health centre	Pleebo Health centre	0	
				St. francis	4	5 Mins
				Cavalla	9	11 Mins
				Rock town	20	24 Mins
				Kunocudi	15	18 mins
				Boniken	12	14 Mins
				Yediken	15	18 Mins
				Manolu	23	28 Mins
			Total sites	8		
	Romeo Clarke	0770756331/0880972246	JJ Dorsen Hospital	JJ Dorsen Hospital	0	
				Pougbaken	40	48 Mins
				Karluken	50	1 Hr
				Little Wlebo	20	24 hr
			Total sites	4		
	Patrick Kla Harris	0770756283/0886686296	JJ Dorsen Hospital	JJ Dorsen Hospital	0	0
				Sacred heart	2	2 Mins
				Pullah	15	18 Mins
				Cavalla	20	24 Mins
				Rock Town	20	24 Mins
				Barraken	15	18 Mins
				Gbloken	28	34 Mins
				Old Sodoken	22	26 Mins
			Total sites(excludes JJ)	7		
Montserrado	Alexander Smith	0770756219/0888222582	Redemption	Redemption Hospital	0	0
	Fahnbulleh Mohn Emmanuel	0770756220/0886115965/0776106603	Duport road Clinic	Borough funeral home	7	8 Mins
				Caprhart Funeral home	8	10 Mins
				St. Moses	13	15 Mins
				Duport Road	24	29 Mins
			Total sites	5		
	Emmanuel Kanneh	0770756221/0888726272/0770322738	Bensonville Hospital	Bensonville Health Center		
				Duport Road	34	41 Mins
				AN Butler	17	20 Mins
			Total sites	3		
	Astron Armah	0770756223	JF Kennedy Hospital	JF Kennedy Hospital	0	0
	Promise Klehkleh	0770944649	JF Kennedy Hospital	NDS	1	1 Min
				Anderson Funeral Home	5	6 Mins
				Samuel Striker Funeral Home	3	7 Mins
				Good Sherpard	2	2 Mins
				Catholic Hospital	6	7 Mins
			Total sites	6		
	Sumowui Papa Flomo	0770756224/0886445881/0776802109	JDJ Hospital	JDJ Hospital	0	0
				AB Roberts Funeral Home	14	17 Mins
				ST. Moses funeral Home	8	10 Mins
				Duport Road funeral	8	10 Mins
			Total sites(excludes St Moses)	3		

	Peterson B. Sando	0770224889	ELWA	ELWA	0	0
			Total sites	1		
Nimba	Karplah Wonnah P.	0777049219/0886644480	Tappita	Tappita	5	6 Mins
				CONSOLATA CLINIC	7	8 Mins
				DIALAH CLINIC	11	13 Mins
				MID-BAPTIST CLINIC	2	2 Mins
				ZODRU CLINIC	35	42 Mins
				ZUAPLAY CLINIC	32	38 Mins
				GRAIE CLINIC	32	38 Mins
				ZUOLAY CLINIC	26	31 Mins
				Kwendin	7	8 mins
				Gland's Town Clinic	35	42 Mins
			Total sites	10		
	Morrison Saye Bamakpe	0880981311/0776107361	Ganta - Hospital	Ganta - Hospital	0	0
				Ganta ETU	2	2 Mins
				GCC	10	12 Mins
				Agape	8	10 Mins
				Evening Star	4	5 Mins
				Power House	4	5 Mins
				Kozononway	7	8 Mins
				New Man	10	12 Mins
				Bonah	5	6 Mins
				KL Foundation	6	7 Mins
				Equip	8	10 Mins
			Total sites	10		
	Mrs. Sarah Wonlebay Mecco	0770326236	Sanniquellie	Sanniquellie	0	0
				ST. MARY CLINIC	4	5 Mins
				DUO-TIAYEE CLINIC	27	32 Mins
				GANTA COMMUNITY	56	1 hr, 7 Mins
			Total sites	3		
	Oscar Nohnbalikeh	0770763820	Yarwin Mehnsonnoh	Yarwin Mehnsonnoh	0	0
				Ganta hospital	98	1 Hr, 56 Mins
				Zekepa	109	2 hrs, 11 Mins
				Saclepea	98	1 Hr, 58 Mins
			Total sites(excludes Ganta)	3		
	Lafayette Sehgren	0770750208	Gbehlay - Geh	Gbehlay - Geh	0	0
				DUOPLAY CLINIC	18	22 Mins
				GARPLAY CLINIC	20	24 Mins
				Slogonplay	17	20 Mins
				Give them hope	4	5 Mins
				youhnlay	23	28 Mins
				Luogoatuo	38	46 Mins
				Zorgowee	27	32 Mins
				Kpairplay	15	18 Mins
				Vayendlay	29	35 Mins
			Total sites	9		
	Anthony Dolo	0770750204	Sanniquelle - Mah	Sanniquelle - Mah	0	0
				YMCA CLINIC	42	50 Mins
				ARCELOR MITTAL	45	54 Mins
				LUGBEHYEE CLINIC	55	1 Hr, 6 Mins

				Free pencostal	40	48 Mins
			Total sites(excludes Sanniquelle)	4		
	Alfred Dainsee	0770750205	Saclepea - Mah	Saclepea - Mah	0	0
				DNMC	1	1 Min
				BAHN	18	22 Mins
				Flumpa	24	29 Mins
				Beindin	30	36 Mins
				Karwee	20	24 Mins
				Duayee	5	6 Mins
				Kpaycuo	21	25 Mins
				Duo	25	30 mins
				Zahnbanlah	15	18 Mins
			Total sites(excludes Duo)	9		
Rivercess	Ricky Alamadine	0770756231/0770192704	ST Francis Hospital	St. Francis Hospital	0	0
				Open Bible	15	18 Mins
				Gbediah Town	50	1 Hr
				Inlane	45	54 Mins
			Total sites	4		
	Eric Puepuhea Reeves	0770756232/0888341037	Zammie town clinic	Zammie town clinic	0	0
				Kploah Community	50	1Hr
				ITI	55	1 Hr, 6 Mins
				Gbediah Clinic	57	1 Hr, 8 Mins
			Total sites	4		
	Alexander Neor Oldpa	0770756233/0886091001	Bodowehea clinic	Bodoweah	0	0
				Larkpazee	55	1Hr, 6 Mins
				Gediah town clinic	187	3 Hr, 44 Mins
				Kayah	154	3 Hrs, 5 Mins
			Total sites	4		
	Anthony Boby Watson	0770756234/0777815599	Gbediah ETU	Gbediah ETU	0	0
				Gbleoe	11	13 minns
				Sayah town clinic	22	26mins
			Total sites	3		
	Emmanuel Jackson	0770756235/0770443462	ST Francis Hospital	St. Francis Hospital	0	0
				Open Bible	15	18 Mins
				Gbediah Town clinic	50	1 Hr
				Timbo Compound	52	1 Hr, 2 Mins
			Total sites(excludes ST Francis)	3		
	Abraham Kesseh	0770756236/0886459053	Gozohn clinic	Gozohn clinic	0	0
				Boegeezay	150	3 Hrs
				Kangbo clinic	204	4 Hrs, 5 Mins
			Total sites	3		
RiverGee	Samuel W. Freeman	0770756287/0886561794	Fishtown health centre	Fish town Health Center	0	0
				Fish town Hospital	3	4 Hrs
				Sarbo Health Center	22	26 Mins
				RiverGbeh Clinic	45	54 Mins
			Total sites	4		
	Dylyenyenoh Weah	0770756288/0886601264/0777141146	Fishtown health centre	Fishtown health centre	0	0
				Tuobo	42	50 Mins
				Jimmyville	56	1 Hr, 7 Mins
				Nyaaken	66	1 Hr, 19 Mins

			Total sites(excludes Fishtown)	3		
	Mich Martin Zorh	0770756292/0886318386	Fishtown health centre	Fishtown health centre	0	0
				Gbeapo	23	28 Mins
				Cheboken	38	46 Mins
				Jarkaken	45	54 Mins
				Putuken	52	62 Mins
			Total sites(excludes Fishtown)	4		
Sinoe	Jerry Gbarduo Enoch	0770756237/0886973417/0775033965	Tarsue- BOTC clinic	BOTC Clinic	0	0
				Grigsby farm clinic	35	42 Mins
				Butaw clinic	45	54 Mins
				Weah Town	22	26 Mins
				Paris	35	42 Mins
			Total sites	5		
	James Magbe	0770756238/0886482593/0776510670	Karquekpo clinic	Karquekpo clinic	0	0
				Juayan clinic	45	54 Mins
				Kwitatuson clinic	20	24 Mins
				Menwah Walker clinic	35	42 Mins
				Setra Kru clinic	36	43 Mins
			Total sites	5		
	Thomas Karpeh	0770756239/0880139359/0776910533	Jaedae	G/Camp clinic	0	0
				Diyankpo clinic	30	36 Mins
				Tuzon	87	1 Hr, 44 Mins
			Total sites	3		
	Nehemiah Sargbe	0770756240/	Greenville	F. J. Grante Hospital	0	0
		0886902945/0776758937		Lexington clinic	35	42 Mins
				St. joseph Catholic clinic	11	13 Mins
			Total sites	3		
	Kortee Jorgbor	0770756241/0886520520/0770275428/0888329727	Togbahville clinic	Togbahville clinic	0	0
				Jokoken clinic	75	1 Hr, 30 Mins
				Nyenawliken	58	1 Hr, 10 Mins
			Total sites	3		
	Jerome Teah Teah	0770756242/	Jedepo	Jedepo	0	0
				Doukofree	78	1 Hr, 34 Mins
			Total sites	2		
	Augustine Saylee	0770756243/0880531699	Payne town clinic	Pyne town clinic	0	0
				Pelloken clinic	74	1 Hr, 29 Mins
				Chebioh town	63	1 Hr, 16 Mins
			Total sites	3		
	Edwin Tainsaye	0770756244/0886320126	Tubmanville clinic	Tubmanville clinic	0	
				Kabada clinic	9	11 Mins
				Saywon town clinic	11	13 Mins
				SRC Clinic	33	40 Mins
				Kilo town clinic	24	29 Mins
				Panama clinic	6	7 Mins
			Total sites	6		
	Brown Karmoh	0770756245/0886418902/0880651390	Wiah town clinic	Wiah town clinic	0	
				ENI clinic	34	41 Mins
				RTM Clinic	21	25 Mins
				Jacksonville	51	1 Hr, 1Min

				Juarzon clinic	35	42 Mins
			Total sites	5		
			Grand Total	**302**		

NOTES : CALL BASED SCHEDULE

1. There is a total of 302 sites covered including the couriers base stations/hubs
2. Facilities within 50km reach from the hub/ courier base station are covered.
3. Some Sites along the way to the Lab (next drop off/ relay center) may be over the recommended 50km reach and are covered in the Courier's fixed schedule
4. Average speed is 50km/hr during dry season and this is reduced in the wet season to match the road conditions
5. This is a call based schedule and calls are received sporadically from the pickup sites
6. Calls for samples received after 4pm - samples to be picked up early next morning. The courier leaves base station/hub by 7am
7. Courier should not leave base station/hub to transport samples after 6pm
8. Courier should find lodging when dark and not safe to travel back to base station after samples delivery
9. All bikes to be parked by 6pm for courier safety and security reasons

NOTES : FIXED SCHEDULE (Major routes)

1. The fixed schedule involves couriers transporting samples from their base stations/hubs to the next drop off/relay center/Lab
2. There is a total of 64 Hubs/ couriers base stations that are covered
3. Some samples are collected from the sites surrounding the Couriers base station are transported to the huds/base station first en-route to the next drop off/relay center/Lab by 7am the next morning
4. Morning samples collected from hub/ base station and surrounding sites - courier leaves the base station/hub by 11 am in the morning
5. Afternoon samples collected from the base station and surrounding sites - courier leaves base station by 2pm in the afternoon
6. Courier should not leave hub/ base station to transport samples after 6pm
7. Courier should find lodging when dark and not safe to travel back to base station after samples delivery
8. All bikes to be parked by 6pm for courier safety and security reasons

3.7 Supply of specimen collection materials

Specimen collection materials include:

- Specimen containers/ tubes
- Specimen labeling materials
- Specimen packaging (triple packaging) materials
- Case alert and lab submission forms

Remember;

- Samples are as good as the type or quality of container used to collect them
- Use of wrong containers greatly impedes testing
- Timely and regular stock taking (and documentation) prevents stock-outs

Specimen collection materials supply chain follows the channel below:

Materials*: From National level to County Team level/ County Ware house level to Facility level*

Requests for supply*: From Facility level to CHT (CDO) to County Warehouse to National level*

3.8 Communication

- Good communication with all stakeholders is paramount to having an efficient surveillance system
- The transporter needs to be informed about the need for specimen transportation as soon as specimen collection begins
    - This minimizes delays
- The testing lab needs to be informed about the specimen so that they can prepare to receive it and test as soon as possible.
- In the event that there is a very high priority / high suspect specimen, the focal person for the transporter should be informed right away to make special arrangements for immediate transportation to the laboratory.
    - The testing lab too should be informed to prepare and test the specimen as a high priority.

It is very important to have all stakeholders' contacts displayed in a very visible manner in the health facility, preferably at the specimen collection area.

MODULE 4

Report priority diseases, conditions and events

Module facilitation time	3 Hours 50 Minutes
Introductory Presentation and questions	Introductory presentation and plenary: 20 Mins
Group Work Exercises	6. Exercise 1: 30 Mins. 7. Exercise 2: 30 Mins 8. Exercise 3: **30 Mins**
Logistic Requirements	○ Sheets ○ Pens ○ Pencil ○ Flip Charts ○ A pair of scissors ○ Paper glue ○ Seizer ○ Post it ○ Markers ○ Vehicle
References documents	○ IDSR Technical Guidelines Liberia July 2016 ○ Community Event Based Surveillance ○ Liberia Epidemic Preparedness and Response (EPR) Plan ○ MNDSR technical guidelines and SOPs

Adapted November 2016

World Health Organization

4.0 Introduction

Your facilitator will introduce the topic

4.1 Learning objectives

This module will describe and enable you acquire and practice skills to:

1. Immediately report information about acute epidemic-prone diseases or events.
2. Immediately report information about diseases with potential to be public health events of national or international concern.
3. Regularly report summary disease information to the next level.
4. Improve the flow of data to improve timely reporting in your area.

Refer to Section 2 of the *National Technical Guidelines* as well as Annexes 2A, 2B, 2E and 2F.

See Section 2 on page 32 of the National Technical Guidelines for the list of diseases that should be reported immediately.

4.2 Immediately report information about acute epidemic-prone diseases or events

4.2.1 Immediate reporting

Means that information about a disease, condition, or event is reported to the next level as soon as an epidemic-prone disease is suspected or is otherwise required to be reported immediately because it is a potential public health event of national or International concern.

The information that is reported immediately is often referred to as **case-based reporting**. This means that specific information about each case is included in the report. The information is obtained through a preliminary investigation of the suspected case and includes:

- Patient's geographical location
- Patient identification and demographic information
- Information about onset of symptoms, vaccine history and information about any relevant risk factors
- Laboratory results

Your facilitator will present an example of the case-based reporting form

4.3 Report summary information for priority diseases, conditions and events

4.3.1 Summary information

Is the total number of cases and deaths seen in a particular time period (for example, weekly, monthly, or quarterly). This information is important for detecting emerging diseases or other health events and should be analyzed and used for action. For example, weekly reporting provides data for monitoring trends of diseases or conditions in order to detect epidemics. Monthly reporting about other endemic diseases is used for monitoring progress with or impact of prevention and control activities. It may also assist the other levels in detecting emergent or unusual events.

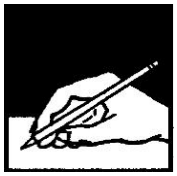
4.3.2 Zero reporting

Means that you should record a 0 (zero) on the reporting form when no cases of an immediately reportable disease have been diagnosed during the week. Submitting a zero for each immediately reportable disease when no cases were detected during the week tells the staff at the next level that a complete report has been filed. If no information has been received during the week do not enter "0". A dash "-" indicates no data has been received.

Turn to page 70 of the IDSR technical guidelines for more information

4.4 Diseases Requiring Immediate reporting

Turn to page 70 of the IDSR technical guidelines for more information



Exercise 1

Notes to Facilitator: *Exercise 1 has two parts.*

For Part A, ask participants to get into groups of three or four people to fill out the table.

You will complete the table of priority diseases in your district and later compare with the list in the IDSR technical guidelines

Part A:

Table 2.1 Reporting Priority Disease Information to the next level in your County

Disease, condition or event	**Immediate reporting (Yes or No)**	**Weekly reporting (Yes or No)**	**Monthly reporting (Yes or No)**

Part B:

In this part of the exercise, answer the following questions using information about your county/district of health facility.

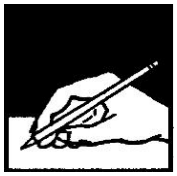
1. What diseases or conditions do you report to the next level at least daily? Weekly? Is there a standard form that you use? What methods of communication do you normally use for weekly reporting?

2. What diseases or conditions do you report to the next level at least monthly? Is there a standard form that you use? What methods of communication do you normally use for monthly reporting?

3. What diseases do you report immediately in your district? Do you report case-based data?

4. Have you ever reported an unusual event or cluster due to an unknown cause? What were the signs and symptoms that you reported?

Let your facilitator know when you are ready for the group discussion.



Exercise 2

In this exercise, you will decide whether a disease, condition or event requires immediate, weekly or monthly reporting, or if the event is a possible public health event of international concern.

This exercise will take 20 minutes

This exercise has two case studies. Read each case story and answer the questions that follow.

References
The completed Table 2.1
1. Annex 2A: IDSR immediate case-based reporting form in the *National Technical Guidelines*
2. Annex 2B: IDSR case-based laboratory reporting form in the *National Technical Guidelines*
3. Annex 2C: IHR (2005) decision instrument in the *National Technical Guidelines*

Case study 1

On 1 April 2010, Korpo, a 25 year old meat seller from Gelemai town (Kolahun District) reported to Gordorlahun Health center complaining that she has had watery diarrhea for the last day. She had also vomited twice that morning. She lived in the same household with her three children, husband and her step-mother. There have been episodes of cholera in the neighboring Foya district in the last 3 months. Korpo travelled there three days ago to go to her auntie's funeral.

1. When should the health worker report this case to the next level?

2. What information should be collected and reported about this case?

3. Use information from Korpo's case to record information on the form that is on the next page. You may need to leave some rows blank because you may not have all of the information you need.

Liberia IDSR Case Alert and Lab Submission Form

NOTE: Send a copy of this form to the DSO. A copy of this form should also accompany every lab sample

Reporting Date: ___/___/___ (Day / Month / Year)

IDSR-ID: ___-___-___ (County Code / Facility Code / Case ID)

Patient Record ID: _____

DISEASE REPORTING

Reporting Health Facility: _____

Reporting District: _____

Reporting County: _____

Disease or condition of alert* (select one):

- ☐ Acute Bloody Diarrhea (Shigellosis)
- ☐ Cholera (AWD)
- ☐ Human Rabies
- ☐ Lassa Fever
- ☐ Measles
- ☐ Meningitis
- ☐ VHF (EVD)
- ☐ Yellow Fever
- ☐ Maternal Death
- ☐ Neonatal Death
- ☐ Member of Unexplained Cluster of Death
- ☐ Member of Unexplained Cluster of Disease
- ☐ Other:
  Specify: _____

*Report Acute Flaccid Paralysis (AFP) and Neonatal Tetanus on disease specific forms

Crossed International Border in last 1 month: ☐ Yes ☐ No

Case detected at community level: ☐ Yes ☐ No

PATIENT DEMOGRAPHICS

Patient First Name: _____

Patient Last Name: _____

Patient Sex: ☐ Male ☐ Female

Patient Age: _____ ☐ Years ☐ Months ☐ Days

Date of Birth: ___/___/___ (Day / Month / Year)

County of Residence: _____

District of Residence: _____

Community of Residence: _____

Locating Information*: _____

*If applicable, include head of household, phone number, and name of mother if young

CLINICAL INFORMATION

Date of onset: ___/___/___ (Day / Month / Year)

Date seen: ___/___/___ (Day / Month / Year)

In/out-Patient: ☐ Inpatient ☐ Outpatient

Outcome: ☐ Alive ☐ Dead

Classification: ☐ Probable ☐ Suspected

Reporting Person Name: _____

Phone Number: _____

Person Collecting Specimen Name: _____

Phone Number: _____

Comments: _____

Only for disease of this alert:

Vaccination History: ☐ Yes ☐ No ☐ Unknown

Vaccination: _____

Date of Last Vaccination: ___/___/___ (Day / Month / Year)

Date of Specimen Collection: ___/___/___ (Day / Month / Year)

Date Specimen sent to Lab: ___/___/___ (Day / Month / Year)

Specimen Type*: _____

*Throat swab, oral swab, rectal swab, serum, blood, stool, CSF

FOR LAB ONLY: complete this section, enter into the database, and file.

Laboratory Name: _____

Date Specimen Received: ___/___/___ (Day / Month / Year)

Specimen Condition: ☐ Adequate ☐ Inadequate

Date Specimen Tested: ___/___/___ (Day / Month / Year)

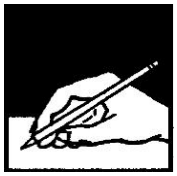
Type of Tests Performed: _____

Specimen ID: _____

Final Lab Results: _____

Date Results reported: ___/___/___ (Day / Month / Year)

v2 (6/16)



Exercise 2

a. Improving routine reporting practices

Your facilitator will present information about improving reporting practices in your area and making strong links to improve community-based surveillance. You may also read this information in Section 2 of the *National Technical Guidelines*.

In this exercise, you will use information from your own county or facility to see if the necessary forms and procedures are in place

Review this list of reporting forms and answer the questions that follow. One asks about the availability of the form. Place a tick (√) in the column to show if these are paper or electronic forms. The last column asks you to describe how data is reported if you do not have paper or electronic forms.

Table 2.3: Checklist for Reporting Forms in your County

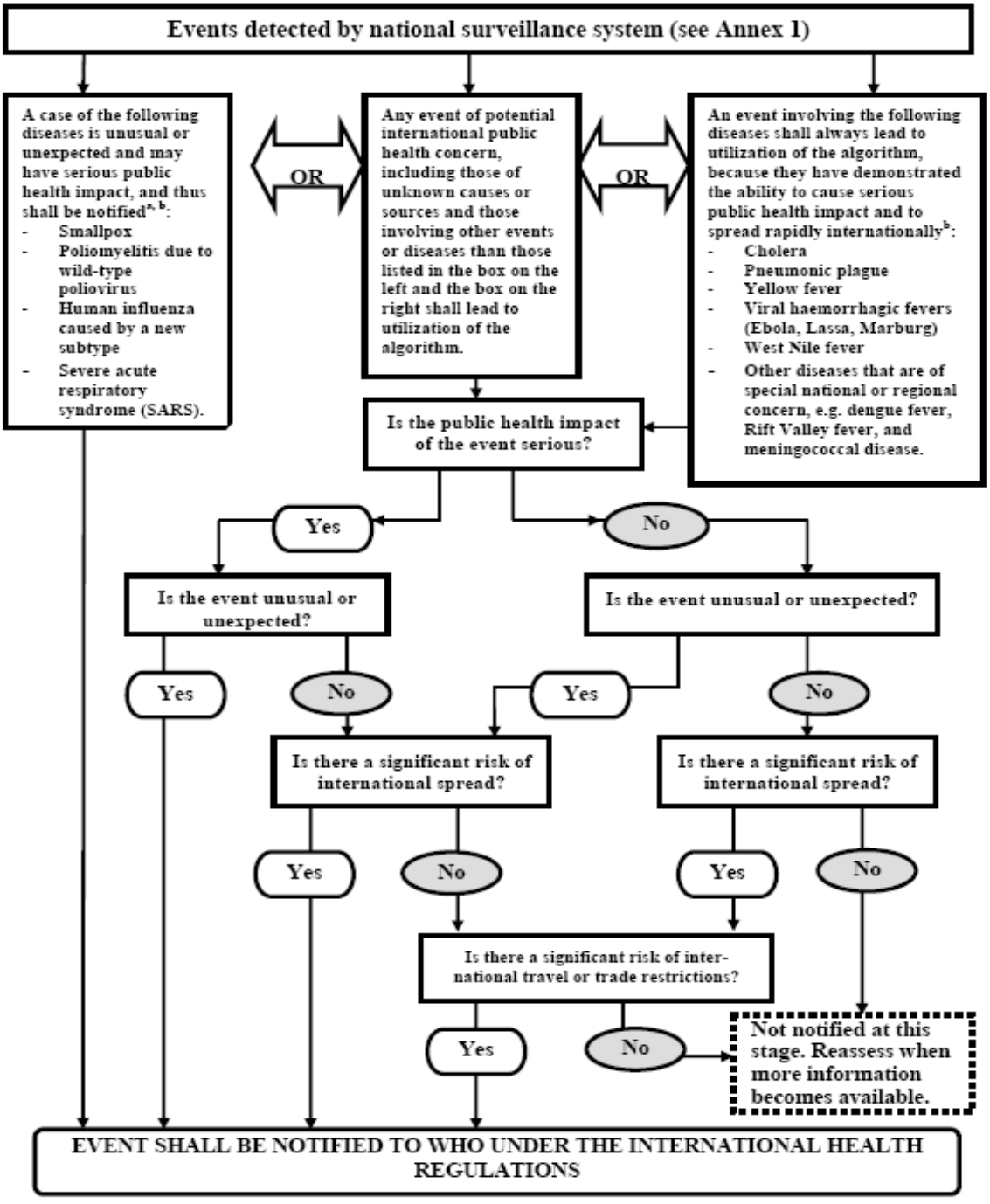
Reporting form	Are these forms available at your work place?		How do you report data if paper or electronic means are not available?
	Paper form	Electronic	
Community Trigger & Referral			
Case-based reporting & Lab Submission			
Outbreak Line list[1]			
Weekly County Data collection and reporting ledger			
Weekly District Data collection and reporting ledger			
Weekly Health facility Data collection and reporting ledger			
Routine monthly form			

[1] A line list is a chart of cases that includes important demographic data, such as name or identification number, age, sex, date of onset, date of death and case classification. Typically, new cases are added to a line listing as they are identified.

Points to remember:

1. *Report priority diseases to the next health level at appropriate time intervals*
2. *Know which diseases and events require immediate reporting, weekly reporting and which ones can be reported monthly*
3. *Be sure that you know who to send your reports to at the next health level and in what format you should send them.*
4. *Always involve laboratories and community stakeholders in the reporting process to foster communication and develop a clear profile for the disease and target populations.*

Figure 1: IHR Decision Instrument



[a] As per WHO case definitions.
[b] The disease list shall be used only for the purposes of these Regulations.

EXAMPLES FOR THE APPLICATION OF THE DECISION INSTRUMENT FOR THE ASSESSMENT AND NOTIFICATION OF EVENTS THAT MAY CONSTITUTE A PUBLIC HEALTH EMERGENCY OF INTERNATIONAL CONCERN

The examples appearing in this Annex are not binding and are for indicative guidance purposes to assist in the interpretation of the decision instrument criteria.

DOES THE EVENT MEET AT LEAST TWO OF THE FOLLOWING CRITERIA?

Is the public health impact of the event serious?	**I. Is the public health impact of the event serious?**
	1. *Is the number of cases and/or number of deaths for this type of event large for the given place, time or population?*
	2. *Has the event the potential to have a high public health impact?* THE FOLLOWING ARE EXAMPLES OF CIRCUMSTANCES THAT CONTRIBUTE TO HIGH PUBLIC HEALTH IMPACT: ✓ Event caused by a pathogen with high potential to cause epidemic (infectiousness of the agent, high case fatality, multiple transmission routes or healthy carrier). ✓ Indication of treatment failure (new or emerging antibiotic resistance, vaccine failure, antidote resistance or failure). ✓ Event represents a significant public health risk even if no or very few human cases have yet been identified. ✓ Cases reported among health workers. ✓ The population at risk is especially vulnerable (refugees, low level of immunization, children, elderly, low immunity, undernourished, etc.). ✓ Concomitant factors that may hinder or delay the public health response (natural catastrophes, armed conflicts, unfavorable weather conditions, multiple foci in the State Party). ✓ Event in an area with high population density. ✓ Spread of toxic, infectious or otherwise hazardous materials that may be occurring naturally or otherwise that has contaminated or has the potential to contaminate a population and/or a large geographical area.
	3. *Is external assistance needed to detect, investigate, respond and control the current event, or prevent new cases?*

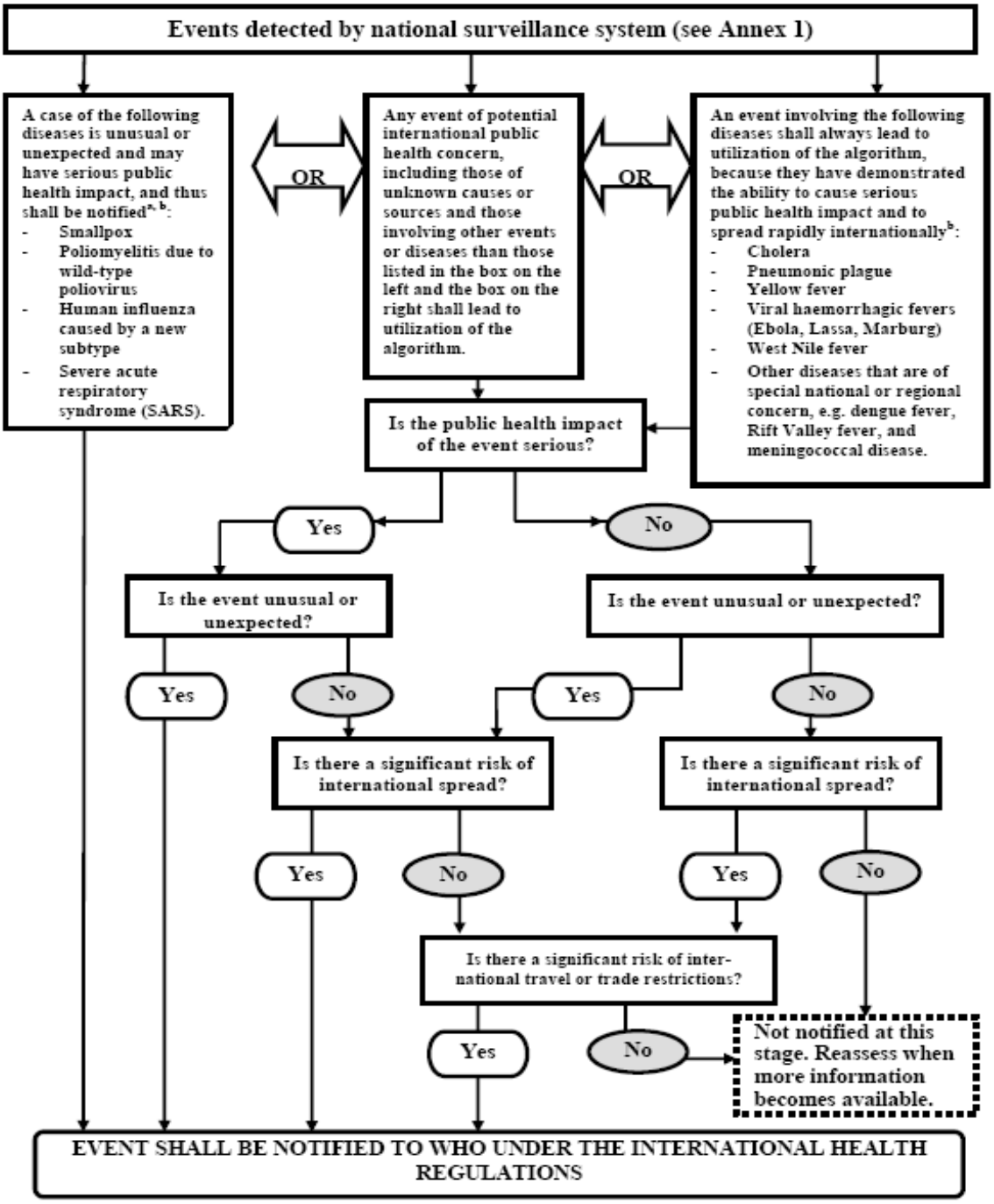
	THE FOLLOWING ARE EXAMPLES OF WHEN ASSISTANCE MAY BE REQUIRED: ✓ Inadequate human, financial, material or technical resources – in particular: – Insufficient laboratory or epidemiological capacity to investigate the event (equipment, personnel, financial resources) – Insufficient antidotes, drugs and/or vaccine and/or protective equipment, decontamination equipment, or supportive equipment to cover estimated needs – Existing surveillance system is inadequate to detect new cases in a timely manner.
	IS THE PUBLIC HEALTH IMPACT OF THE EVENT SERIOUS? **Answer "yes" if you have answered "yes" to questions 1, 2 or 3 above.**

Is the event unusual or unexpected?	**II. Is the event unusual or unexpected?**
	4. *Is the event unusual?* THE FOLLOWING ARE EXAMPLES OF UNUSUAL EVENTS: ✓ The event is caused by an unknown agent or the source, vehicle, route of transmission is unusual or unknown. ✓ Evolution of cases more severe than expected (including morbidity or case-fatality) or with unusual symptoms. ✓ Occurrence of the event itself unusual for the area, season or population.
	5. *Is the event unexpected from a public health perspective?* THE FOLLOWING ARE EXAMPLES OF UNEXPECTED EVENTS: ✓ Event caused by a disease/agent that had already been eliminated or eradicated from the District Party or not previously reported.
	IS THE EVENT UNUSUAL OR UNEXPECTED? **Answer "yes" if you have answered "yes" to questions 4 or 5 above.**

Is there a significant risk of international spread?	**III. Is there a significant risk of international spread?**
	6. *Is there evidence of an epidemiological link to similar events in other Countries ?*
	7. *Is there any factor that should alert us to the potential for cross border movement of the agent, vehicle or host?* THE FOLLOWING ARE EXAMPLES OF CIRCUMSTANCES THAT MAY PREDISPOSE TO INTERNATIONAL SPREAD: ✓ Where there is evidence of local spread, an index case (or other linked cases) with a history within the previous month of: – international travel (or time equivalent to the incubation period if the pathogen is known) – Participation in an international gathering (pilgrimage, sports event, conference, etc.) – Close contact with an international traveler or a highly mobile population. ✓ Event caused by an environmental contamination that has the potential to spread across international borders. ✓ Event in an area of intense international traffic with limited capacity for sanitary control or environmental detection or decontamination.
	IS THERE A SIGNIFICANT RISK OF INTERNATIONAL SPREAD? **Answer "yes" if you have answered "yes" to questions 6 or 7 above.**

Risk of international restrictions?	**IV. Is there a significant risk of international travel or trade restrictions?**
	8. *Have similar events in the past resulted in international restriction on trade and/ travel?*
	9. *Is the source suspected or known to be a food product, water or any other goods that might be contaminated that has been exported/imported to/from other Countries* ?

Figure 2: IHR Decision Instrument



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	3. *Is external assistance needed to detect, investigate, respond and control the current event, or prevent new cases?*

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	IS THE PUBLIC HEALTH IMPACT OF THE EVENT SERIOUS? **Answer "yes" if you have answered "yes" to questions 1, 2 or 3 above.**

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	8. *Have similar events in the past resulted in international restriction on trade and/ travel?*
	9. *Is the source suspected or known to be a food product, water or any other goods that might be contaminated that has been exported/imported to/from other Countries* ?

IDSR flow of information at each level of Liberia's public health system found on page 71 of the IDSR National Technical Guidelines

MODULE 5

Analyze and Interpret Data

Module facilitation time	8 Hours 50 Minutes
Introductory Presentation and questions	Introductory presentation : 10 Minutes
Group Work Exercises	9. Exercise 1: Collect and organize data – 1 hour 10. Exercise 2: Enter and cleaning of data – 1 hour 11. Exercise 3: Analyzing by time, place and person – 1 hour 12. Exercise 4: Draw conclusion from analysis – 1 hour 13. Exercise 5: Summarize results to guide public health action – 1 hour
Logistic Requirements	○ Notebook ○ Pen ○ Graph sheets ○ Pencils ○ Erasers ○ Ruler ○ Poster sheets
References documents	○ IDSR Technical Guidelines Liberia July 2016

Adapted 2016

World Health Organization

5.0 Introduction

Your facilitator will make an introductory presentation

5.1 Learning objectives

This module will describe and enable you to acquire skills and practice and to:

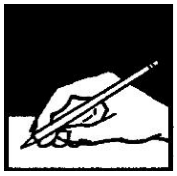
- Collect and organize data for analysis.
- Use tables and graphs to analyze trends.
- Use maps to analyze location of populations at risk.
- Use tables to describe characteristics of the affected population.
- Draw conclusions about analysis results.
- Make recommendations based on the conclusions.

References:

1. Section 3 *National Technical Guidelines*
2. Annex 3A Types of analysis, objectives, tools and methods
3. Annex 3A Plan for routine analysis of surveillance information

Your facilitator will make a presentation to explain key aspects of data analysis

Your facilitator will present information on receiving, handling and storing data from reporting sites. You may also read this information in Section 3 of the *National Technical Guidelines*.



Exercise 1

This is an introductory group exercise led by the facilitator with small discussion groups

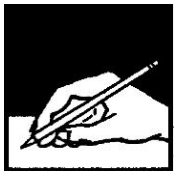
This exercise will demonstrate the various questions that surveillance data can help us address.

1. How often do you analyze surveillance data?

2. Do you analyze trends with the surveillance data? If so, for which diseases or conditions?

3. Do you analyze surveillance data by place? If so, for which diseases or conditions?

4. Did you locate geographic areas of higher risk for the particular disease?

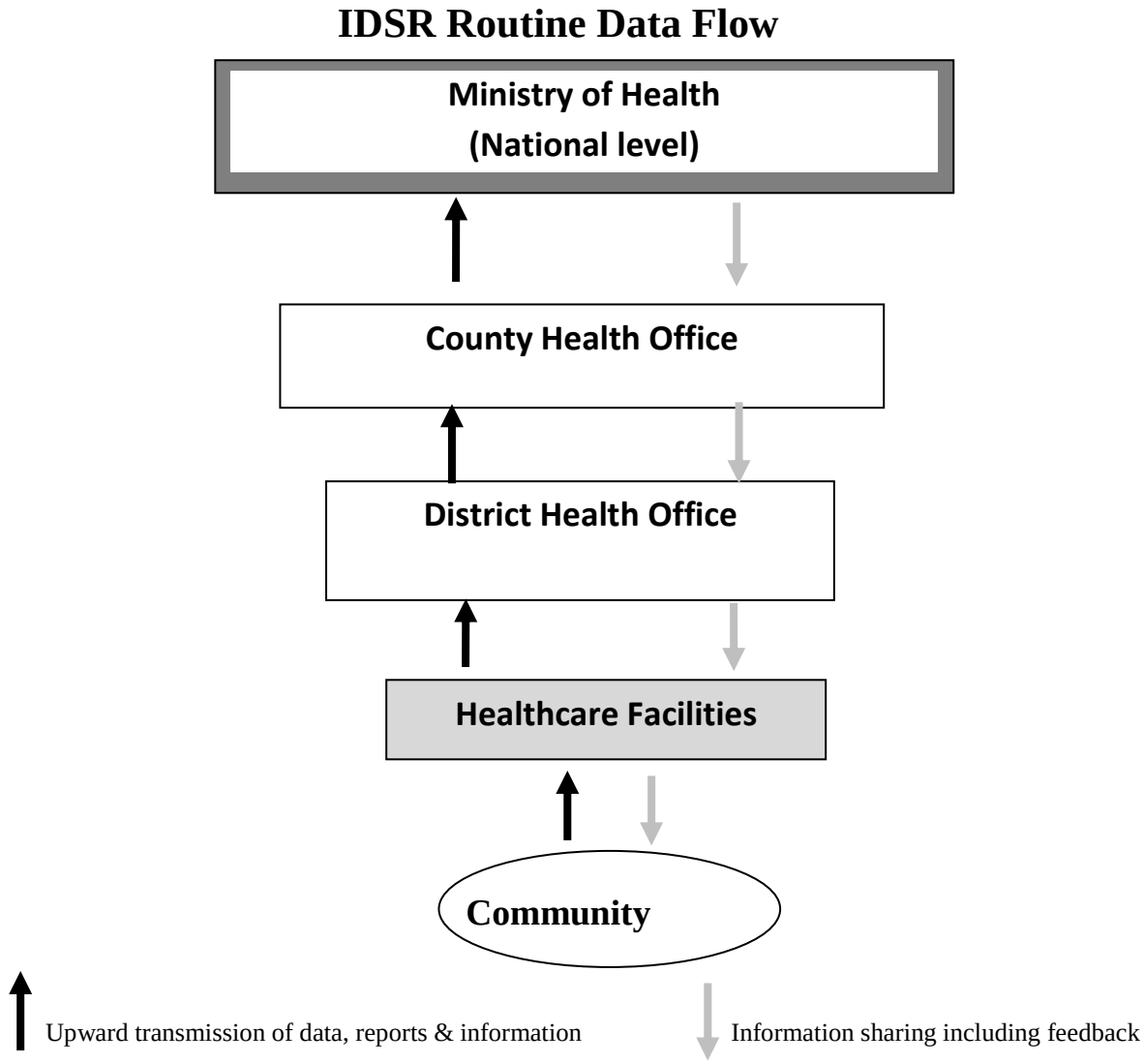


Exercise 2

5.2 Collect and organize data

This exercise shows the flow of surveillance data in a health system.
Look at the diagram below. Then answer the following questions:

This exercise will take 10-15 minutes



1. Locate your level on this diagram. Record the names of some of the sites that report surveillance data to you routinely. Also record the number of sites that report to you.

2. Is there a designated focal person for surveillance and response at each of the site(s) that report to you?

3. How do you communicate with these site(s)?

4. How is data delivered to you from these site(s)? For example, do you receive data electronically, by telephone or by hand?

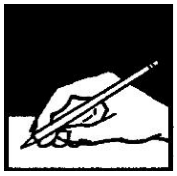
5. Do you provide feedback to those sites about the reporting?

6. Where do you send your aggregate reports?

7. How do you communicate with the level above when you send your aggregate reports?

8. Do you routinely receive feedback about those reports?

9. Do you know where to report a public health event of national or international concern?



Exercise 3

In this exercise, you will review a health centre register and answer questions that follow

Table 2.1: Data set of diseases/syndromes from a health facility ledger

ID No.	Date of attendance	Name	Village	Sex	Age	Suspected disease/syndrome
01	6/5/10	A.M.	C	M	6 months	Lassa
02	6/5/10	T.F.	A	M	2 yrs	Measles
03	6/5/10	N.N.	C	M	22 yrs	Lassa
04	6/5/10	Y.E.	C	F	28 yrs	Malaria
05	6/5/10	I.L.	B	F	7 months	Meningitis
06	6/5/10	R.E.	B	F	8 months	Lassa
07	6/5/10	K.L.	D	F	4 yrs	Malaria
08	6/5/10	A.D.	A	M	13 yrs	Malaria
09	6/5/10	A.W.	D	F	15 yrs	Acute Flaccid Paralysis
10	6/5/10	A.K.	D	F	24 yrs	Meningitis
11	7/5/10	A.D.	A	M	22 yrs	Dysentery
12	7/5/10	A.M.	A	F	9 months	Lassa
13	7/5/10	A.B.	C	M	11 months	Measles
14	7/5/10	B.M.	C	F	24 yrs	Lassa
15	7/5/10	C.J.	C	F	21 yrs	Malaria
16	7/5/10	D.W.	A	F	16 yrs	Tuberculosis
17	7/5/10	D.Z.	B	M	2yrs	Diarrhoea
18	8/5/10	D.K.	C	M	1 yr	Measles
19	8/5/10	E.F.	B	F	1 yr	Malaria
20	8/5/10	E.V.	C	M	11 months	Lassa
21	8/5/10	F.M.	B	M	15 yrs	Malaria
22	8/5/10	G.M.	B	F	18 yrs	Dysentery

ID No.	Date of attendance	Name	Village	Sex	Age	Suspected disease/syndrome
23	8/5/10	H.K.	B	M	5 yrs	Lassa
24	8/5/10	J.F.	C	M	1 yr 10 mths	Diarrhoea
25	8/5/10	J.B.	A	M	16 yrs	Injury
26	8/5/10	J.F.	C	F	25 yrs	Haemorrhagic fever
27	8/5/10	J.M.	B	F	17 yrs	Malaria
28	9/5/10	J.D.	C	F	4 months	Meningitis
29	9/5/10	J.M.	B	M	3 yrs	Abscess
30	9/5/10	K.Y.	B	M	12 yrs	Meningitis
31	9/5/10	K.F.	B	F	2 yrs 10	Malaria
32	9/5/10	M.K.	A	F	16 yrs	Cholera
33	9/5/10	M.W.	B	F	1 yr 8 mths	Pneumonia
34	9/5/10	M.W.	B	F	21 yrs	Tuberculosis
35	9/5/10	M.M.	A	M	1 yr 5 mths	Severe diarrhoea
36	9/5/10	B.D.	A	M	11 mnths	Lassa
37	9/5/10	P.K.	B	F	1 yr	Malaria
38	9/5/10	K.R.	A	F	2 yrs 5 mths	Lassa
39	10/5/10	K.A.	D	M	26 yrs	Lassa
40	10/5/10	A.K.	D	F	4 yrs	Pneumonia
41	10/5/10	A.W.	D	F	3 yrs	Lassa
42	10/5/10	A.D.	A	F	2 yrs	Diarrhoea
43	10/5/10	E.R.	C	F	16 yrs	Lassa

Table 2.2: Sample IDSR Lassa fever Line list

S/N	IDSR Unique ID	Full Name	Sex	Age	Age Type	Town/Village/Community of Residence	Reporting County	Reporting Health District	Date Onset	Epi week	Date of Reporting	Outcome	Was Specimen collected?
1		AD	F	38	Year	GANTA	Bong	Suakoko	04-Jan-15	1	04-Jan-16	Dead	Yes
2		AW	F	30	Year	Ganta city	Nimba	Sanniquelleh Mah	04-Jan-16	1	07-Jan-16	Dead	Yes
3		AK	M	36	Year	NIGERIAN FPU	Bong	Jorquelleh	20-Feb-16	7	20-Feb-16	Alive	Yes
4		AD	M	25	Year	KOKOYAH ROAD	Bong	Suakoko	01-Apr-16	13	04-Apr-16	Alive	Yes
5		AM	F	20	Year	SUAKOKO TOWN	Bong	Suakoko	08-Apr-16	14	16-Apr-16	Alive	Yes
6		AB	M	48	Year	Glenlue	Nimba	Sanniquelleh Mah	10-Apr-16	14	13-Apr-16	Alive	Yes
7		BM	F	11	Year	Henry's Town	Gbarpolu	Bopolu	29-Feb-16	9	28-Feb-16	Alive	Yes
8		CJ	M	19	Year	New Kakata	Margibi	Kakata	07-Mar-16	10		Alive	Yes
9	NIMB863	DW	M	22	Year	Wuo town	Nimba	Sanniquelleh Mah	14-Mar-16	11	18-Mar-16	Dead	Yes
10		DZ	M	38	Year	Yekepa	Nimba	Sanniquelleh Mah	06-Apr-16	14	10-Apr-16	Alive	Yes
11		DK	M	54	Year	Gwelay	Nimba	Saclepea - Mah	16-Aug-16	33	19-Aug-16	Dead	Yes
12		EF	M	20	Year	Gbarnga	Grand Bassa	Buchanan	12-May-16	19	22-May-16	Dead	Yes
13		EV	M	13	Year	VAKPEH TOWN	Bong	Fuamah	29-Jan-16	4	29-Jan-16	Dead	Yes
14		FM	M	44	Year	Buchanan	Montserrado	Bushrod	15-Feb-16	7	22-Feb-16	Alive	Yes
15		GM	M	49	Year	Bahn	Nimba	Sanniquelleh Mah	12-Feb-16	6	17-Feb-16	Alive	Yes
16		HK	F	31	Year	BELLEMUE	Bong	Suakoko	31-Mar-16	13	07-Apr-16	Alive	Yes
17		JF	M	37	Year	PHEBE AIRSTRIP	Bong	Suakoko	04-Apr-16	14	04-Apr-16	Alive	Yes
18		JB	F	17	Year	Guinea Road (Ganta)	Nimba	Sanniquelleh Mah	14-Apr-16	15	20-Apr-16	Alive	Yes
19		JF	M	32	Year	SUAKOKO	Bong	Suakoko	21-Jan-16	3	21-Jan-16	Dead	No
20		JM	M	49	Year	Henry's Town	Gbarpolu	Bopolu	26-Feb-16	8	28-Feb-16	Alive	Yes
21		JD	F	27	Year	Voipa	Nimba	Yarwinmensonnon	12-Mar-16	10	22-Mar-16	Alive	Yes
22		JM	M	27	Year	Toweh Yard (Ganta)	Nimba	Sanniquelleh Mah	21-Apr-16	16	28-Apr-16	Alive	Yes
23		K Y	M		Year	NP	Bong		10-Feb-16	6			Yes
24		KF	F	38	Year	FROG ISLAND	Bong	Suakoko	25-Feb-16	8	28-Feb-16	Dead	Yes
25		MK	F	25	Year	NYALLA	Bong	Suakoko	15-Apr-16	15	19-Apr-16	Alive	Yes
26		MW	F	38	Year	Wuo town	Nimba	Sanniquelleh Mah	17-Feb-16	7	19-Feb-16	Dead	No
27		MW	F	29	Year	Guahn Community	Nimba	Saclepea - Mah	29-Feb-16	9	01-Mar-16	Dead	Yes
28		MM	F	13	Year	Henry's Town	Gbarpolu	Bopolu	28-Feb-16	8	28-Feb-16	Alive	Yes
29		MN	M	38	Year	NIGERIAN FPU	Bong	Jorquelleh	10-Feb-16	6	13-Feb-16	Dead	Yes
30		MK	M	45	Year	ZENALORMAI	Lofa	Voinjamin	25-Apr-16	17		ALIVE	Yes
31		MW	M	30	Year	Balagwalasu	Lofa	Zorzor	04-Feb-16	5		Dead	Yes
32		MK	M	35	Year	THOMAS FARM	Bong	Suakoko	09-Jan-16	1	13-Jan-16	Dead	Yes
33		MF	M	41	Year	NIGERIAN FPU	Bong	Jorquelleh	19-Feb-16	7	19-Feb-16	Alive	Yes
34		NK	F	20	Year	SUGAR HILL	Bong	Suakoko	29-Jan-16	4	11-Feb-16	Alive	Yes

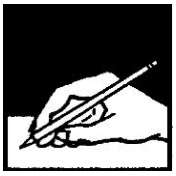
Table 2.3: Laboratory Results for Lassa fever

S/N	IDSR Unique ID	Full Name	Sex	Age	Age Type	Town/Village /Community of Residence	Reporting County	Reporting Health District	Date of Reporting	Date specimen collected	Date specimen received in Lab	Date tested	Lab Result RT-PCR
1		AD	F	38	Year	GANTA	Bong	Suakoko	1/4/16	1/1/16			Not Tested
2		AW	F	30	Year	Ganta city	Nimba	Sanniquelleh Mah	1/7/16	1/7/16			Not Tested
3		AK	M	36	Year	NIGERIAN FPU	Bong	Jorquelleh	2/20/16	2/20/16	2/20/16	2/21/16	Negative
4		AD	M	25	Year	KOKOYAH ROAD	Bong	Suakoko	4/4/16	4/9/16	4/9/16	4/13/16	Pending
5		AM	F	20	Year	SUAKOKO TOWN	Bong	Suakoko	4/16/16	4/20/16			Pending
6		AB	M	48	Year	Glenlue	Nimba	Sanniquelleh Mah	4/13/16	4/13/16	4/15/16	4/27/16	Pending
7		BM	F	11	Year	Henry's Town	Gbarpolu	Bopolu	2/28/16	3/2/16		3/16/16	Negative
8		CJ	M	19	Year	New Kakata	Margibi	Kakata		3/18/16	3/18/16	3/23/16	Negative
9	NIMB863	DW	M	22	Year	Wuo town	Nimba	Sanniquelleh Mah	3/18/16	3/18/16			Negative
10		DZ	M	38	Year	Yekepa	Nimba	Sanniquelleh Mah	4/10/16	4/15/16	4/18/16	4/27/16	Pending
11		DK	M	54	Year	Gwelay	Nimba	Saclepea -Mah	8/19/16	8/19/16			Not Tested
12		EF	M	20	Year	Gbarnga	Grand Bassa	Buchanan	5/22/16	5/25/16	5/25/16		Not Tested
13		EV	M	13	Year	VAKPEH TOWN	Bong	Fuamah	1/29/16	1/29/16			Not Tested
14		FM	M	44	Year	Buchanan	Montserrado	Bushrod	2/22/16	3/17/16	3/17/16	3/23/16	Indeterminate
15		GM	M	49	Year	Bahn	Nimba	Sanniquelleh Mah	2/17/16	2/17/16			Negative
16		HK	F	31	Year	BELLEMUE	Bong	Suakoko	4/7/16	4/9/16	4/9/16	4/13/16	Pending
17		JF	M	37	Year	PHEBE AIRSTRIP	Bong	Suakoko	4/4/16	4/9/16	4/9/16	4/13/16	Pending
18		JB	F	17	Year	Guinea Road	Nimba	Sanniquelleh Mah	4/20/16	4/25/16	5/3/16	5/12/16	Pending
19		JF	M	32	Year	SUAKOKO	Bong	Suakoko	1/21/16				Not Tested
20		JM	M	49	Year	Henry's Town	Gbarpolu	Bopolu	2/28/16	3/2/16		3/16/16	Negative
21		JD	F	27	Year	Voipa	Nimba	Yarwinmensonnon	3/22/16	3/22/16	3/25/16	4/3/16	Pending
22		JM	M	27	Year	Toweh Yard	Nimba	Sanniquelleh Mah	4/28/16	4/28/16	5/3/16	5/12/16	Pending
23		K Y	M		Year	NP	Bong			2/21/16			Negative
24		KF	F	38	Year	FROG ISLAND	Bong	Suakoko	2/28/16	3/7/16	3/7/16	3/7/16	Negative
25		MK	F	25	Year	NYALLA	Bong	Suakoko	4/19/16	4/20/16	4/23/16	4/27/16	Pending
26		MW	F	38	Year	Wuo town	Nimba	Sanniquelleh Mah	2/19/16				Not Tested
27		MW	F	29	Year	Guahn Community	Nimba	Saclepea -Mah	3/1/16	3/1/16		3/9/16	Negative
28		MM	F	13	Year	Henry's Town	Gbarpolu	Bopolu	2/28/16	3/2/16		3/16/16	Negative
29		MN	M	38	Year	NIGERIAN FPU	Bong	Jorquelleh	2/13/16	2/17/16		2/20/16	Positive
30		MK	M	45	Year	ZENALORMAI	Lofa	Voinjamin		5/1/16	5/7/16	5/12/16	Pending
31		MW	M	30	Year	Balagwalasu	Lofa	Zorzor		2/7/16			
32		MK	M	35	Year	THOMAS FARM	Bong	Suakoko	1/13/16	1/15/16			Not Tested
33		MF	M	41	Year	NIGERIAN FPU	Bong	Jorquelleh	2/19/16	2/19/16	2/19/16	2/20/16	Negative
34		NK	F	20	Year	SUGAR HILL	Bong	Suakoko	2/11/16	2/21/16	2/23/16	2/23/16	Negative
35		NG	F	30	Year	compound#3	Grand Bassa	District 3	6/1/16	6/1/16	6/1/16	6/10/16	Negative
36		NM	F			Henry's Town	Gbarpolu	Bopolu	2/28/16	3/2/16		3/16/16	Negative
37		NS	M	3	Year	Mission Camp	Grand Bassa	District 3	5/14/16	5/14/16	5/14/16		Not Tested
38		NN	F	35	Year	TOTOTA	Bong	Suakoko	1/19/16	1/19/16			Not Tested
39		NS	F	27	Year	SUAKOKO	Bong	Suakoko	1/21/16	1/21/16			Not Tested

1. Using data from a health facility ledger, sample IDSR line list and Laboratory Results databases, create one harmonized standard analysis dataset for the Lassa Fever Cases

2. Identify errors in the data, looking for issues such as nonsensical dates, duplicates, missing information, or incorrect IDs

3. Each group should develop a recommendation to provide feedback to the reporting unit



Exercise 4

In this exercise, you will practice the purpose of analyzing data by person, place and time and data interpretation. Additional information can be read from page 38 of the IDSR technical guidelines

Table 3.1 Montserrado IDSR Line list

S/N	Reporting Date	Epi week	IDSR ID	Health Facility Name	District of Report	Disease	Full Name	Sex	Age	Age Type	Outcome	Final Classification
1	8-Jan-16	1		All Grace Clinic	Commonwealth	Measles	AD	M	2	Month	Alive	Suspected
2	5-Jan-16	1	LR30-000027	RH Fugerson	Somalia Drive	Measles	AS	M	1	Year	Alive	Suspected
3	4-Jan-16	1	LR30-000057	Duport Road Health Center	Commonwealth	Rabies	AT	F	14	Year	Alive	Suspected
4	9-Jan-16	1	LR30-000182	Lofa Medical Clinic	Bushrod	Measles	AS	M	5	Year	Alive	Suspected
5	8-Jan-16	1	LR30-000183	Lofa Medical Clinic	St Paul	AWD	BW	F	40	Year	Alive	Suspected
6	12-Jan-16	2	LR30-000057	Duport Road Health Center	Commonwealth	Rabies	AL	F	16	Year	Alive	Suspected
7	12-Jan-16	2	LR30-000057	Duport Road Health Center	Commonwealth	Rabies	AT	M	9	Year	Alive	Suspected
8	12-Jan-16	2	LR30-000057	Duport Road Health Center	Commonwealth	Rabies	AE	M	9	Year	Alive	Suspected
9	12-Jan-16	2	LR30-000057	Duport Road Health Center	St Paul	Rabies	AP	M	20	Year	Alive	Suspected
10	13-Jan-16	2	LR30-000057	Duport Road Health Center	Commonwealth	Rabies	AT	M	9	Year	Alive	Suspected
11	23-Jan-16	3	LR30-000057	Duport Road Health Center	Somalia Drive	Rabies	AL	M	6	Year	Alive	Suspected
12	19-Jan-16	3	LR30-000057	Duport Road Health Center	Somalia Drive	Rabies	AG	M	30	Year	Alive	Suspected
13	19-Jan-16	3	LR30-000057	Duport Road Health Center	Commonwealth	Rabies	AF	M	30	Year	Alive	Suspected
14	21-Jan-16	3		Topoe Village Comm Clinic	Somalia Drive	Measles	AY	M	1	Year	Alive	Suspected
15	18-Jan-16	3	LR30-000054	ELWA Hospital	Commonwealth	Measles	AK	M	2	Month	Alive	Suspected
16	30-Jan-16	4	LR30-000057	Duport Road Health Center	Somalia Drive	Rabies	AB	F	4	Year	Alive	Suspected
17	28-Jan-16	4		MSF Children Hospital	Somalia Drive	Neonatal Tetanus	AD	M	4	Day	Alive	Suspected
18	26-Jan-16	4		NP	Todee	AWD	AK	M	7	Year	Alive	Suspected
19	29-Jan-16	4	LR30-000032	Redemption Hospital	Bushrod	Measles	AW	M	1	Year	Alive	Suspected
20	29-Jan-16	4	LR30-000057	Duport Road Health Center	Commonwealth	Rabies	AL	F	19	Year	Alive	Suspected
21	6-Feb-16	5	LR30-000030	Slipway Clinic	Bushrod	Measles	AM	M	1	Year	Alive	Suspected
22	1-Feb-16	5	LR30-000057	Duport Road Health Center	Commonwealth	Rabies	AZ	F	4	Year	Alive	Suspected
23	6-Feb-16	5	LR30-000030	Slipway Clinic	Bushrod	Measles	AP	M	2	Month	Alive	Suspected
24	4-Feb-16	5	LR30-000032	Redemption Hospital	Bushrod	Measles	AD	F	9	Year	Alive	Suspected

25	2-Feb-16	5	LR30-000032	Redemption Hospital	Bushrod	Measles	AB	M	1	Year	Alive	Suspected
26	7-Feb-16	5	LR30-000030	Slipway Clinic	Bushrod	Measles	AK	M	4	Year	Alive	Suspected
27	2-Feb-16	5	LR30-000033	Clara Town Health Center	Bushrod	Measles	AW	M	1	Year	Alive	Suspected
28	1-Feb-16	5	LR30-000032	Redemption Hospital	Bushrod	Maternal Death	BK	F	18	Year	Dead	
29	4-Feb-16	5	LR30-000031	Soniwein Health Center	Central Monrovia	Measles	BR	M	4	Month	Alive	Suspected
30	2-Feb-16	5	LR30-000029	Chocolate City Health Center	Somalia Drive	Measles	BB	M	4	Month	Alive	Suspected
31	10-Feb-16	6	LR30-000056	Bensonville Hospital	Careysburg	Measles	AM	M	1	Year	Alive	Suspected
32	8-Feb-16	6	LR30-000057	Duport Road Health Center	Commonwealth	Rabies	AG	M	33	Year	Alive	Suspected
33	12-Feb-16	6	LR30-000008	SOS Medical Center	Central Monrovia	Measles	AK	F	12	Year	Alive	Suspected
34	9-Feb-16	6	LR30-000030	Slipway Clinic	Bushrod	Measles	AT	F	5	Year	Alive	Suspected
35	13-Feb-16	6		Logan Town Com Clinic	Bushrod	Measles	BB	F	3	Year	Alive	Suspected
36	8-Feb-16	6	LR30-000057	Duport Road Health Center	Commonwealth	Rabies	DM	M	9	Year	Alive	Suspected
37	12-Feb-16	6	LR30-000168	JDJ Hospital	Somalia Drive	Neonatal Death	EK	M	8	Day	Dead	
38	9-Feb-16	6	LR30-000057	Duport Road Health Center	Commonwealth	Rabies	EK	M	16	Year	Alive	Suspected
39	8-Feb-16	6	LR30-000057	Duport Road Health Center	Commonwealth	Rabies	EN	F	4	Year	Alive	Suspected
40	8-Feb-16	6	LR30-000057	Duport Road Health Center	Commonwealth	Rabies	FK	M	11	Year	Alive	Suspected
41	18-Feb-16	7	LR30-000057	Duport Road Health Center	Commonwealth	Rabies	AZ	F	4	Year	Alive	Suspected
42	18-Feb-16	7	LR30-000057	Duport Road Health Center	Commonwealth	Rabies	AB	M	29	Year	Alive	Suspected
43	20-Feb-16	7	LR30-000168	JDJ Hospital	Somalia Drive	Neonatal Death	AB	F	3	Day	Dead	

- Refer to the Montserrado IDSR line list and distribute the number of cases by person (age and sex), place (health district), and time (disease occurrence over period).

- Enter the data in the appropriate column of table 3.2

- Complete the totals columns

Table 3.2 a: Distribution of Measles cases by Age and Sex in Montserrado, 2016

Age group	Female	Male	Total
Less than 1 year			
1 – 10 years			
11 – 20 years			
21 – 30 years			
Above 31 years			
Total			

Table 3.2 b: Distributions of patients by health district in Montserrado, 2016

Health District	Disease freq.	Percentage
Bushrod		
Careysburg		
Central Monrovia		
Commonwealth		
Somalia Drive		
St. Paul		
Todee		
Total		

Table 3.2 c: Distributions of patients by disease Montserrado, 2016

Disease	Disease freq.	Percentage
Measles		
Rabies		
AWD		
Maternal Death		
Neonatal Death		
Neonatal Tetanus		
Total		

Table 3.2d: Distributions of Measles and Rabies by Epi week, Montserrado, 2016

1. Describe the features of the graph you have drawn
2. Using the map of Montserrado communities, make a spot of the measles cases and identify potential hotspots or areas of concerns
3. From the Montserrado County IDSR line list, which age groups and sex of patients are seen most often?
4. What conclusion can you make from the table 3.2b, c about the patients?

5.3 Use thresholds for public health action

- Thresholds are markers that indicate when something should happen or change. They help surveillance and program managers answer the question, "When should I take action, and what will that action be?"
- Thresholds are based on information from two different sources:

- A situation analysis describing who is at risk for the disease, what are the risks, when is action needed to prevent a wider outbreak, and where do the diseases usually occur?
- International recommendations from technical and disease control program experts.

- In this course, we will discuss two types of thresholds: an alert threshold and an epidemic threshold. Not every disease or condition uses both types of thresholds, although each disease or condition has a point where a problem must be reported and an action taken.

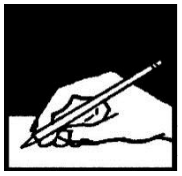
5.3.1 An alert threshold

Refer to page 40 of the IDSR technical guidelines

5.3.2 An epidemic threshold

Refer to page 40 of the IDSR technical guidelines

Suggested thresholds for taking action in specific diseases or conditions are discussed in Annex 9 of the National Technical Guidelines.



Exercise 5

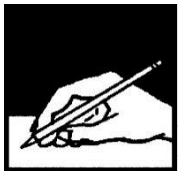
5.4 Alert and Action Thresholds

Fill in the blank spaces in Table 3.4. Refer to the information provided in the IDSR technical guidelines in Annex 1A. Also refer to, "Summary guidelines for priority diseases and conditions" in Annex 9. The row for cholera is completed for you as an example.

Table 3.4 ANSWER: Use thresholds for public health action

Disease or event	Alert Threshold: /district / week	Actions to be Taken	Action/epidemic threshold	Actions to be Taken
Acute Bloody Diarrhea (Shigellosis)				*Get this from Annex 9A*
Acute Flaccid Paralysis (Poliomyelitis)				
Cholera (severe Acute Watery diarrhea)				
Human Rabies				
Lassa Fever				

Maternal death				
Measles				
Meningitis				
Neonatal death				
Neonatal tetanus				
Viral Hemorrhagic Fevers: (including Ebola Virus Disease)				
Yellow Fever				
Unexplained cluster of health events or disease				
Unexplained cluster of deaths				



Exercise 6

You will read through the case study and use table 3.3 to answer the questions that follow.

An **Epidemic curve** provides basic information such as incubation period, link to source, and progress of the outbreak. It can demonstrate the time and severity of the peak or peaks and can be useful for showing the effect over time after the introduction of an intervention.

Case study

Mr. Mulbah, is an acting CSO, and wants to conduct a review of IDSR data in their area. Mulbah has brought together his colleagues from the county team, along with his counterparts at the district and facility levels. The first step Mr. Mulbah wants to take is review and identify the diseases and conditions which met or exceeded alert and action thresholds for the past 2 EPI weeks.

1. You are the DSO in one of the Districts in Mr. Mulbah's jurisdiction. Give Mr. Mulbah some help by identifying the diseases which should have triggered an alert or action at the end of EPI week 1.

2. Explain to Mr. Mulbah the rationale for each alert and epidemic threshold you identified

3. When was the alert threshold for measles exceeded?

4. When was the epidemic threshold for measles exceeded?

5. Propose to Mr. Mulbah the next steps he should take to respond to each of the epidemic thresholds.

6. **Table 3.3: Line list of cases reported by Montserrado County, EPID week 1 - 2, 2016.**

S/N	REPORTING DATE	EPI WEEK	IDSR ID OR EPID	HEALTH FACILITY NAME	COUNTY OF REPORT	DISTRICT OF REPORT	DISEASE	FULL NAME	SEX	AGE	Lab. Result	DATE OF ONSET OF ILLNESS	OUTCOME
2	1/5/16	1	LR30-000032	REDEMPTION HOSP	MONTSERRADO	BUSHROD	MEASLES	VN	F	3yr	Positive	02/01/2016	ALIVE
3	1/5/16	1	LR30-000027	R H FERGUSON	MONTSERRADO	SOMALIA DRIVE	MEASLES	AS	M	1yr	Positive	03/01/2016	ALIVE
4	1/6/16	1		MSF CHILDREN HOSP	MONTSERRADO	CENTRAL MONROVIA	MEASLES	JM	M	1yr	Negative	03/01/2016	ALIVE
5	1/8/16	1		ALL GRACE CLINIC	MONTSERRADO	COMMONWEALTH	MEASLES	AD	M	2mnts	Negative	04/01/2016	ALIVE
6	1/9/16	1	LR30-000182	LOFA MEICAL CLINIC	MONTSERRADO	BUSHROD	MEASLES	AS	M	5yr	Positive	28/12/2015	ALIVE
7	1/4/16	1	LR30-000057	DUPORT ROAD HEALTH CENTER	MONTSERRADO	COMMONWEALTH	RABIES	PP	M	5yr			ALIVE
8	1/4/16	1	LR30-000057	DUPORT ROAD HEALTH CENTER	MONTSERRADO	COMMONWEALTH	RABIES	UA	M	4yr			ALIVE
9	1/4/16	1	LR30-000057	DUPORT ROAD HEALTH CENTER	MONTSERRADO	COMMONWEALTH	RABIES	GM	M	19yr			ALIVE
10	1/4/16	1	LR30-000057	DUPORT ROAD HEALTH CENTER	MONTSERRADO	COMMONWEALTH	RABIES	JG	F	10yr			ALIVE
11	1/4/16	1	LR30-000057	DUPORT ROAD HEALTH CENTER	MONTSERRADO	COMMONWEALTH	RABIES	AA	F	14yr			ALIVE
12	1/5/16	1			MONTSERRADO	ST PAUL	Cholera	JC	F	21yr	Positive	04/01/2016	ALIVE
13	1/5/16	1			MONTSERRADO	ST PAUL	Cholera	HC	F	23yr	Negative	04/01/2016	ALIVE
14	1/8/16	1	LR30-000057	DUPORT ROAD HEALTH CENTER	MONTSERRADO	COMMONWEALTH	RABIES	NK	F	33yr			ALIVE
15	1/8/16	1			MONTSERRADO	ST PAUL	Cholera	BW	F	40yr	Negative	08/01/2016	ALIVE
16	1/9/16	1	LR30-000057	DUPORT ROAD HEALTH CENTER	MONTSERRADO	SOMALIA DRIVE	RABIES	GK	M	2yr			ALIVE
17	1/10/16	1	LR30-000019	JFK HOSPITAL	MONTSERRADO	CENTRAL MONROVIA	MD	WB	M	42yr		10/01/2016	
18	1/8/16	1	LR30-000057	DUPORTROAD CLINIC	MONTSERRADO	COMMONWEALTH	MEASLES	PW	F	6yr	Positive	05/01/2016	ALIVE
19	1/15/16	2	LR30-000031	SONNIWEAN H/C	MONTSERRADO	CENTRAL MONROVIA	MEASLES	BH	M	3yr	Positive	13/01/2016	ALIVE
20	1/17/16	2		ALL GRACE CLINIC	MONTSERRADO	COMMONWEALTH	MEASLES	DS	F	2yr	Negative	14/01/2016	ALIVE
21	1/11/16	2	LR30-000019	JFK HOSPITAL	MONTSERRADO	CENTRAL MONROVIA	MD	PH	F	29yr		11/01/2016	
22	1/11/16	2	LR30-000057	DUPORT ROAD HEALTH CENTER	MONTSERRADO	COMMONWEALTH	AFP	EA	M	9yr	Negative		ALIVE
23	1/11/16	2	LR30-000057	DUPORT ROAD HEALTH CENTER	MONTSERRADO	COMMONWEALTH	AFP	EE	M	9yr	Negative		ALIVE
24	1/11/16	2	LR30-000057	DUPORT ROAD HEALTH CENTER	MONTSERRADO	COMMONWEALTH	AFP	DF	M	36yr	Negative		ALIVE
25	1/11/16	2	LR30-000057	DUPORT ROAD HEALTH CENTER	MONTSERRADO	COMMONWEALTH	AFP	PV	M	7yr	Negative		ALIVE
26	1/11/16	2	LR30-000057	DUPORT ROAD HEALTH CENTER	MONTSERRADO	COMMONWEALTH	AFP	GK	M	2yr	Negative		ALIVE
27	1/11/16	2	LR30-000057	DUPORT ROAD HEALTH CENTER	MONTSERRADO	COMMONWEALTH	AFP	DY	M	6yr	Negative		ALIVE
28	1/11/16	2	LR30-000057	DUPORT ROAD HEALTH CENTER	MONTSERRADO	COMMONWEALTH	Bloody Diarrhea	RJ	F	16yr	Positive		ALIVE
29	1/11/16	2	LR30-000057	DUPORT ROAD HEALTH CENTER	MONTSERRADO	COMMONWEALTH	Bloody Diarrhea	TT	F	10yr	Positive		ALIVE
30	1/11/16	2	LR30-000057	DUPORT ROAD HEALTH CENTER	MONTSERRADO	COMMONWEALTH	Bloody Diarrhea	NG	F	26yr	Negative		ALIVE
31	1/11/16	2	LR30-000057	DUPORT ROAD HEALTH CENTER	MONTSERRADO	COMMONWEALTH	Bloody Diarrhea	RJ	F	16yr	Negative		ALIVE
32	1/11/16	2	LR30-000057	DUPORT ROAD HEALTH CENTER	MONTSERRADO	COMMONWEALTH	Bloody Diarrhea	RB	F	18yr	Negative		ALIVE
33	1/11/16	2	LR30-000057	DUPORT ROAD HEALTH CENTER	MONTSERRADO	COMMONWEALTH	Bloody Diarrhea	LP	F	30yr	Negative		ALIVE
34	1/11/16	2	LR30-000057	DUPORT ROAD HEALTH CENTER	MONTSERRADO	COMMONWEALTH	Bloody Diarrhea	LZ	F	2yr	Negative		ALIVE

35	1/11/16	2	LR30-000057	DUPORT ROAD HEALTH CENTER	MONTSERRADO	COMMONWEALTH	Bloody Diarrhea	TD	F	18yr	Positive		ALIVE
36	1/12/16	2	LR30-000057	DUPORT ROAD HEALTH CENTER	MONTSERRADO	COMMONWEALTH	Lassa	AT	M	9yr	Positive		ALIVE
37	1/12/16	2	LR30-000057	DUPORT ROAD HEALTH CENTER	MONTSERRADO	COMMONWEALTH	Lassa	MK	M	2yr	Negative		ALIVE
38	1/12/16	2	LR30-000057	DUPORT ROAD HEALTH CENTER	MONTSERRADO	COMMONWEALTH	Lassa	MB	M	45yr	Negative		ALIVE
39	1/12/16	2	LR30-000057	DUPORT ROAD HEALTH CENTER	MONTSERRADO	COMMONWEALTH	Lassa	AH	M	9ur	Negative		ALIVE
40	1/12/16	2	LR30-000057	DUPORT ROAD HEALTH CENTER	MONTSERRADO	COMMONWEALTH	Lassa	MD	M	2yr	Negative		ALIVE
41	1/12/16	2	LR30-000057	DUPORT ROAD HEALTH CENTER	MONTSERRADO	COMMONWEALTH	Lassa	MH	M	4yr	Negative		ALIVE
42	1/12/16	2	LR30-000057	DUPORT ROAD HEALTH CENTER	MONTSERRADO	COMMONWEALTH	Lassa	AG	F	16yr	Positive		ALIVE
43	1/12/16	2	LR30-000057	DUPORT ROAD HEALTH CENTER	MONTSERRADO	COMMONWEALTH	Lassa	SM	F	16yr	Negative		ALIVE
44	1/12/16	2	LR30-000057	DUPORT ROAD HEALTH CENTER	MONTSERRADO	COMMONWEALTH	Yellow Fever	SM	F	16yr	Positive		ALIVE
45	1/12/16	2	LR30-000057	DUPORT ROAD HEALTH CENTER	MONTSERRADO	COMMONWEALTH	Yellow Fever	AH	F	16yr	Negative		ALIVE
46	1/12/16	2	LR30-000057	DUPORT ROAD HEALTH CENTER	MONTSERRADO	COMMONWEALTH	Yellow Fever	SN	F	23yr	Positive		ALIVE
47	1/12/16	2	LR30-000057	DUPORT ROAD HEALTH CENTER	MONTSERRADO	ST PAUL	Yellow Fever	AP	M	20yr	Negative		ALIVE
48	1/12/16	2			MONTSERRADO	ST PAUL	Cholera	BC	F	20yr	Negative	12/01/2016	ALIVE
49	1/13/16	2	LR30-000057	DUPORT ROAD HEALTH CENTER	MONTSERRADO	COMMONWEALTH	Yellow Fever	AW	M	9yr	Negative		ALIVE
50	1/13/16	2	LR30-000057	DUPORT ROAD HEALTH CENTER	MONTSERRADO	COMMONWEALTH	Yellow Fever	ZU	M	2yr	Negative		ALIVE
51	1/13/16	2	LR30-000057	DUPORT ROAD HEALTH CENTER	MONTSERRADO	COMMONWEALTH	Yellow Fever	IV	M	35yr	Negative		ALIVE
52	1/13/16	2	LR30-000057	DUPORT ROAD HEALTH CENTER	MONTSERRADO	COMMONWEALTH	Yellow Fever	AT	M	9yr	Negative		ALIVE
53	1/13/16	2	LR30-000057	DUPORT ROAD HEALTH CENTER	MONTSERRADO	COMMONWEALTH	Yellow Fever	IN	M	35yr	Negative		ALIVE
54	1/13/16	2	LR30-000057	DUPORT ROAD HEALTH CENTER	MONTSERRADO	COMMONWEALTH	Yellow Fever	SS	F	30yr	Negative		ALIVE
55	1/13/16	2	LR30-000057	DUPORT ROAD HEALTH CENTER	MONTSERRADO	COMMONWEALTH	Yellow Fever	GF	F	50yr	Negative		ALIVE
56	1/13/16	2	LR30-000057	DUPORT ROAD HEALTH CENTER	MONTSERRADO	COMMONWEALTH	Yellow Fever	FC	F	17yr	Negative		ALIVE
57	1/13/16	2	LR30-000057	DUPORT ROAD HEALTH CENTER	MONTSERRADO	COMMONWEALTH	Yellow Fever	SA	F	30yr	Negative		ALIVE

Points to remember:

1. Data analysis is a critical aspect of surveillance
2. There are several methods available to you for analyzing data depending on the information you are trying to present. For example, if you want to analyze a disease profile for a district, you can create a spot map for a visual representation of cases by location.
3. After you have compiled and analyzed data you can summarize your findings and use them for public health action.

MODULE 6

IDSR Investigate and confirm suspected cases, outbreaks or events

Module facilitation time	3 Hours 40 Minutes
Introductory Presentation and questions	Introductory presentation and plenary: 1 hr 10 Mins
Group Work Exercises	14. Exercise 1: Steps of Outbreak Investigation 30 Mins. 15. Exercise 2: Finding laboratory information during outbreak 30 Mins 16. Characterizing Outbreak by Data Analysis 30 Mins 17. Identify Outbreak Response Action 30 Mins 18. Writing Outbreak Report 30 Mins
Logistic Requirements	○ Note book ○ Pen ○ Pencils ○ Erasers ○ Flip Charts ○ Markers
References documents	○ IDSR Technical Guidelines Liberia July 2016 ○ VHFs case investigation form

Adapted November 2016

World Health Organization

6.0 Introduction

Your facilitator will make an introductory presentation

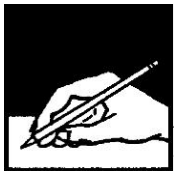
6.1 Learning objectives

This module will describe and enable you acquire and practice skills to:

1. Decide when to investigate an outbreak
2. Verify and report an outbreak or public health event
3. Characterize the outbreak (describe what is happening)
4. Plan to conduct an investigation
5. Analyze the investigation results to determine the cause of the outbreak or event
6. Prepare an outbreak report

References: Sections 4 and 9 of the *National Technical Guidelines*. Note that each disease specific guideline includes specific information about collecting and handling laboratory specimens for confirming suspected cases.

Your facilitator will also present information about the International Health Regulations (IHR (2005)) and the IHR decision instrument (see Annex 2A of the *National Technical Guidelines*).



Exercise 1

6.2 Decide to investigate a reported outbreak or public health event

In this exercise, you will read about an outbreak and the steps that were taken to investigate it. Answer the questions that follow each part of the case study. Your facilitator will guide you on how you will do this exercise. At the end of the case study, there will be a group discussion

An unknown disease outbreak in Parluken, Grand Kru District.

On September 4, 2014, the District Surveillance Officer (DSO) of Buah District in Grand Kru County received a report of an unknown disease outbreak that had affected Parluken and Juluken towns in the District. Patients were presenting with sudden onset of fever, headache, chills, and weakness. Others were presenting with blood-stained sputum. There were reports that two adults had already died from this cluster of symptoms.

1. The DSO suspected Lassa fever. What action should he now take?

2. What is Lassa fever? (Page 165 of the IDSR).

3. Should this suspected outbreak be reported to the MOH national level? Why?

4. Should this suspected outbreak be notified to the IHR focal point at the national level? Why?

5. The DSO compared the information he had with the IHR decision instrument (see Annex 2A page 90 in the National Technical Guidelines). How should he respond to the following questions:

5A: Is the public health impact of the event serious?

5B: Is the event unusual or unexpected?

5C: Is there a significant risk of international spread?

5D: Is there a significant risk of international travel or trade restrictions?

5E*:* Should the County Surveillance Officer notify the IHR focal point?

Exercise 2

Notes to Facilitator: This exercise can be completed as an exercise with the entire group. Allow participants enough time to consider and write answers to the following questions. Then ask for participants to volunteer answers to the following questions.

* * * *

Continued Case Study from Grand Kru District

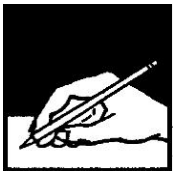
1. How does DSO verify the existence of an outbreak of Lassa fever?

2. What specimens should be collected for laboratory confirmation?

3. When should the specimen be collected?

4. In your health system, where should you send Lassa fever specimens for confirmation?

5. What information should accompany the specimens?
6. Does your district keep supplies for collecting, packaging and shipping Lassa fever specimens?



Exercise 3

Continued Case Study from Grand Kru County

Table 4.1: Lassa fever outbreak in Grand Kru County, from September 1 to 14, 2008

Date	Cases	Deaths
1-09-08	2	1
2-09-08	2	1
3-09-08	8	0
4-09-08	4	0
5-09-08	5	0
6-09-08	3	0
7-09-08	0	0
8-09-08	1	0
9-09-08	4	0
10-09-08	2	0
11-09-08	5	0
12-09-08	5	0
13-09-08	5	0
14-09-08	2	0
Total	**48**	**2**

1. Draw a line graph to show epidemic of Lassa fever in Grand Kru County using the data provided in Table 4.1

2. Review the graph you created in Question 1. Describe what the graph shows, beginning with the onset of the first case.

3. What was the **case fatality rate** in the first 2 days?

4. What was the **overall case fatality rate** after the outbreak? Explain the apparent difference**.**

5. Why do you think there is a difference between the two periods?

The District rapid response team also summarized the cases of Lassa Fever by locality and sex as seen in Table 4.2

Table 4.2: ANSWER. Distribution of cases by village and sex in Grand Kru County

Village	**Population at risk**	**Cases of Lassa Fever**		**Total cases**	***Attack rate per 100000**
		Male	**Female**		
Parluken	30,000	12	7		
Gbarken	20,000	12	3		
Woloken	40,000		9	**13**	
Juluken	10,000	0		**1**	
Total	**100,000**		**20**	**48**	

* Attack rates = total number of cases/ Total population at risk of the disease* 100,000.

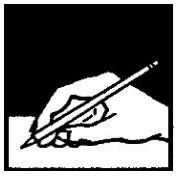
6. Calculate the Attack Rate (incidence rate) for each age group in Grand Kru County. Record your answer in the blank column in Table 4.2.

7. What proportion of males and females were affected in the population? (Assume the male to female ratio in the general population is 1:1)

8. Table 4.3 shows the distribution of cases by age group. It also gives the population at risk within those categories. The CSO was able to compare attack rates between the different age groups. Which age groups were **most** affected by Lassa fever?

Table 4.3: ANSWER. Distribution of cases by age

Age group (yrs)	Population at risk	Number of cases	Attack rate per 100,000 population
0-4	20,000	14	
5-9	15,000	13	
10-14	15,000	11	
15-19	10,000	6	
20 and above	40,000	4	*10*



Exercise 4

In this exercise, you will use the available information to characterize the outbreak and identify response actions. From the information that we have, the CSO can consider conducting an investigation to examine risk factors. For example, using rodents for food. (See page 43 of the IDSR guidelines)

* * * *

1. Based on your answers to previous questions what do you think placed each of the particular groups at risk of getting Lassa fever in Grand Kru County?

   1A: What do you think are the different risks for males versus females?

   1B: What about the different age groups?

2. Refer to Section 9 of the National Technical Guidelines and decide on recommendations for controlling this outbreak in each of the following areas:

2A: Case Management:

2B: Case Reporting (See page 34 of the IDSR guidelines)

2C: Community Actions (Inform community through its structures to:

Exercise 5

The purpose of this exercise is for you to practice writing a district outbreak report by calculating indicators and drawing conclusions about the response. First, read the following District Outbreak Report that describes an outbreak of Typhoid fever.

Read through the first four parts: Executive Summary, Introduction, Methods and Results. For a real report, you would have written these sections yourself.

Then in Part IV, use information from the report to calculate the indictors about the timeliness and quality of the outbreak detection, investigation and response.

Discuss parts V, VI and VII (the evaluation and recommendation sections) with a small group.

A sample District Outbreak Report form can be found in section 7A on page 127 of the National Technical Guidelines.

District Outbreak Report

Outbreak of Ebola

Title/Description (include disease/condition investigated)

12 August- 15 September 2015 Kpein Village, Saclepea Mah District

Period Place (Villages, Sub District, District)

Executive Summary:

On 12 August, 2015, a rumor of suspected Typhoid fever reached the health facility near Joe village. On 13 August, 4 cases of suspected Typhoid Fever were admitted to the health facility. The disease was confirmed by laboratory on 16 August. Subsequently, the District EPR Committee was alerted on 17 August and the Rapid Response Team dispatched to Kpein Village on the 20 August. The team immediately started active case finding and case management. The WASH activities were initiated on 25 August and there were no new suspected cases of Typhoid fever reported after 15 September.

I. Introduction:

On 12 August, 2015, a rumor of suspected Typhoid fever reached the health facility near Kpein Village. On 13 August, 4 cases of suspected Typhoid fever cases were admitted to the health facility near Kpein Village. The health facility immediately reported the suspected cases to the DSO by phone. Blood samples were taken and sent to the district laboratory. Confirmation results were returned within 72 hours showing the specimens positive for Typhoid Fever. Health facility staffs were trained on how to manage suspected cases of Typhoid Fever and protocols were made available in the outpatient and inpatient departments. As cases arrived at the health facility, health workers were able to treat them by alleviating their pain with appropriate medications that were available in adequate supply. Each case was recorded in a line list form. On 16 August, the health facility reported the confirmation to the DSO who immediately reported the confirmation to the CSO. The CSO will notify the CHO and the national level. He also alerted other neighboring health facilities to initiate active surveillance for Typhoid Fever cases. The District epidemic preparedness and response (EPR) Committee was alerted about the suspected cases during their weekly

meeting on 17 August. The Rapid Response team arrived in Kpein Village on 20 August and started active case finding and case management. The team found that cases ate at a cook shop located near the community garbage site. Due to the scarcity of water in the village, the cook shop uses water from the creek at the end of the town where the community members use the latrine. The Rapid Response Team initiated the Water, sanitation and hygiene (WASH) project on 25 August. On the same day, the community was informed on how Typhoid Fever was spread and how they could protect themselves from mosquitoes. Finally, the RRT contacted the health facility to update the staff on the current state of cases and risk factors in Kpein Village. Over the period of the outbreak (12 August-15 September) 45 cases were confirmed with no deaths. The final outbreak report was completed on 20 September and sent to the national level.

Methods:

The investigation occurred from 20 to 25 August in the village of Kpein Village in Saclepea Mah District. The Rapid Response team performed contact tracing and mapped the location of the cases. The team found that cases ate at the same cook shop in the village. The creek is not far from the bush where the community members practice open defecation. The Rapid Response team treated cases immediately. Stool specimens were taken from each case and sent to the District laboratory. They initiated the WASH campaign intervention on 25 August.

II. Results:

The first suspected case was reported from Kpein Village on 12 August. The first case seen in a health facility arrived from Kpein Village on 13 August. Case tracing in the village identified 14 additional cases of Typhoid Fever. Lab results confirmed that each case was Typhoid Fever. The cases were clustered around the area where the cook shop was located in the village of Kpein Village and mostly affected children 9- 16. The WASH efforts initiated by the District Rapid Response Team decreased the open defecation in the community, construction of a hand pump and hygiene promotion which resulted in a decline in cases over a one week period.

IV. Self-evaluation of the timeliness and quality of preparedness, outbreak detection, investigation, and response

Epidemic Preparedness

Indicator	Yes	No
Were adequate drugs and medical supplies available at the onset of the outbreak	*X*	
Were treatment protocols available to health workers?	*X*	
Does the district Rapid Response Team regularly meet as part of epidemic preparedness?	*X*	

Outbreak Detection

Indicator	Date 1	Date 2	Interval
Interval between onset of index case (or occurrence of an unusual cluster at the community level) [date 1] to arrival of first outbreak case at the health facility [date 2] (Target: <3 days)	*12 August*	*13 August*	*1day*
Interval between initial outbreak case seen at the health facility (or date of outbreak threshold crossing at the health facility) [date 1] and reporting to the district health team [date 2] (Target: within 24 hours)	*13 August*	*13 August*	*0 day*
Cumulative interval between onset of index case (or occurrence of an unusual cluster at the community or health facility) [date 1] to notification to the district [date 2] (Target: <7 days)	*12 August*	*13 August*	*1day*

Outbreak investigation

Indicator	Yes	No
Were case forms and line lists completed?	*X*	
Were laboratory specimens taken (if required)?	*X*	

Indicator	Date 1	Date 2	Interval
Interval between notification of district [date 1] and district field investigation conducted [date 2] (Target: within 48 hours)	*13 August*	*20 August*	*7 days*
Interval between sending specimens to the lab [date 1] and receipt of results by the district [date 2] (Target: 3-7 days, depending on type of test)	*13 August*	*16 August*	*3 days*

Outbreak response

Indicator	Date 1	Date 2	Interval
Interval between notification of outbreak to district [date 1] and concrete response by the district [date 2] (Target: within 48 hours of notification)	*13 August*	*20 August*	*7*

Evaluation and Feedback

Indicator	Date 1	Date 2	Interval
Interval between end of the outbreak [date 1] and finalization of outbreak report with case forms/line list sent to national level [date 2] (Target: 2 weeks)	*15 September*	*20 September*	*5*

Indicator	Yes	No
Did the outbreak management committee meet to review investigation results?		*Unknown*
Was feedback given to health facilities and community?	*X*	

V. Evaluation of other aspects of the response

Including community involvement, partner participation, one health aspect, when were the different levels notified, when did those levels respond etc

VI. Interpretations, discussion, and conclusions (in our opinion, do you think the investigation and response went well? What aspects do you think require improvement? What are the key lessons learnt from this outbreak?

What information is missing that could help you complete this form?

VII. Recommended public health actions:

- **Community level:**

  .

- **Health Facility**
- **District:**
- **County**
- **National level**

Points to remember:

1. Understanding alert and epidemic thresholds will help you know when to investigate an outbreak;
2. Characterize outbreak in terms of person, place and time;
3. Document all of the rumors, reports and verified information about an outbreak;
4. Assemble an outbreak investigation team and consider all of the logistics that will need to be taken care of so that they can do their jobs, i.e., which vehicles can they use, what resources are available to them for fuel, food, etc. Who will they contact at the outbreak site?
5. Remember the one-health approach to outbreak investigation and response;
6. Analyze the investigation results to determine what caused the outbreak or event and decide if there is immediate action that can decrease the severity of the effect;
7. Prepare an outbreak report to submit to the National Level (Ministry of Health)

MODULE 7

Preparedness and response to outbreaks and other public health events

Module facilitation time	2 Hours
Introductory Presentation and questions	Introductory presentation and plenary: 30 Mins
Group Work Exercises	19. Exercise 1: Composition, Roles and Responsibilities of CEPRC and CRRT/ DRRT 20. Exercise 2: Identifying essential components of CEPRC, DRRT and RRT 21. Exercise 3: Activation and deactivation of DRRT and CRRT
Logistic Requirements	Flip Charts ○ Paper glue ○ Markers ○ Tape ○ Pens ○ Post it ○ Sheets ○ Scissors
References documents	○ IDSR Technical Guidelines Liberia July 2016 ○ EPR Plan ○ County Specific EPR Plan

Adapted October 2016

World Health Organization

7.0 Introduction

Your facilitator will give highlights of this section; otherwise, sections have been covered during either county EPR planning, Rapid Response Team (RRT) training or simulations. You will however have a brainstorming session to enable you refresh what was covered during the mentioned in your respective counties.

7.1 Learning objectives

This module will describe and enable you to acquire and practice the following skills:

1. Identify functions of the county epidemic preparedness and response committee
2. Define the roles and responsibilities of a County/district rapid response team
3. Become familiar with the prepositioning and monitoring of contingency stocks
4. Understanding response activation, coordination and key activities.

Refer to your County Epidemic Preparedness Plans, IDSR technical guidelines and RRT training

* * * *

7.2 Organizing for a Public Health Response

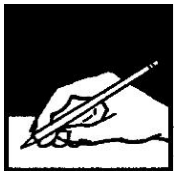
Your facilitator will ask a participant to read from his/her manual

7.2.1 Epidemic Preparedness and Response

Refer to IDSR technical guidelines

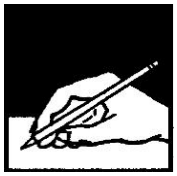
7.2.2 Composition and roles and responsibilities of Rapid Response Teams as highlighted during RRT training

Refer to IDSR technical guidelines



Exercise 1

1. What are the difference between County epidemic preparedness and response committee (CEPRC) and the county/district RRT?



Exercise 2

In this exercise, the participants are expected to identify essential components of an epidemic preparedness and response plan, composition and function of the CEPRC and Rapid Response Team. Read the case study and then answer the questions that follow.

Prepare to Respond to outbreaks

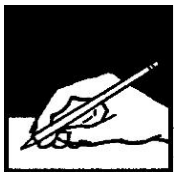
Over the last three years, your county has experienced outbreaks of EVD, Lassa fever, cholera, and measles. These diseases resulted in many deaths. As a result of this, the Department of Disease Surveillance and Epidemic control of the Ministry of Health, has requested the County Health Team to initiate preparedness activities for prevention, early detection and response to these outbreaks. As a member of the County Health Team, the County Health Officer has appointed you as County EPR focal person and requested that you coordinate the preparedness activities for the county.

1. Does your county have an Epidemic preparedness and response plan? If yes, what are the essential components of the plan?

2. Is there an epidemic preparedness and response committee in your county? If so, who are the members? Is this in line with the IDSR recommended committee members?

3. Is there a rapid response team in your county and district? If so, what is the composition of the team?

4. Is there contingency stock available? If so, what are the available supplies?



Exercise 3

In this exercise, the participants are expected to identify RRT roles and responsibilities, RRT criteria for activation, be familiar with measles case definition and outbreak response. Read the case study and answer the following questions.

Case scenario 1:

On the 8th October 2015, a suspected Ebola Virus Disease outbreak occurred in Zorzor District, Lofa county, with the epi-center of the outbreak was reported to be predominantly in Fissebu, a remote village north of Zorzor municipality.

The illness was characterized by acute onset of fever, severe muscle pains and bleeding from multiple orifices. At the time of reporting, five people, including two students, have died from related symptoms.

Due to the urgency, the CHO immediately sent a response team to the field to investigate the outbreak and initiate outbreak control measures as required.

1. Which response team should be activated and why?

2. What will be the roles and responsibilities of the RRT?

3. What personnel should the team compose of and why?

4. What supplies will the RRT need for this response?

5. It has been confirmed by laboratory results that this is an Ebola virus disease outbreak. What are the key control measures that should be implemented?

Case scenario 2:

In the middle of the rainy season, a gCHV reports three suspected measles cases, from two households in two adjacent districts within a three-week period. The Health Facility OIC verifies the suspect case, and reports her findings to the DSO.

1. Does this constitute a measles outbreak? Why or why not?

2. Should a RRT be activated in this case? Why or why not?

3. What response activities should be conducted?

Case scenario 3:

A 26-year-old female presents at a health facility with complaints of fatigue, joint pain, vomiting, bloody diarrhea and a temperature of 39.5 degrees.

The patient provides the following information: the illness began 2 days ago, and has been getting worse. She has been taking ACTs for malaria but the fever is not responding to treatment. No one else at home is sick, however ten days ago her grandmother who lived in another village, visited and became sick whilst on the visit. Upon returning to her village, the grandmother died. Rumors are now circulating of a disease in the grandmother's village. People who have the disease experiencing fever, vomiting, body aches, and red eyes. The Health facility suspects EVD.

1. What immediate control measures should be put in place at the health facility?

2. What response activities should be put in place by the DSO?

3. The RT-PCR result return positive. What will be the appropriate action for the district Health Team?

4. What will be the appropriate action for the County Health Team?

Points to remember:

1. Adequate county preparedness requires the following: an active CEPRC, an updated county EPR plan, trained DRRT/CRRT, and prepositioned stock. Remember, failing to prepare is preparing to fail and surprises are great for the unprepared!
2. Being appropriately prepared can stop further transmission and hence reduce the number of deaths in your county when an outbreak occurs.
3. Establish an epidemic preparedness and response committee to increase communication between stakeholders before, during and after an outbreak.
4. Develop an epidemic preparedness and response plan that will strengthen your ability to respond to an outbreak
5. Maintain and pre-position proper stocks of drugs, vaccines, reagents and supplies. This will assist everyone else in your health system to do their jobs well. Avoid misuse of the stockpiles.
6. Effective coordination of an outbreak is essential to ensure a successful response.

MODULE 8

Monitor, Evaluate and Improve Surveillance and Response

Module facilitation time	2 Hours
Introductory Presentation and questions	Introductory presentation and plenary: 1 hr 10 Mins
Group Work Exercises	22. Exercise 1: Sources of information (20 mins.) 23. Exercise 2: Calculation of timeliness and completeness (30 mins.)
Logistic Requirements	○ Sheets ○ Flip Charts ○ Paper glue ○ Post it ○ Markers ○ Pencils ○ Sharpeners
References documents	○ IDSR Technical Guidelines Liberia July 2016 ○ Community Event Based Surveillance

Adapted November 2016

World Health Organization

8.0 Introduction

Your facilitator will make an introductory presentation

8.1 Learning objectives

This module describes and enables you to acquire and practice:

1. Use core indicators for integrated disease surveillance and response at different levels of the surveillance system.
2. Plan the monitoring and evaluation of integrated disease surveillance and response training.

8.2 Identify targets and indicators

Using indicators is a method for measuring the extent of achievement for a particular program or activity.

An indicator can be developed to measure the proportion or percentage of facilities that are reporting. This proportion is then compared with the desired goal or target, and can be used to evaluate progress and, therefore, the quality of the service or activity.

You will need to list possible indicators to measure at different levels. These may be indicators that relate to national goals and indicators, or to specific plans for improving integrated surveillance and response activities at various levels.

Select the indicators that are most relevant at various levels to plan for improving surveillance this year, and that will provide information that the county can use.

Selected indicators are likely to be the following:

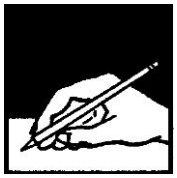
Indicators for measuring quality of surveillance in general - For example, to evaluate timeliness and completeness of reporting, select as an indicator the percentage of health facilities that reported routine information on time.

Indicators for measuring quality of surveillance for specific diseases or public health events - For example, to monitor response to surveillance data about meningitis, select as an indicator the percentage of health facilities where meningitis outbreaks were detected -- that is, the rate was more than 15 suspected cases per 100 000 population -- and which were laboratory confirmed.

All countries must also report on indicators for monitoring progress with the International Health Regulations.

Review the list in the National Technical Guidelines, "Indicators for monitoring performance of core functions of IDSR", Annex 8A.

Review the list in the National Technical Guidelines, "Indicators for monitoring performance of core functions of IDSR", Annex 8A.



Exercise 1

Notes to Facilitator: *The table below was extracted from Annex 8A of the National Technical Guidelines. It is pre-filled with data on the indicator, its purpose, the numerator, denominator and source of information.*

* * * *

In Part A, you will fill in missing information about sources of information for monitoring data and suggestions for how often to calculate an indicator.

In Part B, you will answer questions about your own district.

In the table below, the first four columns have been filled in. You will work in pairs or a small group of 3 to review the indicators and complete the last two columns.

8.3 Core indicators at the district level

Every group should review their assigned indicator carefully including information about the numerator and denominator. Then answer the following questions:

a) Describe how you will extract the data from the sources of information in order to calculate the indicator.

b) Suggest how often you think the data should be collected and analyzed.

c) Describe who should be responsible for collecting the data and calculating the indicator at your level.

d) In the table below, the first four columns have been filled in. You will work in pairs or a small group of 3 to review the indicators and complete the last two columns. Fill in the blank spaces for your assigned indicator in the table on the next 3 pages.

Table 6.1: ANSWER. Monitoring the IDSR core indicators at the district level

Indicator	Purpose	Reporting Levels	Disaggregation levels	Numerator	Denominator	Source of information	Target	Frequency of Data Collection
Attack rate for each outbreak of a priority disease	Helps to identify the population at risk and efficacy of interventions; Core Indicator 10	National	Administrative levels (National, County, District, etc.), Disease type, Period / outbreak	Number of new cases of an epidemic-prone disease that occurred during an outbreak	Number of population at risk during the outbreak			
Case fatality rate for each disease reported	Measures quality of case management; Core Indicator 9	National	Administrative levels (National, County, District), Disease type, Period / outbreak	Number of deaths from each of the epidemic-prone diseases	Number of cases from the same immediately reportable diseases			
Percentage of new / re-emerging health events responded to within 48 hours as per IHR requirements	Measures the timeliness and quality of response to outbreak; Core Indicator 8	County, National	Type of health event; administrative levels (National, County, District, etc.),	Number of new / re-emerging health events responded to within 48 hours as per IHR requirements	Total number of cases of new / re-emerging health events notified/reported			
Percentage of	Measures capacity	County	Number of counties	Total number	Budgetary information			

counties with funded outbreak preparedness and response plans	of counties to prepare for outbreaks ; Investment Plan Indicator		with funded outbreak preparedness and response plans	of counties				
Proportion of counties with functional RRTs having conducted outbreak simulation or response in the past 6 months	Assesses the functionality and readiness of RRTs in all counties	County	Number of counties with functional RRTs having conducted outbreak simulation or response in the past 6 months	Total number of counties	Supervisory reports			
Proportion of cases of each priority disease with information on community referral	Measures the proportion of cases detected through CEBS activities	District	Proportion of cases of each priority disease with information on community referral	Total number of cases of each priority disease	Line lists			

Indicator	Purpose	Numerator	Denominator	Source of information	How often do you calculate this indicator?
1. Proportion of health facilities submitting surveillance reports on time to the district	Measures the timeliness of submission of surveillance reports	Number of health facilities that submitted surveillance reports on time to the district	Number of health facilities in the district		
2. Proportion of cases of diseases targeted for elimination, eradication and any diseases selected for case-based surveillance reported with case-based forms or line lists (AFP, measles, yellow Fever, Guinea worms, NNT)	Measures reporting of surveillance data with detailed information to use for further analysis	Number of cases of diseases targeted for case-based reporting in the district that are reported with case-based forms or line list	Total number of cases of targeted diseases selected for case-based reporting that occurred in the district		
3. Proportion of suspected outbreaks of epidemic-prone diseases notified to the higher level within 2 days of surpassing the epidemic threshold	Measures use of data and thresholds for early detection of outbreaks and timely reporting at the local level	Number of suspected outbreaks of epidemic-prone diseases notified to the next level within 2 days of surpassing the epidemic threshold	Number of suspected outbreaks of epidemic-prone diseases in the district		
4. Proportion of priority diseases for which a current line graph[2] is available.[3]	Measures the practice and capacity of the district health	Number of selected diseases (at least malaria and	Total number of selected diseases with a line graph		

2

Indicator	Purpose	Numerator	Denominator	Source of information	How often do you calculate this indicator?
	team to analyze surveillance data	meningococcal meningitis in district at high risk for meningitis) for which a line graph is available and current	(at least malaria and meningococcal meningitis if district is at high risk for meningitis)		
5. Proportion of health facilities that have current trend analysis (line graphs) for selected priority diseases	Measures the practice and capacity of the health facility team to analyze surveillance data	Number of health facilities that have current trend analyses for selected priority diseases	Total number of health facilities in the district		
6. Proportion of reports of investigated outbreaks that include analyzed case-based data	Measures availability of additional variables for further analysis	Number of outbreak investigation reports that include case-based data	Total number of outbreak investigation reports conducted in the district		
7. Proportion of investigated outbreaks with laboratory results	Measures capacity of laboratory to confirm diagnosis and involvement of laboratory in surveillance activities	Number of investigated outbreaks with laboratory results in a given time period	Total number of investigated outbreaks that occurred in a given time period		
8. Proportion of	Measures	Number of	Number of		

[3] "Current" in this indicators means that the line graph display should reflect data within the past three months from the day of the assessment.

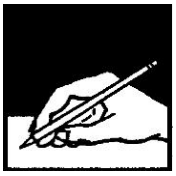
Indicator	Purpose	Numerator	Denominator	Source of information	How often do you calculate this indicator?
confirmed outbreaks with a nationally recommended public health response	capacity of the district to respond to outbreaks	confirmed outbreaks with a nationally recommended response	confirmed outbreaks in the district		
9. Case fatality rates for outbreaks of priority diseases	Measures quality of case management	Number of deaths from each of the outbreak diseases	Number of cases from the same outbreak due to that disease		
10. Attack rate for each outbreak of a priority disease	Helps to identify the population at risk and efficacy of the intervention	Number of new cases of an epidemic-prone disease that occurred during an outbreak	Number of population at risk during the outbreak		

Part B:

1. Review the sources of data you recorded in the table. Do you have these sources available in your district?

2. If not, how do you collect information?

3. What are two specific actions you would need to do to improve the availability of sources?



Exercise 2

a. Evaluate performance in the district

1. Use the information in the table on the next page to calculate the timeliness of reporting for each health facility in the district. Record your answer in the second to last column, labeled T/N (T means "on time" and N means "total number of reports").

To calculate a proportion, use the equation below:

$$\frac{\textbf{Numerator: (Ex: \# of timely reports)}}{\textbf{Denominator: (Ex: Total \# of reports expected)}} \textbf{ X 100 =}$$

Next, calculate the completeness of reporting for each health facility and record the answer in the last column, labeled (N-W)/N. (N means the total number of reports and W means the number of reports not received.

Legend

T = arrived on time; L = arrived late; W = report not received; N= total number of expected reports

Country: Liberia District: Grand Kru Year: 2015

Table 6.2: Timeliness and completeness of reports from reporting sites

Name of health Facility	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**T/N**	**(N-W) /N**
Rally Time Hospital	**L**	**T**	**T**	**L**	**L**	**T**	**T**	**L**	**L**	**L**	**L**	**W**		
Barclayville Health center	**T**	**T**	**T**	**L**	**T**	**T**	**T**	**L**	**T**	**T**	**T**	**L**		
Picnicess Clinic	**W**	**L**	**L**	**W**	**L**	**W**	**L**	**L**	**W**	**L**	**T**	**T**		
Behwan Health center	**T**	**T**	**T**	**T**	**T**	**T**	**T**	**L**	**T**	**T**	**L**	**T**		
Gblebo Clinic	**L**	**L**	**L**	**W**	**T**	**L**	**W**	**W**	**L**	**T**	**L**	**W**		
Buah Health center	**T**	**T**	**T**	**T**	**T**	**L**	**L**	**T**	**T**	**T**	**L**	**L**		
Sass Town Health Center	**T**	**T**	**T**	**T**	**T**	**L**	**T**	**T**	**T**	**T**	**T**	**T**		
Nyankunkpo Clinic	**W**	**W**	**W**	**W**	**W**	**L**	**L**	**W**	**L**	**W**	**W**	**L**		

2. The WHO Africa regional target for timeliness of reporting is 80% (National level reporting is Monday 12 mid-day). Which of the health facilities in Grand Kru County have reached the target?

3. The target for completeness is also 80%. List the health facilities that have reached or passed the target.

4. Why do you think these facilities have reached the target?

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5. Which health facility had the best timely reporting?

6. Calculate the completeness of reporting for each health facility in the district.

7. Which health facility is doing poorly on reporting?

8. What could cause the poor reporting?

9. What action should be taken to rectify the situation?

Points to remember:

1. Decide how activities will be monitored and evaluated during the development of the plans.
2. Monitor and revise plans.
3. Evaluate whether surveillance objectives have been achieved.

MODULE 9

IDSR Risk Communication

Module facilitation time	2 Hours 30 Minutes
Introductory Presentation and questions	Introductory presentation and plenary: 30 Mins
Group Work Exercises	24. Task: Risk Communication Before, During and After (20min). plenary (20min) 25. Exercise 1: Liberia IDSR Risk Communication Coordination: (20min). plenary (20min) Exercise 2: Rumor management in risk communication (20min). plenary (20min)
Logistic Requirements	○ Sheets ○ Flip Charts ○ Markers
References documents	○ IDSR Technical Guidelines Liberia July 2016 ○ Liberia Ebola Emergency Response SOP ○ Liberia Epidemic Preparedness and Response (EPR) Plan

Adapted November 2016

World Health Organization

9.0 Introduction

The 2014 Ebola outbreak in Liberia has so far demonstrated that communicating risk is critical to managing public health emergencies. Risk Communication is an integral part of every public health emergency response and an important component of the Integrated Disease Surveillance and Response (IDSR). Risk communication includes a range of strategies/activities implemented before, during and after a disease outbreak or a public health event. A risk can be considered as a probability of something bad happening when people are exposed to a hazard. Communication is effective transmission or exchange of information on risk, to improve perceptions and promote informed decision making.

Accordingly, risk communication may serve to → create awareness on hazards and risks; → promote perceptions of risks and management measures; → promote appropriate actions during events; → warn and trigger action to impending and current events; → reassure the audience (to reduce anxiety or 'manage' outrage); → improve relationships (build trust, cooperation, networks); → enable mutual dialogue and understanding; → involve stakeholders in decision making → promote adoption of protective behavior/practices and build resilience

Risk Communication uses a mix of communication strategies including Health Promotion, Public communications, social mobilization and community engagement.

9.1 Purpose of Module

To build capacity of responders at national and county level on risk communication and guide them on its implementation before, during and after an outbreak within the context of IDRS.

Ask a participant to read aloud these learning objectives to the group.

9.2 Learning objectives

This module will describe and enable participants to:

- Discuss the importance of risk communication in relation to IDSR
- Describe the key activities of risk communication before, during and after an outbreak
- Demonstrate the application of risk communication in the different situations.

9.3 What is risk communication?

Your facilitator will now ask you to explain in your own words the meaning of the risk communication.

Task: your facilitator will divide you into three groups and ask you to discuss Risk Communication activities that are carried out before, during and after an outbreak (20 min)

9.4 Routine Communication (Communication before an outbreak)

Disease outbreak occurs suddenly, spread rapidly and have no geographical boundaries. In order to address the unexpected, preparations is vital in risk communication.

Write down in the space below risk communication activities carried out before an outbreak.

9.5 Risk Communication during the response (During an outbreak)

Disease outbreaks are often accompanied with fear, panic and anxiety. People need to be kept informed. *Write down in the space below risk communication activities conducted during outbreak could reduce fear, panic and anxiety.*

9.6 Risk Communication after an outbreak (After response)

Write down in the space below the risk communication activities carried out after the outbreak response.

9.7 Best practices for risk communication

Write down the best practices for risk communication in the space below.

9.8.0 Risk communication pillar involves:

a. Coordination
b. Communication with affected communities
c. Enhance public communication
d. Dynamic Listening and Rumor Management
e. Monitor community compliance and resistance

9.8.1 Coordination

Disease outbreaks require proper coordination since many stakeholders are involved. This will be required within the first 24-48 hours to minimize overlap, confusion and to ensure that the response is targeted to the affected community as quickly as possible.

List down in the space below the possible activities for good coordination

9.8.2 Communication with affected communities

Engaging communities in the response is very important. However the SOPs for engaging communities during disease outbreaks should be adhered in order to avoid spreading infection. Build trust is key. Don't promise what you will not be able to deliver.

- *List down in the space below the possible activities for good coordination*

9.8.3 Enhance public communication

Public communication through mass media is the quickest way for reaching wide audience within the shortest possible time in a cost effective way. Each county has community radios which can be utilized in reaching a wider audience.

- *List down in the space below the possible activities for good coordination*

9.8.4 Rumour Management.

Rumors or misinformation can spread quickly when correct information is not provided on time. People listen to rumor that are important to them or when there is uncertainty about the information. Therefore, risk communication responders must give the people the most accurate possible information, and promptly.

List down in the space below the possible activities for address rumor

- Rumor can be spread through: (You will be asked to identify ways in which rumors spread with their own communities)
  List down in the space below the possible way rumours can spread

9.8.5 Monitor community compliance and resistance

During an outbreak it is important to monitor how communities are responding and protecting themselves from possible disease transmission.

Your facilitator will ask you to list in the space below behaviors that should be monitored in the community.

Exercise 1

Risk communication in response to a Measles in Baby Ma community in Mamba Kaba district

Divide the participants into two groups and assign them the following task. Give them 20 minutes to read the scenario and answer the questions below. They should select a chairperson and rapporteur to take notes and present during plenary.

Scenario: Coordination

Learning Objective

By the end task participants will be able to understand the importance of proper planning and coordinating risk communication response to an outbreak.

There has been a report of suspected measles outbreak in Baby-Ma community in Mamba-Kaba district which has affected many children below five years. So far, 10 children have died in the past one week and many more are ill. The county health team has deployed the surveillance team to investigate the situation and the situation is serious. As a risk communication officer, you are required to coordinate your aspects of the response. Simply describe the key steps you will take to plan the response to the situation in Mamba- Kaba district.

1. Explain what will be considered when planning your communication coordination response to Baby-Ma community in Mamba Kaba district?

   Possible answers

   Identification of key relevant stakeholders

   Invite stakeholders for the first meeting.

   Develop a response plan with stakeholders, agree on frequency of meetings, roles and responsibilities (Terms of References) and objectives

   Division of roles, tasks and responsibilities within the coordination mechanism

   Agree on working terms in relation to information sharing, tasks, responsibilities, organisation of meetings (frequency, venue, etc.)

   Agree on the information flow e.g. identifying the spokesperson, media update strategy, mechanism for monitoring message dissemination and rumours

2. Why do you think is it important to coordinate your response?

A. *During an outbreak many actors volunteer to support the response. Therefore coordination is important to improve equitable distribution of the response activities to the affected, and at risk communities minimize overlap, confusion of response and to ensure that the response is targeted and reaching the affected community as quickly as possible*

3. Who are those partners or stakeholder to consider in risk communication coordination level?

- *Affected communities or their representative*
- *Civil society group,*
- *Non-government organisations,*
- *Other government organisations or agencies*
- *International organisations, donor organisations*
- *Religious leaders*
- *Town chiefs, community leaders*
- *School authorities*
- *Community volunteers*
- *Health workers*
- *Private sector*

Scenario 2:

Rumor Management instruction to the participants

Learning Objective:

By the end of this task, participant will be able to identify possible causes of the rumors and how to address them

Response activities are being coordinated at all levels and daily update provided to key stakeholders. Messages have been developed and aired on community radio stations on the prevention of measles. However, there have been increased anxiety and panic in the community about cure of the disease. Individuals, families and communities are drinking and rubbing cane juice and ashes on the skin of affected children as they are informed is the best way to cure them from this sickness.

1. What do you think is the possible cause for panic in the community

2. Do you think this is a critical rumour to be addressed?

3. If yes, how can you engage with your stakeholders to address a critical rumour they are strongly influenced by?

4. What are possible sources that rumours can gather in your county?

5. How do you identify rumors?

The facilitator will give you more instructions for this task.

Points to remember

1. Communication is integral to every public health response
2. Information on health threats should be exchanged in real time
3. Everyone should be aware of the potential risks they are exposed to and be empowered to take action
4. Swiftly identify and correct rumors and misinformation
5. Document response (experiences, lessons learnt, outcome, recommendations) and provide feedback

MODULE 10

IDSR Supervise and provide feedback

Module facilitation time	3 Hours
Introductory Presentation and questions	Introductory presentation and plenary: **30 Mins**
Group Work Exercises	**30mins for all exercises** 26. Exercise 1: Preparing for supervisory visits at all levels 27. Exercise 2: Use of Supervisory checklist 28. Exercise 3: Providing feedback during and after supervision
Plenary after exercises	**2hr**
Logistic Requirements	○ Flip Charts ○ Markers
References documents	○ IDSR Technical Guidelines Liberia July 2016 ○ Updated supervisory checklist for all levels including eDEWS

Adapted November 2016

World Health Organization

10.0 Learning objectives

This section describes and enables you to acquire and practice skills to:

1. Conduct supervision of surveillance and response activities
2. Use the IDSR supportive supervision checklist at different levels
3. Provide feedback to healthcare workers following supervision.

10.1 What is supportive supervision?

Your facilitator will read for you or will ask one of the participants to read from his facilitator's manual

10.2 Use a supervisory checklist

Brain storming session on contents of the checklist. Your facilitator will also emphasize key facts on supervisory checklists and show you the checklists for use at different levels

10.3 Conduct supervisory visits

Begin regularly scheduled supervision in the County. It's important to provide feedback to healthcare workers during each visit.

10.4 Prepare a supervision plan

Your facilitator will ask one of the participants to read the information below

Decide how often to monitor health worker's performance.

Ask healthcare facility supervisors to make a schedule of the supervision they will conduct over the next year in their own facilities and to any community sites that report to the facility.

- Make sure that transport is available for supervision and for surveillance activities that require transportation.
- Include other reporting sites in supervision of district surveillance activities such as private health facilities and community reporting sites in the overall plan.
- Identify and obtain necessary resources for supervision.

Exercise 1

The purpose of this exercise is to practice finding and applying recommendations for the supervision of surveillance activities in your County. Refer to Section 8.3 in the *National Technical Guidelines*

1. How is supervision of disease surveillance conducted between the county and district levels in your county?

2. Describe how supervision of disease surveillance is conducted between the district and health facility levels in your County?

3. Do you use tools or checklists for supervision at the district level?

4. Do you have a supervision plan on disease surveillance in your area?

5. Where is it located?

6. How often is it used?

7. What should you consider when preparing a supervision plan on disease surveillance?

8. What should you do during disease surveillance and response supervisory visits?

9. How do you motivate the staff during the supervisory visits?

Exercise 2

The purpose of this exercise is to practice finding and applying recommendations for the supervision of surveillance activities in your County. Refer to Section 8.3 in the *National Technical Guidelines*.

10.5 Use of the health facility surveillance check list

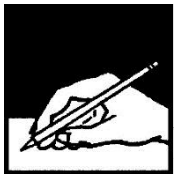
Below is the surveillance checklist for a Healthcare facility. The checklist has partially been completed. As you can see, the health center did not score well on this supervisory visit. As you review the checklist, consider the possible reasons for the issues that they faced and then recommend some solutions in the columns provided in the table. Work in a group to discuss the possible causes and potential solutions.

Table 7.1: Healthcare facility surveillance checklist

Activity	Supervisory question	Answer Yes/no or specified	List possible causes of the omission or problem	List Possible Solutions
1. Data collection to identify Suspected Cases within healthcare facilities	How often do you collect information from the community about reports of suspected cases or deaths due to a priority disease or condition?	**Rarely**	*Community doesn't know what to report*	*Distribute simplified case definitions. Include surveillance objectives in community health program activities*
2. Register cases	Are diagnoses of cases of priority diseases recorded in the clinic register according to the standard case definition?	**No**		
3. Report	Do health workers use a standard case definition to report the suspected cases and outbreaks?	**No**		
	Do you record information about immediately notifiable diseases on a case form or line list?	**No**		

Activity	Supervisory question	Answer Yes/no or specified	List possible causes of the omission or problem	List Possible Solutions
4. Analyze and Interpret	Do you plot the numbers of cases and deaths for each priority disease on a graph? (Ask to see the health facility's analysis book. Look to see if the trend lines are up-to date).	**No**		
	Do you plot the distribution of cases on a map?	**No**		
5. Investigate and Confirm Reported Cases and Outbreaks	If an epidemic-prone disease was suspected, was it reported immediately to the district office?	**No**		
	For the cases of priority diseases needing laboratory tests seen since the last supervisory visit, how many had laboratory results?	**1 out of 25**		
	Are appropriate supplies available or set aside for collecting laboratory specimens during an urgent situation and show me the supply?	**No**		
6. Respond	Are appropriate supplies available for responding to a confirmed case or outbreak *(for example, immunization supplies and vaccine, ORS, antibiotics, and so on*)?	**No**		
	Please show me the supplies for carrying out a recommended response.	**I can't**		
	Who is the outbreak coordinator for this facility?	**I don't know**		

Activity	Supervisory question	Answer Yes/no or specified	List possible causes of the omission or problem	List Possible Solutions
	How often do you provide information and training in outbreak response to the staff of this facility?	**Rarely**		
7. Provide Feedback	How often do you report information to the community?	**Never**		
	Do you receive the latest bulletin from the *(central, sub national*) level?	**No**		
8. Evaluate and Improve the System	Were the last 3 routine monthly reports sent to the district office?	**No**		
	Were the last 3 routine monthly reports sent on time?	**No**		
9. Epidemic Preparedness	What precautions do health workers (including laboratory staff) take routinely with all patients regardless of the patients' infection status?	**Minimum level of standard precautions:** **Very Few**		
	How do you estimate the number of supplies to set aside for use during an emergency situation?	**How supplies are estimated:** **They aren't**		



Exercise 3

The purpose of this exercise is to practice giving feedback during a supervisory visit to **Bahn** Health Center. You will play one of the roles, or you may observe other participants playing the roles. Your facilitator will assign the roles to be played. After the role play, there will be a group discussion

Role play
Scenario: Supervisory visit to Bahn Healthcare facility

Dr. Saye, the District Health Officer of Zoe Geh district, is meeting with the health facility team to give feedback about the results to the supervisory visit. He thanks the team for their time during today's visit. Then he reports that in the visit today, he learned the following things:

- There is regular contact between the community health workers and the health facility so disease notification from the community is timely and being monitored.
- The clinic register is up-to-date, but it does not look like diagnoses are recorded according to the standard case definition.
- The line graphs for meningitis and cholera are posted but they are not up-to-date. They are two months behind.
- A suspected case of human influenza H1N1 in the health facility catchment area was reported promptly to the district office during this quarter.
- Reporting of routine data to the district has been on time all year.
- The health facility said that they have not received a copy of the latest feedback newsletter from the district.
- A request by the health facility for specimen transport media has not yet been filled.

Dr. Saye wanted to know what two or three problems the health facility thought were the most important. Then they discussed possible causes for the problem and how improvements could be made.

When the role play has concluded, discuss the following questions:

1. How well did Dr. Saye communicate with the health facility team?

2. How did the health facility team decide on the most important problems? Do you agree with their conclusions?

3. Did they identify feasible solutions to the problems they discussed?

Points to remember

1. Prepare supervision plans with health facility supervisors to ensure that supervisory visits will occur on a scheduled basis
2. Supervisory checklists make supervisory visits more objective and help you to be sure you haven't missed anything critical for evaluating the performance of the health facility
3. Supervisory visits are intended to help improve the functions of health facilities by providing constructive criticism and feedback.
4. Give feedback to the health facilities about their evaluation so that they know what needs to be improved in their facility. Feedback from you also shows them that you are paying attention to their work and that they are a valuable asset to the health care system of your County.