MODULE 3

INTERMEDIATE-LEVEL EVENT-BASED SURVEILLANCE TRAINING MODULE

U.S. Centers for Disease Control and Prevention

MODULE 3.1

INTERMEDIATE-LEVEL EVENT-BASED SURVEILLANCE TRAINING MODULE

FACILITATOR GUIDE

U.S. Centers for Disease Control and Prevention

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ACRONYMS

US CDC	U.S. Centers for Disease Control and Prevention
CBS	Community-Based Surveillance
CHV	Community Health Volunteer
EBS	Event-Based Surveillance
EI	Epidemic Intelligence
EWAR	Early Warning and Response
HEBS	Health Facility Event-Based Surveillance
IBS	Indicator-Based Surveillance
IDSR	Integrated Disease Surveillance and Response
IHR	International Health Regulations (2005)
MOH	Ministry of Health
MS	Member States
NGO	Non-Governmental Organization
WHO	World Health Organization

EVENT-BASED SURVEILLANCE GLOSSARY OF TERMS

Community-based surveillance (CBS):	CBS is the systematic detection and reporting of events of public health significance within a community, by community members. Community health volunteers (CHV), the public, religious leaders, civil society members, teachers, and similar groups are engaged and trained to detect and immediately report events or health risks occurring in their communities. CBS may also be known as community health surveillance or community event-based surveillance.
Community health volunteers (CHV):	According to a WHO study group, CHVs may be members of the communities where they work, should be selected by the communities, are answerable to the communities for their activities, and should be supported by the health system but not necessarily a part of its organization. They may also be known as community health workers, among other terms.
Event:	The International Health Regulations (IHR) define an event as "[…] a manifestation of disease or an occurrence that creates a potential for disease; […]". This includes events that are infectious, zoonotic, food safety, chemical, radiological or nuclear in origin and whether transmitted by persons, vectors, animals, goods/food, or through the environment.
Event-based surveillance (EBS):	Defined by the World Health Organization (WHO) as the organized collection, monitoring, assessment and interpretation of mainly unstructured ad hoc information regarding health events or risks, which may represent an acute risk to health. Such information can come from diverse sectors and may include animal, environment and other sectors.
Health facility:	Defined by WHO as any establishment that is engaged in direct on-site patient care.
Health facility event-based surveillance (HEBS):	EBS that is conducted in health facilities. Healthcare workers are involved as either the primary reporting sources, such as during patient consultations, or as secondary sources, reporting unusual health events or health risks picked up through patient consultations.
Indicator-based surveillance (IBS):	Defined by WHO as the systematic (regular) collection, monitoring, analysis, and interpretation of structured data, i.e., of indicators produced by a number of well-identified, mostly health-based, formal sources.

Intermediate administrative level:	Intermediate administrative levels may be defined differently in different countries. For the purpose of this document, an intermediate level is the public health administrative level below the national level that is responsible for conducting preliminary investigations and implementing responses to reported public health events or suspected outbreaks in a given jurisdiction. The intermediate level may otherwise be referred to as districts or counties, among other terms.
Local administrative level:	Local administrative levels may be defined differently in different countries. For the purpose of this document, a local administrative level is the lowest administrative division within a country, directly above the community level.
One Health:	An approach to address a shared health threat at the human-animal-environment interface based on collaboration, communication, and coordination across all relevant sectors and disciplines, with the ultimate goal of achieving optimal health outcomes for both people and animals. A One Health approach applies to the local, regional, national, and global levels.
Outbreak:	A disease outbreak is the occurrence of cases of disease in excess of what would normally be expected in a defined community, geographical area or season. An outbreak may occur in a restricted geographical area or may extend over several countries. It may last for a few days or weeks, or for several years. A single case of a communicable disease long absent from a population, or caused by an agent (e.g. bacterium or virus) not previously recognized in that community or area, or the emergence of a previously unknown disease, may also constitute an outbreak and should be reported and investigated.
Reporting:	The process by which health events and health risks are brought to the knowledge of the health authorities.
Response:	Any public health action triggered by the detection of a public health risk (e.g. monitoring of the event, information of the public, triggering field investigation and/or implementation of any control or mitigation measures). The nature of the response will have to be adapted according to the nature of the public health risk.
Risk:	The likelihood of an event resulting in negative consequences for public health.

Risk assessment:	A systematic process for gathering, assessing and documenting information to assign a level of risk to human health to an event. Risk assessment is conducted as part of an investigation of an event.
Risk characterization:	According to WHO, once a risk assessment team has carried out hazard, exposure, and context assessments of an event, a level of risk should be assigned. This process is called risk characterization.
Signals:	Patterns of disease or other information considered by the Early Warning and Response system as representing potential acute risk to human health, such as an outbreak. All signals may not become events and as such need to be triaged and verified before a response is initiated. Signals may consist of reports of cases or deaths (individual or aggregated), potential exposure of human beings to biological, chemical or radiological and nuclear hazards, or occurrence of natural or man-made disasters.
Surveillance:	Is the ongoing systematic collection, analysis, and interpretation of health data essential to the planning, implementation, and evaluation of public health practice, closely integrated with the timely dissemination of these data to those who need to know.
Triage:	The process of screening out the data and information that are relevant for early detection purposes (i.e., the screening out of mild/irrelevant events from potential acute public health events, and the cleaning to eliminate duplicates and correct obvious mistakes).
Verification:	In the context of the IHR (article 1): "[…] the provision of information by a State Party to WHO confirming the status of an event within the territory or territories of that State Party". Under the IHR, all State Parties are required to provide verification upon request by WHO within a limited time period. In the current document, verification is also the pro-active cross-checking of the validity (veracity) of the signals collected by Early Warning and Response, by contacting the original source, additional sources, or by performing field investigation. Verification requires that hoaxes, false rumors, and artefacts are eliminated from further consideration.

INTRODUCTION

EBS is defined by the WHO as the organized collection, monitoring, assessment and interpretation of mainly unstructured ad hoc information regarding health events or risks which may represent an acute threat to health. EBS may allow for the recognition of emerging or re-emerging public health threats because it is not disease-specific, requires immediate reporting, and is highly sensitive and broad. For EBS, information can come from any source, including the community, media, healthcare workers, pharmacies and NGOs. This information, termed a signal, needs to be triaged and verified before the signal becomes an event. An event is an occurrence that could be a public health threat.

Implementation of EBS in health facilities and communities requires public health authorities at the intermediate level of a public health surveillance system to be trained to analyze the reports that they receive from those communities and health facilities in their jurisdiction. These individuals would also be required to organize and conduct supportive supervision and EBS training for communities and health facilities in order to create a local network of EBS collaborators. Additionally, since reporting does not require laboratory results, EBS in health facilities and communities may be practical and simple to establish and sustain. This type of surveillance can be readily extended to private practices, health facilities, or into community settings that may not participate in routine reporting through traditional surveillance.

OVERVIEW

Purpose

The Intermediate-Level Event-Based Surveillance Training Module will provide public health authorities at the intermediate level (such as districts or counties) with the knowledge, skills, and tools necessary to effectively implement EBS in the health facilities and communities in their jurisdiction. The module will additionally help to plan, organize and deliver EBS trainings at the community and health facility levels, to organize and conduct supportive supervisory visits, and to maintain regular contact with their supervisees.

This module is divided into eleven sessions, including a pre-test to set the baseline knowledge of participants on EBS and a post-test to check their progress after the training.

Audience

This training is targeted to public health authorities at the intermediate level responsible for EBS who will also be actively involved in training others on CBS and on HEBS.

Specific Learning Objectives

By the end of this training module, participants will have the skills, knowledge, and resources to complete the following tasks:

- Supervise and conduct effective EBS activities in health facilities and communities that are in line with the routine surveillance strategy, and
- Contribute to the flow of surveillance-related information between the community level and the existing public health surveillance system.

Facilitator Guide

The Intermediate-Level Event-Based Surveillance Training Module is comprised of a Participant Guide, as well as a “how-to” training Facilitator Guide. This component, the Facilitator Guide, is to be used by facilitators to provide effective training to intermediate level public health authorities on EBS implementation in health facilities and communities.

This guide contains eleven sessions including content, training materials, and the appendices including the presentations and basic templates. It also provides guidance on how best to facilitate activities if materials such as flipchart paper and markers are not available.

Agenda

The suggested agenda for this intermediate EBS training is a two-day training, split into eleven sessions. The proposed agenda may be revised as needed based on EBS implementation and country context.

Materials

Participants should receive a copy of the Intermediate-Level Event-Based Surveillance Training Module Participant Guide at the beginning of the workshop. The Participant Guide contains materials for their use both during and after training.

Preparation

All facilitators for this intermediate-level EBS training should review the materials needed to carry out each session, found in each section of this guide. They will also receive the slide sets (electronic version) included in this guide as appendices. Once facilitators are familiar with the content, they should take the time to develop the prepared flipcharts that are required in the sessions.

LOGISTICS AND SUPPLIES

Training Location and Space Setup

Training locations may vary, and can include office spaces, health centers, hospitals, church premises, or others. Five to six tables with a seating capacity of five to six participants per table are recommended (the maximum recommended number of participants is 25 to 30). This will facilitate group work and discussions in the plenary sessions. The facilitator(s) should also be able to move around the tables easily to get close to trainees. Arrange the seats so that everybody can see the screen and set up one flipchart and several markers beside the screen for the speaker.

Class Preparation Checklist

TASK	✓
Verify that the LCD projector and computer are functioning properly	
Obtain an adequate number of flipchart packages, including stands, paper, and markers (one for every team of participants)	
Obtain an adequate supply of sticky notes, pens, and paper	
Verify that the training room is set-up with grouped tables with 5-8 chairs at each table	
Make plans to conduct pre-test on the first morning	
Make plans to conduct post-test on the last day of training	
Make sufficient copies of the Intermediate-Level Event-Based Surveillance Training Module Facilitator Guide for co-facilitators	
Make one copy per-participant of the Intermediate-Level Event-Based Surveillance Training Module Participant Guide	
Make two copies per participant of Appendix B: Intermediate-Level Event-Based Surveillance Training Knowledge Check	
Make one copy per-participant of the Event-Based Surveillance Post-Training Evaluation survey	

INTERMEDIATE-LEVEL EVENT-BASED SURVEILLANCE TRAINING

DAY 1

SESSION	ACTIVITIES	TIME
1. Welcome and Introductions	Icebreaker	15 minutes
2. Training Objectives, Pre-Test, and Agenda	Agenda Pre-test	30 minutes
3. Event-Based Surveillance Overview ▶ Why is Event-Based Surveillance Important?	Lecture Small group exercise	50 minutes
4. List of Signals for Event-Based Surveillance In-Country: Signals for Community-Based Surveillance and Health Facility Event-Based Surveillance	Lecture	35 minutes
5. Functions of Event-Based Surveillance at the Intermediate Level ▶ Conducting Triage, Verification, and Risk Assessment	Lecture Case study	80 minutes
6. How to Record Data for Event-Based Surveillance ▶ How to Record Event Data in the District Logbook	Lecture Case study	60 minutes
Intermediate-Level Event-Based Surveillance Training Day 1		**Total 4.5 hours**

DAY 2

SESSION	ACTIVITIES	TIME
Review of Day 1		30 minutes
7. Flow of Information	Lecture Group discussion	30 minutes
8. Supportive Supervision	Lecture Role-play	75 minutes
9. Multisectoral Collaboration	Lecture Q&A discussion	45 minutes
10. How to Train Others on Community-Based Surveillance and Health Facility Event-Based Surveillance	Lecture	60 minutes
11. Training Review, Post-Test, and Close	Post-test	30 minutes
Intermediate-Level Event-Based Surveillance Training Day 2		**Total 4.5 hours**

SESSION 1

WELCOME AND INTRODUCTIONS

This session introduces the training and any necessary logistics announcements that should be made. In addition, an icebreaker activity is conducted to allow participants to introduce themselves and get to know each other.

Purpose

- Get participants to introduce themselves and get to know each other, and
- Warm up the conversation to the topic of the training.

Materials

Facilitator

- Colorful postcards/index cards
- Flipchart paper for each group
- List of icebreaker questions
- Markers

Participants

- Intermediate-Level Event-Based Surveillance Training Module Participant Guide page 11

Total time: 15 minutes

ACTIVITY 1.1

WELCOME AND INTRODUCTORY ICEBREAKER

Get participants to introduce themselves and get to know each other

Warm up the conversation to the topic of the training

Group activity

15 minutes

Step 1: Introduce yourself

Begin the training module with a warm welcome and some background on your experience working in surveillance and interest in facilitating the training. This should provide a friendly start to the workshop and help to build trust between you and the participants. It is also a way of modelling the introductions exercise ahead.

Step 2: Form groups using the postcards

After introducing yourself, move on to the icebreaker activity. The icebreaker should involve all participants, including you and your co-facilitator (if you have one), and the activity should motivate participants to interact with each other for the remainder of the training.

Distribute the cut-up postcards randomly to participants and explain that they need to form a whole picture by finding the other pieces of their postcard. They will need to describe what they have on their piece of postcard rather than just showing it to other participants. This is a way of generating conversation and a sense of fun.

Step 3: Call for team leads

Once everyone is in their work groups, ask for participants to volunteer to play the role of team leads. You can say something like the following to do this:

In order to successfully meet the goals and objectives of this event-based surveillance training as well as meet your expectations, we will need your help facilitating. We are aware that some of you have experience teaching, facilitating, and mentoring your peers, therefore we are asking for a volunteer from each group to help us with this training.

You will be team leads during the small group exercises, discussions, and case studies. In your role, you will:

- *Read out information and instructions for role-plays, small group exercises, and case studies found in the Participant Guide and handouts,*
- *Facilitate and guide discussion in your group,*
- *Encourage participation from members in your group, and*
- *Record information discussed in your group and present it to the larger group during presentation and feedback activities.*

Please let us know if you are interested in taking this leadership role by standing up and introducing yourself.

You should provide each volunteer an opportunity to say their name, what community they come from, and why they want to be a team lead during this training. Make sure to thank them all for volunteering. Once everyone has their team leads, give each group a piece of flipchart paper, list of questions, and marker (if available).

If materials are not available, randomly divide participants into groups of four. Ask team leads to refer to the Welcome and Introductory Icebreaker section in the Participant Guide for the questions to this activity and to record the answers in their journals.

Step 4: Facilitate small group introductions

Ask participants to introduce themselves by answering the following questions on the flipchart paper (if available) or in their Participant Guide:

- What is your name and where do you work?
- What two things do you enjoy most about the work you do?
- What is one expectation you have for this training?
- What two core values or ground rules should the group have during this training?

Ask each group to choose someone who will write the answers and another person who will be responsible for introducing each group member and sharing the group's answers with all participants.

If materials are not available, facilitators should ask team leads from each group to introduce each of their group members and to share some of the answers discussed in their group.

Each group should be given two minutes to share with the larger group. Ask participants to be mindful of the time and show respect towards each reporter by refraining from side conversations.

Finish the activity by establishing the expectations for group participation and respect for the ground rules that have been brought about in the introductions activity. You can use the following script:

"Our goal as facilitators is to make this training as informative and interactive as possible. For us to successfully meet the expectations you shared during the icebreaker, we are asking for everyone's participation. We encourage you to share your work experiences and learn from each other. At the same time, we ask that we all respect the ground rules we have listed. If you have any questions or concerns, please feel free to speak to one of us."

SESSION 2

TRAINING OBJECTIVES, PRE-TEST, AND AGENDA

This session focuses on reviewing the training objectives, content and agenda. In addition, a pre-test is administered to assess the baseline knowledge of participants before starting the training.

Purpose

- Familiarize participants with the objectives and content of the training,
- Give participants a roadmap for the workshop via the agenda, logistics, and materials, and
- Assess their current knowledge of EBS implementation in health facilities and communities.

Materials

Facilitator

- Laptop, LCD projector, and screen
- PowerPoint presentation
- One copy per participant of Appendix B: Intermediate-Level Event-Based Surveillance Training Knowledge Check

Participants

- Intermediate-Level Event-Based Surveillance Training Module Participant Guide: pages 12-13

Total time: 30 minutes

ACTIVITY 2.1

TRAINING OBJECTIVES, CONTENT, AND AGENDA

Familiarize participants with the objectives and content of the training

Give participants a roadmap for the workshop via the agenda, logistics, and materials

Agenda

10 minutes

Step 1: Review the content of this activity

Open the PowerPoint file titled Introduction (also in Appendix A of this guide) and ask participants to make notes in their Participant Guide as they listen to the lecture.

Step 2: Present the PowerPoint

Present the objectives, contents, agenda, and ground rules for the training by presenting the PowerPoint slides.

Step 3: Ask for questions

Ask participants if they have any questions regarding the content. Clarify and answer any questions before moving to the next activity.

ACTIVITY 2.2

PRE-TEST

Assess their current knowledge of EBS implementation in health facilities and communities

Questionnaire

20 minutes

Step 1: Prepare participants for the knowledge check

Introduce the knowledge check by reading the script below:

> *Prior to starting our first session, we're going to complete a short survey to assess your knowledge, understanding, and application of EBS implementation in health facilities and communities.*

Distribute Appendix B: Intermediate-Level Event-Based Surveillance Training Knowledge Check to participants and read the instructions out loud as follows:

> *You will have 15 minutes to complete the knowledge check. You are encouraged to ask us if you have any questions or need clarification on questions asked. Please respect everyone's time by not engaging in side conversations once you have completed your own test.*

Step 2: Finalize the session

After all participants have completed the knowledge check, collect their questionnaires and thank participants for completing the pre-test before moving on to the next session.

SESSION 3

EVENT-BASED SURVEILLANCE OVERVIEW

This session focuses on the importance of EBS, including key theoretical aspects, and the role public health authorities at the intermediate level play.

Learning objectives

By the end of this session, participants will be able to:

- Define key terms, steps and characteristics of EBS,
- Describe the importance of EWAR and EBS, and
- Describe how EBS is conducted.

Materials

Facilitator

- Laptop, LCD projector, and screen
- PowerPoint presentation
- Prepared flipchart: Why is event-based surveillance important? (Appendix E of this guide)
- Markers

Participants

- Intermediate-Level Event-Based Surveillance Training Module Participant Guide pages 14-21

Total time: 50 minutes

ACTIVITY 3.1

HEALTH FACILITY EVENT-BASED SURVEILLANCE OVERVIEW

Define key terms, steps and characteristics of EBS

Explain the importance of EWAR

Describe how EBS is conducted

Lecture

20 minutes

Step 1: Review the content of this activity

Open the PowerPoint file titled Overview of Event-Based Surveillance (also in Appendix D of this guide) and ask participants to make notes in their Participant Guide as they listen to the lecture.

Step 2: Deliver lecture on EWAR

What are early warning and response systems? (Slide 4)

Early warning and response (EWAR) is the organized mechanism to detect, as early as possible, any abnormal occurrence or divergence from the normally observed frequency of phenomena. The general objective of EWAR is to rapidly detect and control acute public health events of any origin, with attention to nationally-prioritized health risks ("detect earlier to better protect"). It is embedded in overall surveillance. To ensure efficiency, the EWAR data collection and analysis processes need to be systematized and formalized. In this regard, EWAR relies on a process called epidemic intelligence, consisting of two main channels of information, indicator-based surveillance (IBS), and event-based surveillance (EBS).

Why is EWAR important? (Slide 5)

EWAR ensures that public health threats are detected in a timely manner. This can lead to faster interventions and increases the potential for the prevention of outbreaks.

What is IBS? (Slide 6)

IBS is defined as the systematic collection, monitoring, analysis, and interpretation of structured data. The collection of IBS data is a routine, regular process, which is primarily passive. Data are collected according to established case definitions, which are either disease-specific or syndromic.

They may be collected as individual or aggregated data and originate from either exhaustive or sentinel systems. Data are analyzed in comparison with baseline values and thresholds to determine unusual disease patterns. The Integrated Disease Surveillance and Response (IDSR) is an example of primarily IBS activities.

What is EBS? (Slide 7)

EBS is defined as the organized collection, monitoring, assessment and interpretation of unstructured ad hoc information regarding health events or risks, which may represent an acute risk to health. Data for EBS systems can originate from a variety of sources, including community residents, health facilities, news reports of deaths causing public anxiety, schools, and animal and environmental sectors. As such, EBS can be implemented in communities, schools, pharmacies, the animal health sector, health facilities, or at the national level through hotlines and media scanning. A key feature of EBS is the emphasis on immediate detection and rapid reporting of signals. When implemented correctly, EBS provides a simple and adaptable form of surveillance, that can be tailored to different settings according to the needs of the country.

Integration of IBS and EBS (Slide 8-11)

IBS and EBS are complementary sources of information, and both contribute to the early warning function critical for a prompt and proportioned response. The two are not necessarily separate surveillance systems; both are processed through a single activity (epidemic intelligence), and some of the surveillance functions might be common to both types.

Epidemic intelligence (EI) is defined as the systematic collection, analysis and communication of any information to detect, verify, assess, and investigate events and health risks with an early warning objective (as opposed to monitoring of disease trends or burdens). EI should integrate both IBS and EBS to efficiently detect acute public health events and/or risks.

Both IBS and EBS present intrinsic characteristics in terms of processes and type of data or information collected. The IBS process is defined by public health professionals for notification and programmatic purposes; data/indicators are developed accordingly and are collected and transmitted in routine and mostly passive reporting. Conversely, in EBS, both content and format of information collected are not defined (i.e., unstructured information). Data sources for EBS are diverse, intended for varying audiences, including some with non-human health objectives (e.g., environmental health, wildlife and fisheries, and animal health).

What is CBS? (Slide 12)

In June 2018, a group of technical experts defined community-based surveillance (CBS) as "the systematic detection and reporting of events of public health significance within a community by community members". This definition encompasses the detection and reporting of events. To ensure consistency with this definition, this module will employ the term CBS.

What is HEBS? (Slide 13)

When EBS is conducted in health facilities, including hospitals, it is called health facility event-based surveillance (HEBS). A health facility is defined as any establishment that is engaged in direct on-site patient care. HEBS is not disease-specific; rather, it relies on detecting unusual occurrences and patterns of disease (signals) which are primarily reported by healthcare workers.

What is a signal? (Slide 14)

A signal is an observation that may represent an event occurring in a population. Signals can be patterns of diseases, such as a cluster of cases with a similar illness or something unusual, such as a treatment failure for infectious diseases on a standard drug regimen or unexpected deaths.

What is an event? (Slide 15)

An event is an occurrence that can threaten public health. It can be a single case of disease in some settings (a notifiable disease like measles or diseases with ongoing elimination programs like polio), clusters/outbreaks, or unusual events such as a case of drug-resistant tuberculosis.

What are the major steps for EBS? (Slide 16)

EBS can be organized into five main steps:

- ***Detection** of signals*
- ***Reporting** of signals*
- ***Triage** of signals*
- ***Verification** of signals*
- ***Risk assessment** of events*

Signal detection (Slide 17)

The process of EBS starts with the identification of a signal, which is an observation that might represent an event occurring in a population. Detecting a signal means identifying or suspecting the occurrence of one of the pre-determined signals designated by national public health authorities.

Signal reporting (Slide 18)

Reporting signals means communicating this information to a public health authority. Informants who detect a signal should report it immediately. Modes of signal reporting may differ depending on available resources but may include telephone, SMS, or verbal notification.

Triage (Slide 19)

Because of the often-informal nature of signal sources, once detected, signals must be evaluated to determine the likelihood that they truly represent events. This is first done through the process of triage, followed by verification. The process of triage comprises the review of information to discard duplicates, misinformation, irrelevant information, and false information to allow for the identification of real events.

Verification (Slide 20-21)

Verification is an essential step to confirm the validity and authenticity of the reported signals (is the information truly occurring or false?). According to the WHO, verification must take place within 24 hours of signal detection. This step may require additional information. Once a signal has been triaged and verified, it becomes an event. It is important to mention that not all signals become events.

Risk assessment (Slide 22)

An event needs to be assessed to determine the level of risk to human health and to determine the appropriate level of investigation and control measures. Once a signal is verified as an event, risk assessment begins. Risk assessment is a systematic and continuous process for gathering, assessing, and documenting information to provide the basis for actions required to manage and reduce the negative consequences of the event. Every assessment is a process by which the available information about a real event is analyzed and a judgment is made as to whether it poses an immediate risk to public health. According to WHO, a risk assessment of an event must be conducted within 48 hours of the initial signal detection. Intermediate-/national-level public health authorities should lead risk assessment efforts.

Signals and events (Slide 23)

While events are typically occurrences of patterns of disease, such as clusters of similar illnesses, single cases of diseases in some settings can constitute an event because that illness/disease may be of high priority (e.g., a child with acute flaccid paralysis or the isolation of an Ebola virus in a laboratory). In the latter case, the event can constitute a notifiable disease within the routine surveillance system or a novel infectious threat that requires further investigation. In both instances, after triage and verification, an event enters the public health surveillance structure and will be integrated into the routine disease reporting system, such as the IDSR programs common in African countries.

ACTIVITY 3.2

WHY IS EVENT-BASED SURVEILLANCE IMPORTANT?

Explain the importance of EBS

Small group exercise

30 minutes

Step 1: Set up the small group exercise

Introduce the small group exercise by referring to the prepared flipchart Small Group Exercise-Why is event-based surveillance important? (Appendix E of this guide) and ask participants to locate the corresponding handout in Section 3 of their Participant Guide.

Inform participants that they will be divided into groups and will work to complete all four sections of the flipchart by answering a set of questions. Ask participants to go back to the same groups that were formed during the introductory icebreaker activity. Each group should be made up of at least four participants.

Give each group the prepared flipchart, instructions, and a marker. Each team should select a group member to take notes (recorder) and another to present the group's responses to the audience (presenter).

Step 2: Get students to discuss and record answers to the questions

Ask participants the following questions and capture the answers in a prepared flipchart with four equally divided spaces:

- *How do you currently conduct surveillance in your jurisdiction?*
- *What is EBS?*
- *Do you know the purpose and importance of EBS? Why is it important?*
- *What is the value of adding EBS to your current surveillance?*

Explain that this is a brainstorming exercise, and, therefore, active participation from every group member is important.

Step 3: Facilitate group presentations and feedback

Monitor the timing of the exercise. After 10 minutes, ask the groups to direct their attention to the larger group for the group presentations. Inform the groups that they will have 2 minutes to present. Ask if there is a group that wants to present first. If no group volunteers, randomly select a group to present first.

Ask participants to be mindful of the time and show respect towards each reporter by not engaging in side conversations. Summarize common points from the presentations by including input from each group.

Step 4: Wrap up session with key message

Prior to moving to the next session, reinforce the key takeaway message below.

Now that we have some ideas on what EBS is, why it is important, and how it should be conducted at the intermediate level, we will start Session Four focused on how to identify signals for detection.

SESSION 4

LIST OF SIGNALS FOR EVENT-BASED SURVEILLANCE IN-COUNTRY: SIGNALS FOR COMMUNITY-BASED SURVEILLANCE AND HEALTH FACILITY EVENT-BASED SURVEILLANCE

This session defines signals for CBS and HEBS in-country.

Learning Objectives

By the end of this session, participants will be able to:

- Define signals and events,
- Identify differences between signals and events, and
- Describe CBS and HEBS signals in their country.

Materials

Facilitator

- Laptop, LCD projector, and screen
- PowerPoint presentation

Participants

- Intermediate-Level Event-Based Surveillance Training Module Participant Guide pages 22-24

Total time: 35 minutes

ACTIVITY 4.1

LIST OF SIGNALS FOR COMMUNITY-BASED SURVEILLANCE AND HEALTH FACILITY EVENT-BASED SURVEILLANCE

Define signals and events

Identify differences between signals and events

Describe CBS and HEBS signals in their country

Lecture

35 minutes

Step 1: Review the content of this activity

Review the content of this activity prior to conducting the presentation. Open the PowerPoint file titled List of Signals for Event-Based Surveillance In-Country (also in Appendix F of this guide) and ask participants to make notes in their Participant Guide as they listen to the lecture.

Step 2: Deliver lecture on signals for CBS and HEBS

Examples of signals and events (Slide 5)

Some examples illustrating the difference between signals and events are:

- *A critical care physician hospitalized with a severe respiratory disease with travel history to Saudi Arabia may be a signal requiring reporting. After triage and verification of the signal, there could be more elements to suspect a case of Middle East Respiratory Syndrome as an event.*
- *A case of typhoid fever that fails to respond to standard treatment may be a signal. After triage and verification, this signal could become an event as a suspected case of extensively drug-resistant typhoid fever.*
- *A 4-year-old child with fever and rash in the community may be a signal. It can become an event, such as a case of measles, after triage and verification.*

SIGNAL	EVENT
▶ A critical care physician hospitalized with a severe respiratory illness with travel history to Saudi Arabia ▶ Siblings (3) are admitted with severe dehydration and profuse diarrhea ▶ A case of typhoid fever with failure to ceftriaxone treatment ▶ A 4-year old child admitted with fever, rash, coughing, coryza, and conjunctivitis	▶ A suspected case of Middle East Respiratory Syndrome MERS ▶ A cluster of suspect cholera cases ▶ A suspected case of extensively drug-resistant (XDR) typhoid fever ▶ A suspected case of measles

Examples of signals for HEBS (Slide 6)

Some examples of signals for HEBS are:

- *Any severe illness in health staff after taking care of a patient with a similar illness,*
- *A large, sudden increase in admission for any severe illness of the same type, and/or*
- *Any severe, unusual, unexplainable illness, including a failure to respond to standard treatment.*

Examples of signals for CBS (Slide 7)

Some examples of signals for CBS are:

- *Two or more cases of people presenting with similar severe signs/symptoms from the same community, school, or workplace within one week,*
- *A cluster of unexplained animal deaths within one week,*
- *An illness with novel or rare symptoms (Note: Novel and rare can be explained as signs/symptoms that the community has not seen before), and/or*
- *Any person with fever and rash.*

List of pre-determined CBS signals for the country (Slide 8)

When presenting the list of signals for CBS, it is worth spending some time on the signals to ensure that participants understand each signal well. For each of the signals presented on this slide, ask participants to answer the following questions:

- *What do you think we are trying to detect with this signal?*
- *Why do you think this signal is important for EBS?*
- *How would you describe this signal to a layperson in your community (community resident)?*

List of pre-determined HEBS signals for the country (Slide 9)

When presenting the list of signals for HEBS, it is worth spending some time on the signals to ensure that training participants understand each signal well. For each of the signals presented on this slide, ask participants to answer the following questions:

- *What do you think we are trying to detect with this signal?*
- *Why do you think this signal is important for EBS?*

Step 3: Wrap up session with key message

Prior to moving to the next session, reinforce the key takeaway message below:

A signal is a pattern or an unusual occurrence that may be an event representing a threat to public health.

Each country should elaborate a list of signals for CBS and HEBS. These will guide signal detection in communities and health facilities.

SESSION 5

FUNCTIONS OF EVENT-BASED SURVEILLANCE AT THE INTERMEDIATE LEVEL

This session focuses on the functions of EBS at the intermediate level.

Learning Objectives

By the end of this session, participants will be able to:

- Recognize the functions of EBS at the intermediate level,
- Describe triage, verification and risk assessment at the intermediate level,
- Identify signals relevant to EWAR by conducting triage,
- Verify authenticity and conformity of triaged signals, and
- Conduct risk assessment to categorize the overall risk of events.

Materials

Facilitator

- Laptop, LCD projector and screen
- PowerPoint presentation
- Handouts of case study
- Flipchart paper and markers for each group

Participants

- Intermediate-Level Event-Based Surveillance Training Module Participant Guide pages 25-33

Total time: 80 minutes

ACTIVITY 5.1

FUNCTIONS OF EVENT-BASED SURVEILLANCE AT THE INTERMEDIATE LEVEL

Recognize the functions of EBS at the intermediate level

Describe triage, verification and risk assessment at the intermediate level

Lecture

20 minutes

Step 1: Review the content of this activity

Review the content of this activity prior to conducting the presentation. Open the PowerPoint file titled Functions of Event-Based Surveillance at the Intermediate Level (also in Appendix G of this guide) and ask participants to make notes in their Participant Guide as they listen to the lecture.

Step 2: Deliver lecture on functions of EBS at the intermediate level

Functions of EBS at the intermediate level (Slide 4, 5)

In contrast to IBS, where case definitions are narrow and disease-specific, EBS requires the detection and immediate reporting of signals, which are broad and could indicate the possibility of a serious public health event. Signals that are verified as truly occurring are classified as events.

Public health authorities at the intermediate level may receive EBS-related information in the form of signals or events from a variety of sources. This training focuses specifically on two sources: communities and health facilities. If an event is reported by local-level supervisors through CBS, the intermediate level should conduct only risk assessment. If a signal is reported from a health facility through HEBS, the intermediate level should conduct triage, verification, and risk assessment.

Triage (Slide 6)

Public health authorities at the intermediate level may receive signals from health facilities conducting health facility EBS or HEBS. When authorities receive information about a reported signal, they should conduct triage. Because of its high sensitivity, EBS is likely to generate signals from non-events. Therefore, the authenticity of the signal needs to be established.

Figure 1 summarizes the triage process and provides possible questions to ask. Because EBS operates as a sensitive surveillance system, authorities at the intermediate level should continue to encourage the reporting of signals even if they may be later discarded as "non-events."

Figure 1: Possible question to ask during triage (Slide 7)

Questions to ask during triage

Is the reported information relevant to early warning (i.e., could this signal be a genuine public health event)?

Was this signal previosly reported (i.e., is this signal a duplicate)?

Verification (Slide 8)

Intermediate-level authorities receiving signals from health facilities must also verify these signals before they are determined to be events. Verification is the determination that a signal is valid (i.e., it is not a false alarm or a false rumor), reliable, and that it corresponds to at least one of the signals pre-defined for EBS implementation. Criteria for verification may include asking questions to those who have reported the signal to ensure that they have correctly understood the signal, whether or not the signal has been confirmed by at least two different sources, or the fact that the signal has been reported by a person with medical authority (veterinarian, physician, or laboratory assistant). Verification must be completed within 24 hours of signal detection.

(Slide 9)

The result of verification is the confirmation that a signal is true or false. Once a signal is verified as true, it becomes an event. If confirmed as an event, information related to the event must be entered into a logbook or register at the intermediate level. Systematic verification of all signals detected through EBS is essential to avoid wasting public health system resources on false signal investigations and responses based on unreliable information.

(Slide 10; Appendix H)

As EBS is highly sensitive, it is essential to verify the authenticity of a reported signal and its characteristics. Local-level supervisors are recommended to use the Verification Tool to complete this process. This verification process involves actively cross-checking the validity of available information and collecting additional information about the report using reliable sources as needed. The process of signal verification should answer three main questions:

- *Is the report accurate (i.e., is it true)?*
- *Has the information been reported by a reliable source or sources?*
- *Does the report meet the criteria for one or more signals?*

Discard if...

- Report is a hoax or a false rumour
- Information has been reported by an unreliable source (e.g., by word of mouth)
- Report does not meet signal signals

Confirm as an event if...

- Information is accurate and true
- Report meets criteria for one or more signals
- Information has been reported by a credible source or sources (e.g., CHV, hospital focal point, or key informants)

Risk Assessment (Slides 11-16; Appendix I)

Risk assessment is the systematic and ongoing process of gathering, evaluating and documenting information that will form the basis of the actions required to manage and minimize the negative consequences of a public health event. The process results in assigning a level of risk that an event presents to human health. The defined levels of risk may be adapted based on the context of the country. Risk assessment should be conducted by intermediate-level public health authorities who propose the action or response that must be taken to manage and minimize the negative consequences of public health events.

(Slide 12)

Risk assessment should be conducted continuously from the detection of a signal to the end of the response to an event. Public health authorities evaluate all available information and then assess or characterize the level of risk that the situation poses to public health. As new information about the situation can arise at any time, the ongoing risk assessment ensures that the appropriate response is triggered and that it reflects the level of risk the event poses to public health. The first risk assessment of an event must take place within 48 hours of the detection of one or more signals.

(Slide 13)

Regardless of the source of information, risk assessment should be carried out at the intermediate level and, if relevant, at higher administrative levels as well. This may involve collaboration between authorities in the public health system at these administrative levels with communities and health facilities. It is also important that risk assessment covers all relevant sectors to take into account the extent of human, animal and environmental risks. All information collected during the risk assessment should be recorded systematically.

Once enough information about the event has been gathered, intermediate-level public health authorities can determine the outcome of the risk assessment. Risk assessment can have three different outcomes:

- *No new investigation or action is required, and the event may be closed,*
- *The event must be monitored, or*
- *An investigation and a response must be initiated.*

ACTIVITY 5.2

CONDUCTING TRIAGE, VERIFICATION, AND RISK ASSESSMENT

Identify signals relevant to EWAR by conducting triage

Verify authenticity and conformity of triaged signals

Conduct risk assessment to categorize overall risk of events

Small group exercise

60 minutes
(45 minutes small group exercise and 15 minutes for feedback discussion)

Step 1: Set up the small the group exercise

Ask participants to locate the case studies in Section 5 of their Participant Guides. Introduce the small group case study exercise and explain how the exercise is to be completed as follows:

We will now discuss and demonstrate the functions of EBS at the intermediate level—triage, verification, and risk assessment—by engaging in a small group, case study exercise. These interactive case studies are of unusual health occurrences and priority diseases, which may indicate emerging pathogens and possible outbreaks in the country.

The objectives of this small group case study exercise are for participants to:

- *Conduct an appropriate triage to determine if signals reported are duplicates and relevant to EWAR,*
- *Verify authenticity and conformity of triaged signals reported, and*
- *Categorize overall risk of events reported at the community level and by health facilities through an appropriate risk assessment.*

Each group should be given handouts of the case studies (if available), flipchart paper and markers. Divide larger groups into two groups of up to 10 participants and assign one of two case studies to each group.

Each team should select a group member to take notes (recorder) and another to present the group's findings and final conclusions to the audience (presenter). Participants should discuss their scenario and complete the Q&A handout with members of their group.

Step 2: Feedback on discussions through small group presentations

Remind groups that they will have 45 minutes allotted to complete the case study exercise and 15 minutes for the feedback discussion. Once 45 minutes have passed, ask everyone to direct their attention to the larger group for presentations. Ask if there is a group that wants to present first. If no group volunteers, randomly select one to present.

Ask each group to share what was discussed in the group, including the tools used to complete the questions. Wrap up the small group case study exercise by summarizing common points from the group presentations, making sure to include every group's input.

SESSION 6

HOW TO RECORD DATA FOR EVENT-BASED SURVEILLANCE

This session focuses on the importance of recording all events at the intermediate level and how these data should be recorded in the recording tool.

Learning Objectives

By the end of this session, participants will be able to:

- Describe the importance of EBS data recording at the intermediate level, and
- Record EBS data from health facilities and communities at the intermediate level using an example of an event logbook, the IDSR District Log of Suspected Outbreaks and Rumors.

Materials

Facilitator

- Laptop, LCD projector, and screen
- PowerPoint presentation
- Flipchart paper
- Markers
- Appendix J: Event-Based Surveillance Functions Case Studies
- Appendix L: IDSR District Log of Suspected Outbreaks and Rumors

Participants

- Intermediate-Level Event-Based Surveillance Training Module Participant Guide pages 34-36

Total time: 60 minutes

ACTIVITY 6.1

EVENT-BASED SURVEILLANCE DATA RECORDING AT THE INTERMEDIATE LEVEL

Describe the importance of EBS data recording at the intermediate level

Lecture

20 minutes

Step 1: Review the content of this activity

Open the PowerPoint file titled How to Record Data for Event-Based Surveillance (also in Appendix K of this guide) and ask participants to make notes in their Participant Guide as they listen to the lecture.

Step 2: Deliver lecture on EBS data recording at the intermediate level

Allow 5 minutes for participants to share strategies. Write responses on the flipchart paper.

Data recording (Slide 3, 4)

Events reported to public health authorities at the intermediate level from health facilities and communities can be recorded using existing surveillance data collection tools (where available) to ensure that data collected through these EBS sources are integrated into existing data platforms. An example of one such tool that enables the collection of event data is the IDSR District Log of Suspected Outbreaks and Rumors.

The IDSR District Log of Suspected Outbreaks and Rumors is an example of a logbook that may be adapted by intermediate-level public health authorities to record information about events detected through HEBS or CBS. Note that signal information should not be entered in this logbook.

Table Information Key for EBS Information Using the IDSR District Log of Suspected Outbreaks and Rumors (Slide 5; Appendix L)

- 'Condition or Disease or Event' should be completed with a brief description of the event (e.g., suspected measles, cluster of suspected cholera, earthquake).
- 'Number of cases initially reported' indicates the number of cases reported when the initial signal was reported.
- State the name of the location where the event is occurring, as precisely and exactly as possible. If an address is available, record it.
- 'Date district notified' is the date that the intermediate-level public health authorities were notified about the event. Enter date in the DD-MM-YYYY format.
- 'Date suspected outbreak was investigated by the district' is the date that the intermediate-level public health authorities began investigation of the reported event. Enter the date in the DD-MM-YYYY format.
- 'Result of district investigation' asks public health authorities to state whether the event was ruled out or confirmed as a suspected outbreak requiring a response, or whether the status is still unknown.
- 'Date outbreak began' is the date that the event began, or the date of symptom onset of the index case. Depending on the event occurring, this may also be the date the threshold was crossed for a seasonal disease, or the date the first cluster of cases was recognized. Enter the date in the DD-MM-YYYY format.
- 'Date a case was first seen at a health facility' is the earliest known date that a case sought medical care. Enter the date in the DD-MM-YYYY format.
- 'Date specific intervention began' is the date a response was initiated. Enter the date in the DD-MM-YYYY format.
- 'Type of concrete intervention that was begun' asks public health authorities to describe what was conducted as part of the response.
- 'Date district notified national level of the outbreak' is the date the intermediate-level public health authorities communicated with higher levels about the occurrence of an outbreak. Enter the date in the DD-MM-YYYY format.
- 'Date district received national response' is the date that intermediate-level public health authorities received response support from the national level. Enter the date in the DD-MM-YYYY format.
- Enter any further comments in this field.

ACTIVITY 6.2

HOW TO RECORD EVENT DATA IN THE DISTRICT LOGBOOK

Record EBS data at the intermediate level using the IDSR District Log of Suspected Outbreaks and Rumors

Small group exercise

40 minutes

Step 1: Set up the small group exercise

Introduce the small group case study exercise by reading out loud the description of the situation and instruction handout in Appendix J: Event-Based Surveillance Functions Case Studies. Remind participants that these case studies are the same as those used in Session Five on triage, verification, and risk assessment.

Each group should be given handouts of the case studies (if available), flipchart paper and markers. Divide larger groups into two or three groups of up to six participants and ensure each participant has a copy of the case study description and IDSR District Log of Suspected Outbreaks and Rumors.

Each team should select a group member to take notes (recorder) and another to present the group's findings and final conclusions to the audience (presenter). Participants should discuss their scenario and complete the exercise with members of their group.

Read the description of the two case studies aloud, then ask if anyone has any questions. Tell groups that, based on both case studies, they are to complete the IDSR District Log of Suspected Outbreaks and Rumors together as a group.

Step 2: Get students to discuss and record answers to the questions

Remind groups that they have 10 minutes to discuss and complete an entry in the IDSR District Log of Suspected Outbreaks and Rumors (Appendix L in Facilitator Guide, Appendix C of their Participant Guides).

After groups have completed their entry, ask each group's team lead as well as group members to share what was discussed in the group and what information they used to complete the handout. Facilitate a discussion by asking open-ended questions about the case study. Write down key points from the discussion on flipchart paper.

Case study discussion questions:

- Did you have all the information you needed to complete the IDSR District Log of Suspected Outbreaks and Rumors?
- List what additional information would be helpful to complete it.
- Describe how completing this case study will help you better conduct EBS at the intermediate level.

Step 3: Wrap up session with key message

End the discussion by asking participants to share one takeaway message they got from this case study with the group. After receiving 3-5 answers, summarize the session by reinforcing the key takeaway message below.

Event data should be registered in a logbook that incorporates the recording of events, such as the IDSR District Logbook of Suspected Outbreaks and Rumors as soon as they are reported by communities or health facilities.

SESSION 7

FLOW OF INFORMATION

This session focuses on the flow of EBS information, indicating the flow of data collected through HEBS and CBS, as well as feedback to reporters.

Learning Objectives

By the end of this session, participants will be able to:

- Identify when information should be reported up administrative levels,
- Describe how information should be reported up administrative levels, and
- Explain the importance of feedback to reporters in communities and health facilities.

Materials

Facilitator

- Prepared flipchart paper with four separate quadrants (one for each group)
- Markers

Participants

- Intermediate-Level Event-Based Surveillance Training Module Participant Guide page 37

Total time: 30 minutes

ACTIVITY 7.1

FLOW OF EVENT-BASED SURVEILLANCE INFORMATION

Identify when information should be reported up administrative levels

Describe how information should be reported up administrative levels

Explain the importance of feedback to reporters in communities and health facilities

Group discussion and lecture

30 minutes

Step 1: Set up the small group exercise

Introduce the small group exercise by referring to the prepared flipchart Small Group Exercise - Flow of Information (Appendix M of this guide) and ask participants to locate the corresponding handout in Session 7 of their Participant Guides.

Inform participants that they will be divided into groups and will work to complete all four sections of the flipchart by answering a set of questions. Ask participants to go back to the same groups that were formed during the introductory icebreaker activity. Each group should be made up of at least four participants.

Give each group a piece of prepared flipchart paper and marker once everyone has found their group. Each team should select a group member to take notes (recorder) and another to present the group's responses to the audience (presenter). Explain that this is a brainstorming exercise and therefore, active participation from every group member is very important.

Step 2: Get participants to discuss and record answers to the questions

Ask participants to close their Participant Guides and capture their answers to the following questions on a prepared flipchart with four equally divided spaces:

- *When should information be reported up administrative levels? Why?*
- *How should information be reported up administrative levels? Why?*
- *Why is feedback to reporters in communities and health facilities important?*

Step 3: Facilitate group presentations and feedback by presenting the model answer

Monitor the time of the exercise. After ten minutes, ask everyone to direct their attention to the larger group for presentations. Inform the groups that they will have two minutes to present. Provide no more than ten minutes to complete this discussion.

Ask if there is a group that wants to present first. If no group volunteers, randomly select a group to present first. Remind participants to be mindful of the time and show respect towards each reporter by not engaging in side conversations. Provide model answers for each of the questions following each presentation.

Model answer: When should information be reported up administrative levels?

Intermediate-level public health authorities may receive EBS-related information in the form of signals or events from a variety of sources, including communities and health facilities. Signals detected in communities by CHVs, key informants, or small health facilities are typically reported to local-level authorities who conduct triage and verification of signals. Public health authorities at the intermediate level may receive signal information from large health facilities, such as large hospitals, which require triage and verification.

Regardless of the source of EBS information, public health authorities at the intermediate level conduct risk assessment to help define additional actions, which may include immediate reporting to higher administrative levels. All events must be reported and investigated according to the existing national surveillance and reporting structure.

Model answer: How should information be reported?

Intermediate-level public health authorities can record and report data using existing surveillance data collection tools (where available) to ensure that data collected through EBS is integrated into existing data platforms, such as IDSR. These reporting tools may be electronic or paper-based but should be clearly defined among all administrative levels to ensure consistent EBS reporting and feedback.

Model answer: Why is feedback to immediate lower levels necessary?

Equally important to timely reporting is timely, routine feedback. Intermediate-level public health authorities should provide feedback about events and signals to surveillance focal points at health facilities and local-level supervisors, who in turn provide feedback to health care workers, community health volunteers, and key informants. Providing regular feedback on the signals and events reported is essential to sustain motivation for reporting among communities and health facilities.

Step 4: Summarize and wrap up the session

Summarize common points from the presentations by including input from every group. Wrap up the exercise by stating the following:

Now that we understand more about the flow of information, we will move on to supportive supervision.

SESSION 8

SUPPORTIVE SUPERVISION

This session focuses on how to provide supportive supervision to supervisees.

Learning Objectives

By the end of this session, participants will be able to:

- List the supportive behaviors to improve commitment and performance,
- Identify the most suitable supportive behavior according to circumstances, and
- Demonstrate how to use supportive behaviors in practice.

Materials

Facilitator

- Laptop, LCD projector, and screen
- PowerPoint presentation
- Appendix O: Role-Play Scenarios

Participants

- Intermediate-Level Event-Based Surveillance Training Module Participant Guide pages 38-47

Total time: 75 minutes

ACTIVITY 8.1

SUPPORTIVE SUPERVISION

List the supportive behaviors to improve commitment and performance

Identify the most suitable supportive behavior according to circumstances

Lecture

30 minutes

Step 1: Review the content of this activity

Open the PowerPoint file titled Supportive Supervision (also in Appendix N of this guide) and ask participants to make notes in their Participant Guide as they listen to the lecture.

Step 2: Deliver lecture on supportive supervision

Definition (Slide 3)
Ask one of the participants to read the definition of supportive supervision on this slide.

Slides 4-6
Read through the points made on each of these slides, clarifying as necessary.

Supportive supervision techniques to improve commitment and performance (Slide 7)
These are behaviors that will help you improve the commitment of the people under your supervision as well as the quality of their performance as they aim to achieve the common goal.

Supervision should be facilitative and not fault-finding: when supervising someone, remember that that person is crucial for the achievement of the common goal; in this case, the quality of EBS in your jurisdiction. Your role is to increase the commitment of your collaborators so that they can ultimately improve the quality of their job, and hence the achievement of the common objective. You don't start the supervision by saying what went wrong, but instead by trying to understand why an issue occurred and by facilitating the process of finding a solution together.

Always praise work well done before raising problems. You may want to start your supervision visit by acknowledging the hard work they have done, despite, for instance, their work conditions. Then you can state the objective(s) of your visit and start analyzing the situation together.

If you see a problem, check if the supervisee sees the same problem: very often mistakes are made because of a lack of knowledge, not because of bad performance. Therefore, before pointing the finger at something done wrong, check if your supervisee shares the same perspective and sees the same problem. By doing this you can identify where the problem is. If the supervisee doesn't see the same problem, your solution should simply be to guide them through the procedures in order to make sure that he/she shares the same understanding.

Analyze problems with the supervisee to gain a good understanding of the underlying causes. Once you have both identified the problems and what can be improved, work together to find a creative solution to address the issue.

Let the supervisee suggest possible solutions, as this facilitates ownership and acceptance of the solutions. Once you have identified the problem, let the supervisee suggest possible solutions and limit yourself in guiding the process. Sometimes the knowledge of the context helps to formulate a solution that you may not have thought of. Also, if the supervisee finds a solution to the problem, you can be sure that they understand how they may be able implement it.

Step 3: Ask for questions

Ask participants if they have any questions regarding the lecture. Clarify and answer any questions before moving to the next activity.

ACTIVITY 8.2

ROLE-PLAY SCENARIOS

Demonstrate how to use supportive behaviors in practice

Role-play

45 minutes

Step 1: Prepare for the role-play

Introduce the role-play exercise by telling participants that there are up to four scenarios that will be role-played in front of the group in the allotted time (45 minutes). Each scenario will require different volunteers to play the role of actors.

Start by setting up the room with a "stage" area visible to all participants. Ask for volunteers to act out the roles in the first scenario, and ask them to locate the scripts in Section 8 of their Participant Guides. Give the actors up to 5 minutes to review and work on the scene, then invite them to the stage and ask them to role-play the scenes.

Step 2: Conduct the role-play

During the role-play, observe the actors and take notes to use during the debriefing session. Only interrupt if an actor is having difficulty or you want to stop the scene to ask questions.

Step 3: Feedback on role-play

Once the actors have completed the role-play, invite them to join the rest of the group and start the debriefing session. Facilitate discussion by first asking the actors to present their impressions of the scenario, followed by feedback from the rest of the group:

- *What was your overall impression of the role-play?*
- *Could you identify the issue related to EBS?*
- *Did you agree on the suggested solution?*

Once the debriefing session is completed, brainstorm with the whole group about:

- *Main points and take-home messages of this session*
- *Whether they would be able to train other people on these principles*

Conduct as many role-play scenarios as possible in the allotted time.

Step 4: Summarize and wrap up the role-play

Summarize and close the role-play session by thanking everyone for their participation.

SESSION 9

MULTISECTORAL COLLABORATION

This session focuses on the importance of multisectoral collaboration to improve EBS.

Learning Objectives

By the end of this session, participants will be able to:

- Understand the importance of multisectoral collaboration in EBS,
- List the stakeholders that can be involved in EBS implementation in health facilities and communities, and
- Identify the most suitable method to involve them.

Materials

Facilitator

- Flipcharts

Participants

- Intermediate-Level Event-Based Surveillance Training Module Participant Guide pages 48-49

Total time: 45 minutes

ACTIVITY 9.1

MULTISECTORAL COLLABORATION

Describe the importance of multisectoral collaboration in EBS

List the stakeholders that can be involved in EBS implementation in health facilities and communities

Identify the most suitable method to involve them

Lecture & Q&A discussion

45 minutes

Step 1: Review the content of this activity

Ask participants to make notes in their Participant Guide as they listen to the lecture.

Step 2: Introduce the multisectoral approach

Introduce the multisectoral approach by reading the definition and importance of the approach to students.

The multisectoral approach (MSA) refers to deliberate collaboration among various stakeholder groups (e.g., government, civil society, and private sector) and sectors (e.g., health, environment, and economy) to jointly achieve a policy outcome (in this case: to complete and improve EBS).

The multisectoral approach is important because it:

- Makes EBS more efficient
- Synergizes efforts and maximizes outcomes
- Reduces challenges
- Aids resource pooling
- Helps complete the information with additional sources
- Includes all involved sectors in EBS

Step 3: Set up the small group discussion

Instruct participants to form groups of four to five participants and provide each group with a flipchart and a marker. Each team should select a group member to take notes (recorder) and another to present the group's responses to the audience (presenter). Allow 10 minutes for students to discuss and record responses to each of the three questions in Step 4.

Step 4: Get students to discuss and record answers to the questions

1. Use the flipchart to draw the existing flow of disease surveillance in your country.
2. Make a list of additional actors that could be involved to improve or to complete EBS
3. For actors not yet involved, brainstorm:
    - How to involve them
    - How to maintain EBS discussions
    - How to benefit from the collaboration

Once all the groups have finished the tasks invite each group to present their work and take notes for the final debriefing session. When the last group has presented, summarize the main points from each of the groups and the take-home messages of this session.

Step 5: Ask for questions

Ask participants if they have any questions regarding the lecture or activity. Clarify and answer any questions before moving to the next session.

SESSION 10

HOW TO TRAIN OTHERS ON COMMUNITY-BASED SURVEILLANCE AND HEALTH FACILITY EVENT-BASED SURVEILLANCE

This session focuses on training methods that can be used for EBS implementation in health facilities and communities.

Learning Objectives

By the end of this session, participants will be able to:

- Describe different learning strategies and techniques to use when training others, and
- Identify the most suitable training method according to the context.

Materials

Facilitator

- Laptop, LCD projector, and screen
- PowerPoint presentation

Participants

- Intermediate-Level Event-Based Surveillance Training Module Participant Guide pages 50-55

Total time: 60 minutes

ACTIVITY 10

HOW TO TRAIN OTHERS ON COMMUNITY-BASED SURVEILLANCE AND HEALTH FACILITY EVENT-BASED SURVEILLANCE

Describe different learning strategies and techniques, and

Identify the most suitable training method according to the context

Lecture

60 minutes

Step 1: Review the content of this activity

Open the PowerPoint file titled How to Train Others on CBS and HEBS (also in Appendix P of this guide) and ask participants to make notes in their Participant Guide as they listen to the lecture.

Step 2: Deliver lecture on training others on CBS and HEBS

Deliver the lecture on training others on CBS and HEBS by referring to the slides in Appendix P. Students can follow along in their Participant Guides and make notes in their journals.

Design of training activities (Slide 3)
Before presenting the different training methods, it is worth spending some time zooming out on the topic and looking at how to design training activities.

In this slide you can see that "how to teach" is only one of the elements to be taken into consideration when preparing training activities.

We will not go into too much detail on the other elements, but perhaps we can have a look and comment together so we are aware of the complexity of such an activity.

The elements are:

- ***Why and what to teach:*** *Make sure that the objectives of our training are clear and well formulated. They could be related to knowledge, procedures, or attitudes.*

- ***When to teach:*** *Timing is also important. We normally design and deliver training to adult professionals, and they are busy with their routine activities. We need to take that into account when deciding the timing of our training for it to be successful, to gather the maximum number of participants and to have them on board for the duration of training.*
- ***How to teach:*** *Choose the best training methodology according to the object of your training, whether that be a PowerPoint presentation, lecture, focus group discussion or role-play. We will see each of these techniques in a minute.*
- ***Last, but not least:*** *Always include time in your schedule to evaluate your training activity. This includes evaluation of the trainer, the suitability of the program for the audience, how well the messages in the program were delivered, and how engaged (attentive, interactive, etc.) the participants were. The Training Curriculum for Event-Based Surveillance in Health Facilities and Communities and Internet-Event Based Surveillance includes a Post-Training Evaluation that can be used immediately following training, as well as an Event-Based Surveillance Training Impact Evaluation that can be used to understand knowledge retention in the months following the training.*

What to promote in adult learning methods (Slide 4)

In this slide, you can see the general elements that have to be considered when organizing and delivering training for adults.

- ***Interactivity:*** *Keep the activities interactive and promote structured interactivity with the audience. Use their experience and let them talk and contribute to the activity.*
- ***Discussion:*** *The presentation should not be a monologue. Promote discussion with the audience and give them space to share their own experiences. Make sure to keep an eye on the time and do not entertain endless discussions.*
- ***Experience:*** *Your audience will likely include experienced people who have learned their jobs by doing them, facing challenges, and finding their own solutions. You may need to use those experiences and facilitate sharing with the rest of the group.*
- ***Appropriate motivation context:*** *Normally, adults participating in training are driven by the motivation of learning something new that will help them in their daily jobs. Keep an eye on that motivation and always keep it high.*
- ***Applied to real-life problems:*** *The training material needs to be adapted to the audience. Make sure to use examples, situations and contexts that "speak to" your audience.*

Topics (Slide 5)

List the topics of the presentation.

Lectures (Slide 6)

A lecture is the most traditional (and probably the oldest) method of teaching. Lectures are typically one-way presentations.

Lectures can be delivered without any support by speaking directly to the audience. However, lectures can be made more effective by using technical support, such as PowerPoint presentations or even some prepared points to launch the discussion.

How to effectively deliver a lecture (Slide 7)

To make a lecture effective you need to:

- ***Prepare:*** *Take time to prepare your material, making sure your slides are clear, simple, and not too busy. We'll see how to prepare a PowerPoint presentation in the next few slides.*
- ***Practice:*** *Take time to practice your presentation.*

- ***Be clear:*** *State the objective(s) of your lecture in one of the first few slides.*
- ***Be succinct:*** *Limit the number of messages you want to convey with your lecture. Ideally focus on one. A few messages could also be acceptable, but make sure that the audience is following you if you introduce a new objective/message.*
- ***Adapt:*** *Adapt to the audience and use examples and situations that are familiar to them. Engage the audience in the discussion and ask for feedback throughout the presentation rather than just at the end.*
- ***Show enthusiasm:*** *When giving your presentation, you need to convey a message, and it must be effective. It is important that you believe in that message yourself.*
- ***Summarize:*** *Make sure to take some time at the end of your presentation to summarize the main points of the presentation and reinforce the key messages.*
- ***Answer questions:*** *Include time for answering questions at the end of the presentation.*

PowerPoint presentations (Slide 8)

A PowerPoint presentation is a collection of slides that helps you present your topic. It is a tool that allows you to be clearer and more effective in delivering your message. Therefore, a PowerPoint presentation ***requires preparation*** *and time to practice, to make sure that your message is clear.*

Formulate the objectives *in a way that they will be clear to the audience and state the objective(s) of your presentation at the beginning.*

Target your audience*, making sure that you know something about the audience in advance to tailor your presentation accordingly, in terms of jargon, language, etc.*

Engage your audience *in the discussion, avoiding monologues and regularly checking the pulse of the situation by asking for questions and feedback.*

PowerPoint presentations (Slide 9)

These are some Dos and Don'ts when using a PowerPoint presentation as the tool to clearly convey your messages. These include:

The Dos:

- ***Do put one message on each slide:*** *It is easier to guide the audience if the slide is simple.*
- ***Do use key phrases or key words in the slides*** *and complete your thought when talking. The slides should be an aid for you rather than a textbook's worth of content (see Don'ts: no karaoke slides). You need to use keywords to prompt your memory, and to make sure that you don't forget any important points/messages that you want to convey.*
- ***Do use contrasting colors so slides are clearly visible:*** *Use contrasting colors for the text and background, making sure (where possible) that you design with the venue of your presentation in mind (e.g., is the room too dark or too light?).*
- ***Do practice presenting to test amount of text in your slide:*** *You should practice presenting the slide in less than one minute. Although less than one minute is ideal, this does not apply to slides that require more time to explain, such as formulas.*
- *As with everything we do in our work: prepare, design, and deliver.*

Now the Don'ts:

- ***Don't put more than one message on each slide:*** *It is already difficult to make sure that one message is clear for the audience.*
- ***Don't put too much text on the slides:*** *Although text helps you convey the message, you should only put a few keywords on your slides and complete your sentences when talking.*
- ***Don't overuse animations and special effects:*** *They are distracting and take the attention of the audience away from your message.*
- ***Don't read off of the slides:*** *If you simply put keywords on your slides it will be more natural to use those words and complete your thoughts by talking.*
- ***Don't use 3D graphs:*** *They are difficult to interpret and see properly.*
- ***Don't include more than 5 or 6 bullet points in the slides****, otherwise, the slide will be too busy.*

Group discussion (Slide 10)

Now we'll see what we mean by group discussion.
Ask one of the participants to read the slide.

How to facilitate a group discussion (Slide 11)

A discussion could be endless and ineffective if not moderated well and if there is no facilitation. That is your role.

- ***Make sure that participants know the objective of the discussion*** *and the reason that they are in that group. Present the objective of the discussion in the beginning and make sure it is clear to everybody. Confirm the reason why they are there. For example, you can say, "Good morning everybody, thanks for coming, I invited you here to discuss together how to …and I invited you here because you are …"*
- ***Start the discussion*** *and be involved in it in the beginning, but then, Encourage all participants to contribute****.*** *Observe the room and make sure that each of the participants is contributing to the discussion. If not, try a discreet way to involve the "silent" participants, but also a discreet way to avoid parallel discussion in small groups among a subset of participants.*
- ***Keep an eye on the time of the session*** *to make sure that you reach the objective of the discussion within the allocated time.*
- ***Keep the focus of the discussion on the topic.*** *You may allow side discussions, but keep them short, and if they continue, remind the audience about the objective of the discussion.*
- ***At the end of the allocated time****, make sure to summarize the main points of the discussion, and if you have formulated some action points together, make sure they are clear to the group and distributed to the appointed responsible person(s).*

Effective facilitation and communication tips (Slide 12)

In this slide you can see some tips that can be applied to any facilitation task that you may be involved in, whether it's a meeting you're moderating, a case study, a group discussion, or a meeting with your collaborator.

- ***Active listening*** *is a technique that allows you to establish effective communication with another person. It relies on a trusting environment that you must build, often in a very short period of time (think of a visit to a doctor).*
- ***To demonstrate concern*** *about the topic of the discussion, you may repeat the sentence, changing the words of the other person to show understanding of the situation.*
- ***Non-verbal communication*** *is crucial: eye contact and nodding are the most common.*
- ***Brief verbal affirmations*** *such as "I see" or "I know" show interest and attention to the conversation.*
- ***Give each participant the opportunity to contribute****. You may miss an important contribution if one of the participants feels left out of the discussion.*
- ***Remain neutral*** *during the discussion. Your role is to moderate and facilitate the discussion and to gather the different opinions in the room, not to convince or to impose your opinion on others.*

Role-play technique (Slide 13)
And now another learning technique: the role-play.
Ask one of the participants to read the slide.

Role-play facilitation tips (Slide 14)
In order to facilitate a role-play effectively, you should:

- *Present the purpose of the exercise and its ground rules at the beginning*
- *Arrange the room in a way that allows all participants to observe what is happening during the role-play*
- *Ask the participants to note their observations*
- *Distribute the roles to participants before you start the play, taking time to ensure that each participant understands their role-play*
- *Let the play start*
- *Observe and take notes, but avoid intervening unless needed (e.g., if participants go off the script)*
- *Once the play is over, allow some time to collect feedback from the actors as well as the other participants, then facilitate a brief group discussion to summarize the main points of the exercise and what has been learned*

Case study technique (Slide 15)
Now we will discuss the last learning technique: the case study.

Ask one of the participants to read the first bullet point, then ask another participant to read the second bullet point.

You can then complete the slide by saying, "The case study is often used in the field of epidemiology to present a real case scenario and guide participants through the real investigation or experiences of the authors. There's no correct answer in a case study; rather, it is the real experience of the authors that we are learning from."

Case study facilitation tips (Slide 16)

Some tips that may increase the effectiveness of the case study as a learning technique include the following:

- *Be conscious of the context in which you're using a specific case study and be prepared to adapt it to your context if needed. Use examples that "speak to your audience" and that they are familiar with already.*
- *When facilitating a case study, be available to answer questions and provide clarification as needed. You'll always find the "facilitators' notes" in the facilitators' version of the case study. These will help you address questions and will also provide additional clarification for the audience.*
- *When facilitating a case study, it is important that you guide participants through the case study without including your personal opinion.*
- *Make sure that all participants contribute to the discussion and observe if you have "silent" participants in the group that may require help contributing.*

Demonstration (Slide 17)

Demonstration is a useful technique when you need to train a group of people to do something new, such as learn a new software or a new reporting form that they will be using in the future.

- *Begin by demonstrating the new skill.*
- *Next, ask participants to try themselves.*
- *While they are attempting the skill, you can observe, take notes, and supervise. If mistakes are observed, you can intervene to correct them.*
- *After the practical session, make sure that you allocate some time for follow-up questions and to share your notes with the group during the debriefing.*

Choosing the right technique (Slide 18)

Now that we have learned a number of new techniques, you may be wondering how to choose the right technique for your training program. The answer is, it depends on the objectives of your training.

Categories of objectives (Slide 19)

These are the three domains of learning:

- ***Cognitive:** This is related mostly to the domain of the concepts and knowing more about something.*
- ***Skills:** This is a more practical domain, where the objective is to learn how to do something.*
- ***Attitudinal:** This relates more to attitudes, values, interests.*

We'll see a few examples now and try to associate the right learning activity to each of them.

Training with a cognitive objective (Slide 20)

These are examples of a training program with a cognitive objective.

At the end of the training, participants will know more about the topics on the slide (click for animation).

A learning strategy that we can use for this type of training includes the use of interactive PowerPoint lectures, something that we are very familiar with and that we have used a lot during this training.

Training with a skills objective (Slide 21)
These are examples related to the other learning categories: the skills. In other words: every time the objective is to know how to do something and it is very practical.

The most effective techniques to learn skills are:

- *Demonstration*
- *Supervised practice and follow-up*

Training with an attitudinal objective (Slide 22)
And finally, the attitudinal objective. This relates more to a change in behavior or attitude towards a common goal or concept. In the slide, you can see a few examples of attitudinal objectives.

NOTE for the speaker: Read just a couple of examples

In this case, the techniques that can help in interacting with your audience are:

- *Role-play*
- *Brainstorming*
- *Group discussion*

These activities need facilitation as we have seen earlier. During these activities, the facilitator has, among others, the crucial role of observing the audience and making sure that each participant contributes to the discussion.

Summary (Slide 23)
In summary:

The learning strategy is only one of the components of a training, together with logistics, the facilitators, and most importantly, you, the audience. In this session, we have learned the most commonly-used strategies for adult learning, and you have had the opportunity to practice them all. As you have experienced in other sessions in this two-day training, we have chosen different techniques according to the learning objectives that we wanted to achieve. If you now look back at the different sessions in the training, you should understand why we did not always choose to give a PowerPoint presentation, and why for certain activities, we have preferred a group discussion or a role-play.

What do you think? Now that you know most of the techniques, would you have chosen a different learning strategy or method for any of the activities in this training? If so, which activity and what other strategy would you have replaced it with?

Allow 5-10 minutes for discussion, making sure that participants grasp the difference among the presented strategies and can choose the right strategy according to their needs.

Step 3: Ask for questions

Ask participants if they have any questions regarding the lecture. Clarify and answer any questions before moving to the next activity.

SESSION 11

TRAINING REVIEW, POST-TEST

This session will give participants the opportunity to review the training they just received, evaluate the knowledge and skills acquired, and provide any final feedback to facilitators.

Purpose

- Reflect on the knowledge and skills acquired, and
- Provide final feedback to facilitators.

Materials

Facilitator

- Training agenda
- Appendix C: Intermediate-Level Event-Based Surveillance Training Knowledge Check Answers
- Copies of Appendix B: Event-Based Surveillance Training Knowledge Check to distribute to participants

Participants

- Intermediate-Level Event-Based Surveillance Training Module Participant Guide page 56

Total time: 30 minutes

ACTIVITY 11.1

TRAINING REVIEW AND POST-TEST

Review training

Administer the post-test

Training review and post-test

30 minutes

Step 1: Review the agenda and what has been learned

Ask participants to refer to their agendas to review what was discussed during the second half of the training. For every session, ask participants to share key takeaway points discussed and learned. Write their answers on the flipchart paper (if available) and encourage participants to take notes in their journals.

Step 2: Facilitate the post-training knowledge check

Distribute Appendix B: Event-Based Surveillance Training Knowledge Check and read the instructions out loud as follows:

> *You will have 15 minutes to individually take the post-test. You are encouraged to ask us, the facilitators, if you have any questions or need clarification on questions asked on the post-test.*

Remind participants to respect everyone's time by not engaging in side conversations once they have completed their tests.

Step 3: Collect questionnaires and review answers

After all participants have completed the questionnaires, collect them and review the answers with everyone using Appendix C: Intermediate-Level Event-Based Surveillance Training Knowledge Check Answers. Participants can fill in the correct answers in Appendix D of their Participant Guides. Allow five minutes for any clarification questions or final feedback that participants would like to provide. Thank participants for attending the training and actively participating.

APPENDICES

APPENDIX A

INTRODUCTION

INTRODUCTION

EVENT-BASED SURVEILLANCE AT THE INTERMEDIATE LEVEL

[Insert name & credentials of facilitator]

Objectives

- To strengthen public health authorities at the intermediate level
- To improve performance and effectiveness of EBS in their jurisdiction

2

Agenda

SESSION	ACTIVITIES	TIME
1. Welcome and Introductions	Icebreaker	15 minutes
2. Training Objectives, Pre-Test, and Agenda	Agenda Pre-test	30 minutes
3. Event-Based Surveillance Overview ▸ Why is Event-Based Surveillance Important?	Lecture Small group exercise	50 minutes
4. List of Signals for Event-Based Surveillance In-Country: Signals for Community-Based Surveillance and Health Facility Event-Based Surveillance	Lecture	35 minutes
5. Functions of Event-Based Surveillance at the Intermediate Level ▸ Conducting Triage, Verification, and Risk Assessment	Lecture Case study	80 minutes
6. How to Record Data for Event-Based Surveillance ▸ How to Record Event Data in the District Logbook	Lecture Case study	60 minutes
Intermediate-Level Event-Based Surveillance Training Day 1		Total 4.5 hours

3

Agenda

SESSION	ACTIVITIES	TIME
Review of Day 1		30 minutes
7. Flow of Information	Lecture Group discussion	30 minutes
8. Supportive Supervision	Lecture Role-play	75 minutes
9. Multisectoral Collaboration	Lecture Q&A discussion	45 minutes
10. How to Train Others on Community-Based Surveillance and Health Facility Event-Based Surveillance	Lecture	60 minutes
11. Training Review, Post-Test, and Close	Post-test	30 minutes
Intermediate-Level Event-Based Surveillance Training Day 2		**Total 4.5 hours**

4

Ground Rules

- Switch your mobile phone to silent mode/no side conversations
- Respect others and their opinions
- If something is not clear, do not hesitate to ask
- Participate actively and contribute with your own experience
- Different opinions are welcomed and valued

5

APPENDIX B

INTERMEDIATE-LEVEL EVENT-BASED SURVEILLANCE TRAINING KNOWLEDGE CHECK

The purpose of this test is to assess your knowledge, understanding, and application of event-based surveillance. This test should be completed by intermediate-level public health authorities participating in EBS training. Please circle the best answer.

1. Fill in the blank: Event-based surveillance requires the detection and _____ reporting of signals which may indicate the possibility of a serious public health event.

2. Intermediate-level public health staff are not responsible for the triage of signals reported from health facilities.

a) True **b)** False

3. Verification is conducted to determine if a signal reported is true or false.

a) True **b)** False

4. Intermediate-level public health authorities are responsible for leading risk assessment.

a) True **b)** False

5. Risk assessment should be conducted continuously from the confirmation of an event to the end of the response to an event.

a) True **b)** False

6. Fill in the blank: The three possible outcomes of risk assessment are _____, _____, and _____.

7. Intermediate-level supervisors are responsible for only providing feedback to reporters from health facilities.

a) True **b)** False

8. Fill in the blanks: List two reasons why supportive supervision is important:

_____

_____

9. Supportive supervision requires effective communication that does not include_____.

a) active learning
b) constructive performance feedback
c) finding faults
d) encouragement

10. Cross-communication between the Ministry of Health and other relevant sectors (including animal and environmental health) ensures that signals are ultimately reported through EBS.

a) True **b)** False

11. Effective EBS training facilitators continuously _____

a) Build rapport with training participants

b) Assess the participants' needs by asking questions

c) Use learning techniques that promote interactivity and motivation

d) All the above

APPENDIX C

INTERMEDIATE-LEVEL EVENT-BASED SURVEILLANCE TRAINING KNOWLEDGE CHECK ANSWERS

The purpose of this test is to assess your knowledge, understanding, and application of event-based surveillance. This pre-test should be completed by intermediate-level public health authorities participating in EBS training. Please circle the best answer.

1. Fill in the blank: Event-based surveillance requires the detection and **immediate** reporting of signals which may indicate the possibility of a serious public health event.

2. Intermediate-level public health staff are not responsible for the triage of signals reported from health facilities.

   a) True **b) False**

3. Verification is conducted to determine if a signal reported is true or false.

   a) True **b)** False

4. Intermediate-level public health authorities are responsible for leading risk assessment.

   a) True **b)** False

5. Risk assessment should be conducted continuously from the confirmation of an event to the end of the response to an event.

   a) True **b)** False

6. Fill in the blank: The three possible outcomes of risk assessment are **closing the event**, **monitoring the event**, and **investigating/responding to an event**.

7. Intermediate-level supervisors are responsible for only providing feedback to reporters from health facilities.

   a) True **b) False**

8. Fill in the blanks: List two reasons why supportive supervision is important:

   _____

   _____

Responses may include:

- It can increase staff capacity to collect, manage, and use data
- It helps staff improve their own work performance continuously
- It helps in establishing a collaborative working environment
- It facilitates understanding of the common goal
- It is an opportunity to improve knowledge and skills of health staff
- It encourages open, two-way communication, and building team approaches that facilitate problem-solving

9. Supportive supervision requires effective communication that does not include_____.

a) active learning
b) constructive performance fback
c) finding faults
d) encouragement

10. Cross-communication between the Ministry of Health and other relevant sectors (including animal and environmental health) ensures that signals are ultimately reported through EBS.

a) True
b) False

11. Effective EBS training facilitators continuously _____

a) Build rapport with training participants

b) Assess the participants' needs by asking questions

c) Use learning techniques that promote interactivity and motivation

d) All the above

APPENDIX D

OVERVIEW OF EVENT-BASED SURVEILLANCE

OVERVIEW OF EVENT-BASED SURVEILLANCE

EVENT-BASED SURVEILLANCE AT THE INTERMEDIATE LEVEL

[Insert name & credentials of facilitator]

Learning Objectives

- Define key terms, steps and characteristics of event-based surveillance (EBS)
- Describe the importance of early warning and response (EWAR) and EBS
- Describe how EBS is conducted

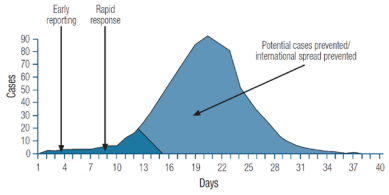
2

Early Warning and Response (EWAR)

- The organized mechanism for the early detection of public health events requiring rapid investigation and response, in order to ensure that events of all origins are rapidly detected and controlled
- Embedded in overall surveillance
- Relies on two main channels of information: indicator-based surveillance (IBS) and event-based surveillance (EBS)

4

Early Outbreak Detection Can Result in Rapid Response



Source: The World Health report 2007; a safer future, global public health security in the 21st century. (2008). Scitech Book News, 32(1). Retrieved from http://search.proquest.com/docview/200164111/

5

Indicator-Based Surveillance (IBS)

"The systematic (regular) collection, monitoring, analysis and interpretation of **structured data**, i.e., of indicators produced by a number of well-identified, mostly health-based, formal sources"

6

Event-Based Surveillance (EBS)

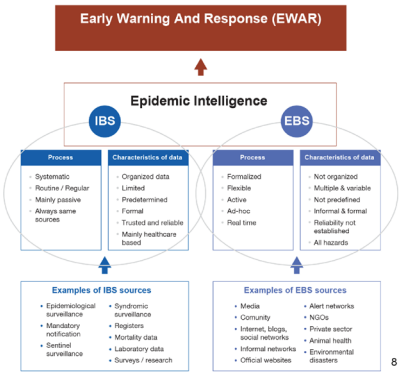
"The organized collection, monitoring, assessment and interpretation of mainly ***unstructured ad hoc information*** regarding health events or risks, which may represent an acute risk to human health"

Data for EBS systems can originate from a variety of sources, including:

- Community residents
- Health facilities
- News reports of deaths causing public anxiety
- Schools
- Animal and environmental sectors

7

EWAR, IBS, and EBS



Source: World Health Organization. (2014). *Early detection, assessment and response to acute public health events: Implementation of Early Warning and Response with a focus on Event-Based Surveillance (Interim version). WHO.* Retrieved March 9, 2020, from https://www.who.int/hr/publications/WHO_HSE_GCR_LYO_2014.4/en/

8

IBS and EBS Processes

IBS	EBS
• Systematic • Routine / Regular • Mainly passive • Always the same sources	• Formalized • Flexible • Active • Ad-hoc • Real time

9

IBS and EBS Main Characteristics

IBS	EBS
• Specific case definitions • Disease-specific • Immediate, weekly, or monthly reporting • Facility-based • Trigger: Pre-defined thresholds • Best for seasonal endemic disease (seasonal flu, dengue etc.) • May be slow to respond	• Broad signal • Not disease-specific • Immediate reporting • Unstructured: Reports can enter from anywhere (community, hospitals, etc.) • Best for localized outbreaks, emerging pathogens, areas with poor healthcare access • Rapid response

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Sources of Information for EBS at the Intermediate Level

- Community (key informants, health volunteers, community members, etc.)
  Also referred to as community-based surveillance (CBS)
- Health facilities (healthcare workers such as clinicians, nurses, infection control officers, etc.)
  Also referred to as health facility event-based surveillance (HEBS)

11

What is CBS?

"The systematic detection and reporting of events of public health significance within a community by community members" (France, 2019)

- This definition encompasses the detection and reporting of events
- This module will employ the term CBS as it is defined above

Guerra, J., Bayugo, Y., Acharya, P., Adjabeng, M., Bamadas, C., Bellizzi, S., ... Cognat, S. (2019). A definition for community-based surveillance and a way forward: Results of the who global technical meeting, France, 26 to 28 June 2018. Eurosurveillance. https://doi.org/10.2807/1560-7917.ES.2019.24.2.1800681

12

What is HEBS?

- HEBS is event-based surveillance (EBS) that is conducted in health facilities
- A health facility is any establishment that is engaged in direct, on-site patient care
- Healthcare workers such as physicians, nurses, etc., are the primary reporters detecting and reporting signals that may be predictive of an emerging event

13

What is a signal?

A signal is an observation that may represent an event occurring in a population including:

- A pattern, such as a cluster of cases with similar illnesses
- Something that is unusual, such as treatment failure on a standard drug regimen

14

What is an event?

An event is an occurrence that can threaten public health. An event can be:

- A single case of disease in some settings
  - Notifiable diseases, e.g. cholera
  - Diseases under elimination, e.g. polio
- Clusters/outbreaks
- Unusual diseases such as drug-resistant tuberculosis

15

Functions of EBS

Source: Africa CDC. (2018). *Africa CDC event based surveillance framework*. Addis Ababa: African Union.

16

Signal Detection

- Detecting a signal means identifying or suspecting the occurrence of one of the pre-determined signals designated by national public health authorities
- Signals can be detected from various sources, including communities and health facilities

17

Signal Reporting

- Reporting signals means communicating this information to a designated public health authority
- All signals that are detected must be reported immediately

18

Triage

- Sorting of information into “likely to be relevant” or “not likely to be relevant” for early warning and response (EWAR)
- Enables identification of real events

19

Verification

- Confirms the authenticity of the signal (is the information true or false?)
- May need additional information

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Verification

- Not all signals become events
- Signals that are triaged and verified as true become events
- Verification must take place within 24 hours of initial signal detection

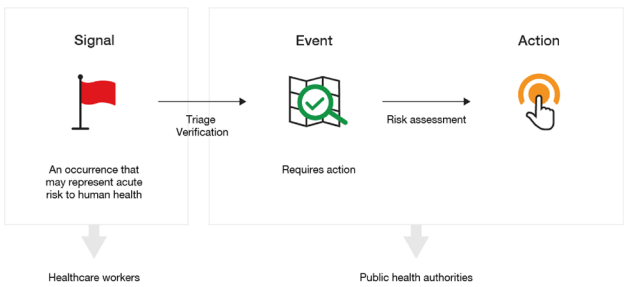
21

Risk Assessment (RA)

- RA is done after an event is confirmed
- RA means determining the level of risk of an event to human health and the appropriate level of investigation and response
- Intermediate/national-level public health authorities should lead RA
- Initial RA of an event must take place within 48 hours of original signal detection

22

Signals and Events



23

Summary

- Early detection is key to control the spread of disease
- EWAR detects public health events early
- IBS and EBS form epidemic intelligence, and are EWAR components
- Data from EBS can come from a variety of sources
- EBS is an all hazards approach

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APPENDIX E

SMALL GROUP EXERCISE – WHY IS EVENT-BASED SURVEILLANCE IMPORTANT?

Prepared flipchart paper for the small group exercise:

Q1: How do you currently conduct surveillance in your jurisdiction?	**Q2:** What is EBS?
Q3: Do you know the purpose and importance of EBS? Why is it important?	**Q4:** What is the value of adding EBS to the current surveillance?

APPENDIX F

LIST OF SIGNALS FOR EVENT-BASED SURVEILLANCE IN-COUNTRY

LIST OF SIGNALS FOR EBS IN-COUNTRY

EVENT-BASED SURVEILLANCE AT THE INTERMEDIATE LEVEL

[Insert name & credentials of facilitator]

Learning Objectives

- Define signals and events
- Identify differences between signals and events
- Describe community-based surveillance (CBS) and health facility event-based surveillance (HEBS) signals in their country

2

What is a signal?

A signal is an observation that may represent an event occurring in a population. This may include:

- A pattern, such as a cluster of cases with similar illnesses
- Something that is unusual, such as treatment failure on a standard drug regimen

3

What is an event?

An event is an occurrence that can threaten public health. An event can be:

- A single case of disease in some settings
  - Notifiable diseases, e.g. cholera
  - Diseases under elimination, e.g. polio
- Clusters/outbreaks
- Unusual diseases such as drug-resistant tuberculosis

4

Examples of Signals and Events

Signal	Event
• A critical care physician hospitalized with a severe respiratory illness with travel history to Saudi Arabia	• A suspected case of MERS
• Siblings (3) are admitted with severe dehydration and profuse diarrhea	• A cluster of suspect cholera cases
• A case of typhoid fever with failure to respond to ceftriaxone treatment	• A suspected case of extensively drug-resistant (XDR) typhoid fever
• A 4-year-old child admitted with fever, rash, coughing, coryza, and conjunctivitis	• A suspected case of measles

5

Examples of Signals for HEBS

- Any severe illness in health staff after taking care of a patient with similar illness
- Large, sudden increases in admission for any severe illness of the same type
- Any severe, unusual, unexplainable illness including a failure to respond to standard treatment

6

Examples of signals for CBS

- Two or more cases of people presenting with similar severe signs/symptoms from the same community, school, or workplace within one week.
- A cluster of unexplained animal deaths within one week.
- An illness with novel or rare symptoms (NB: Novel and rare can be explained as signs/symptoms that the community has not seen before)
- Any person with fever and rash

7

List of Signals for CBS

Adapt the list of signals pre-determined by national public health authorities in each country

- TBD
- TBD
- TBD
- TBD
- TBD
- TBD

8

List of Signals for HEBS

Adapt the list of signals pre-determined by national public health authorities in each country

- TBD
- TBD
- TBD
- TBD
- TBD
- TBD

9

Summary

- Signal detection is key for EBS
- A list of pre-determined signals for CBS and HEBS is necessary to guide signal detection

10

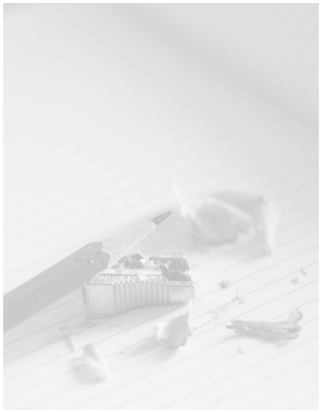
APPENDIX G

FUNCTIONS OF EVENT-BASED SURVEILLANCE AT THE INTERMEDIATE LEVEL

FUNCTIONS OF EBS AT THE INTERMEDIATE LEVEL

EVENT-BASED SURVEILLANCE AT THE INTERMEDIATE LEVEL

[Insert name & credentials of facilitator]

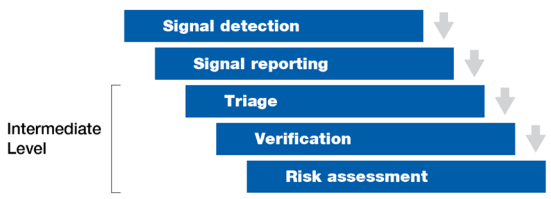


Learning Objectives

- Recognize the functions of event-based surveillance (EBS) at the intermediate level
- Describe triage, verification and risk assessment at the intermediate level

2

Functions of EBS



Source: Africa CDC. (2018). *Africa CDC event based surveillance framework*. Addis Ababa: African Union.

3

EBS Functions at the Intermediate Level

- Public health authorities at the intermediate level may receive EBS-related information in the form of signals or events from a variety of sources, including communities and health facilities
- Regardless of the source of EBS information, the functions of EBS implementation that take place at the intermediate level are triage, verification, and risk assessment

4

EBS Functions at the Intermediate Level

Source of information	EBS function
• Community	• Risk assessment
• Health facility	• Triage • Verification • Risk Assessment

5

Triage

- Public health authorities at the intermediate level may receive signals from health facilities conducting health facility EBS, or HEBS
- Because of its high sensitivity, EBS is likely to generate signals from non-events
- When authorities receive information about a reported signal, they conduct triage
- Triage: The process of screening out the data and information that are relevant for early detection purposes

6

Triage

Is the reported information relevant to early warning (i.e., could this signal be a genuine public health event)?

Was this signal previosly reported (i.e., is this signal a duplicate)?

7

Verification

- Intermediate-level authorities receiving signals from health facilities must also verify these signals before they are determined to be events
- Verification is the determination that a signal is valid (i.e. it is not a false alarm or a false rumor), reliable, and that it corresponds to at least one of the signals pre-defined for EBS implementation
- Verification must take place within 24 hours of initial signal detection

8

Verification

- The result of verification is the confirmation that a signal is true or false. Once a signal is verified, it becomes an event
  An event is an occurrence that can threaten public health
- If confirmed as an event, information related to the event must be entered into a logbook or registered at the intermediate level

9

How to Determine the Outcome of Signal Verification

Discard if...

- Report is a hoax or a false rumour
- Information has been reported by an unreliable source (e.g., by word of mouth)
- Report does not meet signal signals

Confirm as an event if...

- Information is accurate and true
- Report meets criteria for one or more signals
- Information has been reported by a credible source or sources (e.g., CHV, hospital focal point, or key informants)

10

Risk Assessment

- Risk assessment (RA) is done after an event is confirmed
- RA is the systematic process of gathering, assessing and documenting information to assign a level of risk to human health to an event
- Regardless of the source of the information, a risk assessment should be carried out at the intermediate level and, if relevant, at the higher levels as well

11

Risk Assessment

- Public health authorities evaluate all available information and then assess or characterize the level of risk that the situation poses to public health
- The first risk assessment of an event must take place within 48 hours of the detection of one or more signals

12

Processes and Possible Outcomes of RA

No investigation required if...

- Report is a rumour

Monitor if...

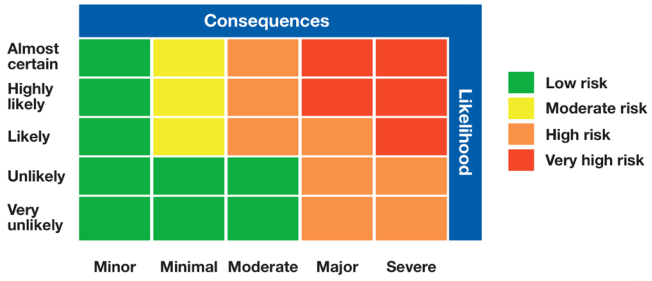
- Report is verified as true
- Mortality/morbidity is as expected for the disease
- Severity of cases is low

Investigate /respond if...

- Report is verified as true
- Mortality/morbidity is higher than expected
- The disease is unexpected/novel to the community
- There are possible consequences to trade and/or travel
- Severity of cases is high or higher than expected for the disease
- The public health event creates major panic in the community
- The number of cases is increasing

13

Risk Characterization Matrix



14

Interpretation of Risk Level

Low risk	Managed according to standard response protocols, routine control programs and regulation (e.g. monitoring through routine surveillance systems)
Moderate risk	Roles and responsibility for the response must be specified. Specific monitoring or control measures required (e.g. enhanced surveillance, additional vaccination campaigns)
High risk	Senior management attention needed: there may be a need to establish command and control structures; a range of additional control measures will be required some of which may have significant consequences
Very high risk	Immediate response required even if the event is reported out of normal working hours. Immediate senior management attention needed (e.g. the command and control structure should be established within hours); the implementation of control measures with serious consequences is highly likely

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Summary

- Public health authorities at the intermediate level may receive EBS-related information in the form of signals or events from communities and health facilities
- The intermediate level will conduct only RA for all events reported through CBS, and triage, verification and RA for all signals reported through HEBS
- The intermediate level should report all events and RA results to the corresponding upper administrative level

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APPENDIX H

EVENT-BASED SURVEILLANCE VERIFICATION TOOL

As EBS is highly sensitive, it is essential to verify the authenticity of a reported signal and its characteristics. This process of verification involves actively cross-checking the validity of available information and collecting additional information about the report using reliable sources as needed. The process of signal verification should answer three main questions:

- Is the report accurate (i.e., true)?
- Has the information been reported by a reliable source or sources?
- Does the report meet the criteria for one or more signals?

The graphic shown below can be used to determine the outcome of signal verification, once sufficient information has been collected and validated.

Discard if...

- Report is a hoax or a false rumour
- Information has been reported by an unreliable source (e.g., by word of mouth)
- Report does not meet signal criteria

Confirm as an event if...

- Information is accurate and true
- Report meets criteria for one or more signals
- Information has been reported by a credible source or sources (e.g., CHV, health facility focal point, or key informants)

The examples on the following pages demonstrate the process of signal verification using specific signals that may be utilized in CBS or HEBS.

Two or more persons presenting with similar severe illnesses in the same setting (e.g., household, workplace, school, street) within one week

Discard if...

- There is only one person presenting with illness
- The persons present with dissimilar signs and symptoms
- There is no temporal association, and >1 week separates the patients' illness
- The persons presenting with similar symptoms reside in different settings that are physically well-separated

Confirm as an event if...

- There are two or more persons presenting with similar signs and symptoms who live or work in the same setting
- The ill persons had an opportunity for exposure or close contact with one another
- The persons' illness requires hospitalization
- One or more persons has died
- There is a common source of exposure

Unexpected large number of deaths of poultry or other (domestic) animals

Discard if...

- The number of animal deaths is what is normally expected
- There is a reasonable explanation for the animal deaths

Confirm as an event if...

- The number of animal deaths is not what is usually expected
- There are multiple clusters/groups of animal deaths
- There is no explanation for the animal deaths

Severe illness of a healthcare worker after exposure to patients with similar symptoms

Discard if...

- The ill healthcare worker did not have exposure to patients with similar symptoms
- The healthcare worker's illness does not require hospitalization
- The healthcare worker did not have exposure to patients

Confirm as an event if...

- The ill healthcare worker had exposure to patients with similar symptoms
- There are multiple clusters/groups of severely ill healthcare workers with exposure to patients with similar symptoms
- The healthcare workers' illness requires hospitalization
- One or more patients have died
- One or more healthcare workers have died

One or more hospitalized patients with unexplained severe illness, including failure to respond to standard treatment

Discard if...

- The patient is not severely ill (i.e., does not require hospitalization)
- There is a reasonable explanation for the patient's illness
- The patient is responding to standard treatment

Confirm as an event if...

- The patient is severely ill (i.e., requires hospitalization)
- There are multiple clusters/groups of severely ill patients and/or deaths with similar symptoms
- There is no explanation for the patient's illness
- The patient is not responding to standard treatment
- One or more patients have died

APPENDIX I

EVENT-BASED SURVEILLANCE RISK ASSESSMENT TOOL

In order to assess the nature and magnitude, or risk, of an acute public health event, it is important to continuously and systematically gather, assess, and document information using reliable sources. Risk assessment should be conducted on a recurring basis as more information is gathered about an event. Additional information may include, but is not limited to:

- Nature of the event/agent/disease
- Source of event identification
- Location of the event
- Potential origin (infectious, chemical, radiological, nuclear)
- Date of event or date of onset
- Number of cases/deaths, severity of the case
- Number of people potentially exposed to the hazard
- Groups affected (e.g. age, occupation, gender)
- Common clinical/laboratory characteristic among affected
- Likelihood of an intentional release
- Likelihood of group intoxication/contamination
- Potential for importation of cases to the country (for international events)

The following tool can be used to determine the outcome of a risk assessment, once sufficient information has been collected and analyzed. The outcome of a risk assessment should inform response efforts. Note that no matter what the outcome is, all information must be reported up to the next level within the public health structure.

No investigation required if...

- Report is a rumour

Monitor if...

- Report is verified as true
- Mortality/morbidity is as expected for the disease
- Severity of cases is low

Investigate /respond if...

- Report is verified as true
- Mortality/morbidity is higher than expected
- The disease is unexpected/novel to the community
- There are possible consequences to trade and/or travel
- Severity of cases is high or higher than expected for the disease
- The public health event creates major panic in the community
- The number of cases is increasing

APPENDIX J

EVENT-BASED SURVEILLANCE FUNCTIONS CASE STUDIES

Case 1: Cluster of gastrointestinal disease in the community

Scenario description:

One morning, Dr. Fasso, a surveillance officer at the intermediate level, received a call from Khady Diallo, the local-level supervisor in the village of Butumba. Ms. Diallo told him that she was informed by a CHV that five sick persons (two children and three adults) were taken to a traditional healer after they fell ill with the same symptoms. Ms. Diallo informed Dr. Fasso that all five persons had attended a wedding ceremony at a neighboring village the day before, had eaten from the same bowl with their hands, and had drunk water from the same cup. Around 12 hours later, all became ill with severe vomiting and abdominal pain. All of them were attended to in the local clinic and received intravenous fluid therapy to treat moderate dehydration. The two children were referred to the nearest hospital because their clinical condition did not improve. The youngest (4 years old) died two hours ago.

Questions: Complete the following questions using the triage, verification, and risk assessment tools

(Facilitator notes provided)

1. Is the information reported by the CHV a signal? Why?

Yes, it seems to be a signal. Two or more cases of the same illness (in this case, vomiting and abdominal pain) in the same location and within a 1-week period is typically a pre-determined signal for CBS. It might represent a cluster of gastrointestinal disease.

2. If this information is a signal, who should conduct the triage?

Once the signal is reported by the CHV to the corresponding local-level supervisor, the latter (Ms. Diallo) must triage the signal.

3. Describe how triage should be conducted for this case scenario.

Triage means screening out duplicates and the information which is not relevant to EWAR. The following questions should be answered:

- Has this signal (information) been reported previously (is it duplicate or not)? If it is a duplicate, the triage stops.
- If it is not a duplicate, is the signal (information) reported relevant to EWAR? An apparent cluster of gastrointestinal disease cases with common origins is relevant to EWAR because foodborne disease outbreaks are considered a major public health problem and an important cause of morbidity and mortality.

4. If the signal is not a duplicate and is relevant to EWAR, what is the next step?

Since the information is not a duplicate and is relevant to EWAR, the signal should be verified.

5. Who should verify this signal?

The local-level supervisor, Ms. Diallo, should verify the signal.

6. How should signal verification be conducted?

Verification means confirming the reality of the signal and its characteristics and should be done within 24 hours of initial signal detection. The following questions should be answered:

- **Is this signal true?**
  Interview the CHV who reported the signal first, and patients, including relatives, if possible.
  Collect clinical and epidemiological information by phone or in person. Try to verify if the signal truly occurred. If the signal occurred, test if the source is reliable, otherwise, verification stops.
- **Has the signal been reported by credible sources?**
  Credible sources include CHVs and local-level supervisors. If a credible source has been involved, verification can continue.
- **Does the signal meet at least one of the pre-determined signal definitions for the community?**
  The signal reported must meet the definition, "Two or more cases of similar illness among individuals from the same location within a 1-week period" (adapt this definition according to the list of signals pre-determined by the country). This is the list of pre-determined signals for CBS.
  The signal must have been verified to be considered an event. Clinical and epidemiological information suggests the presence of a foodborne disease outbreak.

7. If the signal has been verified as an event, what is the next step?

The local-level supervisor, Ms. Diallo, should immediately report the event to the intermediate level supervisor, Dr. Fasso.

8. Once the event has been reported, what is the next step? Please explain.

The next step is to conduct an initial risk assessment to categorize the overall risk of the event. This categorization will provide the basis to take actions and define the type of response needing to be implemented.

9. Who should conduct the initial risk assessment?

The intermediate-level supervisor, Dr. Fasso, should conduct the initial risk assessment within 48 hours of the detection of the signal.

10. Describe how the initial risk assessment should be conducted.

Dr. Fasso should call the risk assessment team at the intermediate level and formulate the most relevant risk questions for a suspected outbreak of foodborne disease. The next step is to compile all available information collected through triage and verification. Since the type of event is a foodborne disease, the following risk questions could be addressed:

- Does the suspected foodborne disease have a high potential for spread?
- Is there a higher than expected mortality or morbidity reported for the event?
- Is the event unusual or unexpected in the community?
- Does the disease have possible consequences for trade or travel?
- Does the event have possible consequences for human health?
- Does the event affect livestock/wildlife?
- Are there environmental consequences?

Since the event involves severe cases and one death, it should be considered a high-risk event.

11. What should the decision of the risk assessment team be after evaluating the event and available information?

- No response/investigation
- No response but monitor
- Respond and investigate immediately

Dr. Fasso should implement an immediate response and conduct an investigation.

Case 2: Sudden bleeding and multi-organ failure in a pregnant woman

Scenario description:

Dr. Chan, a surveillance officer, received a call from the HEBS focal point at the county hospital. The call was from Dr. Xi who reported that two days earlier, a 23-year-old pregnant woman (3rd trimester) had been admitted to the emergency room with fever, general malaise, weakness, headache, vomiting and shortness of breath. A chest X-ray revealed bilateral lobar pneumonia. A standard pneumonia treatment plan was initiated. The patient developed bleeding in the gums and nose 5 hours after being admitted, and her clinical condition worsened with facial swelling and pain in the chest, back, and abdomen. She has been transferred to the intensive care unit (ICU). In spite of adequate treatment, the patient has developed shock and multi-organ failure. The head of the ICU reported the case to the HEBS focal point as a signal because he thinks the patient presents unusual clinical manifestation and failed to respond to standard therapy.

Questions: Complete the following questions using the triage, verification, and risk assessment tools.

(Facilitator notes provided)

1. Is this case a signal? Why?

Yes, it appears to be a signal. The rapid clinical deterioration and the presence of bleeding could represent a severe hemorrhagic fever or severe influenza.

2. If this information is a signal, who should conduct the triage?

It is important to note that the signal reporting has been done properly until now. Once the doctor identified the signals, he reported it immediately to the corresponding HEBS focal point, who in turn, reported it to the district (intermediate) surveillance officer.

The surveillance officer, Dr. Chan, should conduct triage.

3. Describe how the triage should be conducted:

Triage means screening out duplicates and information that is not relevant to EWAR.
The following questions should be answered:

- Has this signal (information) been reported previously (is it duplicate or not)? If it is a duplicate, the triage stops.
- If it is not a duplicate, is the signal (information) reported relevant to EWAR?
  This hemorrhagic fever syndrome, with a sudden clinical deterioration, is relevant to EWAR because it could represent the appearance of a case of Ebola, Lassa Fever, or influenza, among others. A single case of hemorrhagic fever is considered a health emergency due to high morbidity and mortality rates and needs to be reported immediately.

4. If the signal is not duplicate and is relevant to EWAR, what is the next step?
Since the information is not duplicate and is relevant to EWAR, the signal should be verified.

5. Who should verify this signal?
The surveillance officer, Dr. Chan, should verify the signal.

6. How should signal verification be conducted?
Verification means confirming the reality of the signal and its characteristics and should be done within 24 hours of initial signal detection. The following questions should be answered:

- **Is this signal true?**
  Interview the HEBS focal point who reported the signal first (the doctor) followed by the patient's family members. Collect clinical and epidemiological information by phone or in-person, such as date of onset, exposure to animals (e.g. rodents), contacts, travel history, etc. Try to verify if the signal truly occurred. If the signal occurred, test if the source is reliable, otherwise, verification stops.
- **Has the signal been reported by credible sources?**
  The doctor who is treating the patient is considered a reliable source, so, verification can continue.
- **Does the signal meet at least one of the pre-determined signal definitions for the community?**
  The signal meets the definition, "A single case with unusual clinical manifestation or failure to respond to standard treatment" (adapt this definition according to the list of signals pre-determined by the country),which is in the list of pre-determined signals for CBS.
  The signal has been verified and is considered an event. Clinical and epidemiological information suggest the presence of a viral hemorrhagic fever.

7. If the signal has been verified as an event, what is the next step?
Dr. Chan should immediately report the event to the upper administrative level.

8. Once the event has been reported, what is the next step? Please explain.
The next step is to conduct an initial risk assessment in order to categorize the overall risk of the event. This step must be conducted within 48 hours of initial signal detection. This categorization will provide the basis for actions to be taken and will define the type of response requiring implementation.

9. Who should conduct the initial risk assessment?
The surveillance officer, Dr. Chan, should conduct the initial risk assessment.

10. Describe how the initial risk assessment should be conducted.
Dr. Chan has to call the risk assessment team at the intermediate level and formulate the most relevant risk questions for a suspected case of viral hemorrhagic disease. The next step is to compile all available information collected through triage and verification. The following risk questions should be addressed:

- Does the suspected viral hemorrhagic fever case have a high potential for spread?
- Is there a higher than expected mortality or morbidity reported for the event?
- Is the event unusual or unexpected in the community?
- Does the disease have possible consequences for trade or travel?
- Does the event have possible consequences for human health?
- Are there environmental consequences?

Since the event involves a suspected case of viral hemorrhagic fever in a patient in critical condition, it should be considered a very high-risk event.

11. What should the decision of the risk assessment team be after evaluating the event and information available?

- No response/investigation
- No response but monitor
- Respond and investigate immediately

Dr. Chan should implement an immediate response and conduct an investigation as soon as possible. A rapid response team should be deployed to conduct a field investigation.

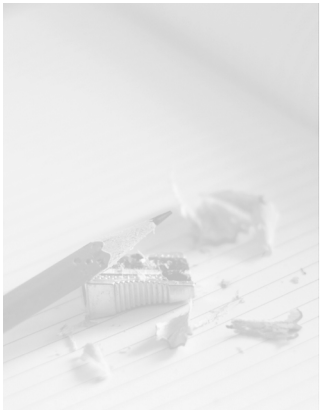
APPENDIX K

HOW TO RECORD DATA FOR EVENT-BASED SURVEILLANCE

HOW TO RECORD DATA FOR EVENT-BASED SURVEILLANCE

EVENT-BASED SURVEILLANCE AT THE INTERMEDIATE LEVEL

[Insert name & credentials of facilitator]



Learning Objectives

- Describe the importance of EBS data recording at the intermediate level
- Record EBS data from health facilities and communities at the intermediate level using an example of an event logbook, the IDSR District Log of Suspected Outbreaks and Rumors

2

Data Recording

- EBS data recording is important for reporting purposes
- Public health authorities at the intermediate level should be able to record EBS data from health facilities and communities using a tool that enables the collection of event data

3

Recording EBS Data Reported by the Community and Health Facilities

- The intermediate-level should only record events reported from the community level or events verified by the intermediate level from signals reported by health facilities
- Event data should be registered in a logbook that incorporates the recording of events, such as the IDSR District Logbook of Suspected Outbreaks and Rumors

4

IDSR District Log of Suspected Outbreaks and Rumors

Record verbal or written information from health facilities or communities or social media about suspected outbreaks, alerts or reports of unexplained events. Record the steps taken and any response activities carried out.

Condition or Disease or Event	Source of suspected outbreak or rumour (newspaper, telephone etc.)	Number of cases initially reported	Number of deaths initially reported	Location (health centre)	Date district was notified	Date suspected outbreak was investigated by the district	Result of district investigation (Confirmed, Ruled Out, or Unknown)	Date outbreak began

5

IDSR District Log of Suspected Outbreaks and Rumors

Date onset of index case	Date crossed threshold or first cluster	Date a case was first seen at a health facility	Date specific intervention began	Type of concrete intervention that was begun	Date on which district notified national level of the outbreak	Date district received national response	Comment (include if sample taken and results)	Name and signature

6

Summary

- The intermediate level should record all events that are reported and verified from health facilities and communities
- Event data should be registered in a logbook that incorporates the recording of events, as soon as they are reported or verified

7

APPENDIX L

INTEGRATED DISEASE SURVEILLANCE AND RESPONSE DISTRICT LOG OF SUSPECTED OUTBREAKS AND RUMORS

Record verbal or written information from health facilities or communities or social media about suspected outbreaks, alerts or reports of unexplained events. Record the steps taken and any response activities carried out.

Condition or Disease or Event	Source of suspected outbreak or rumour (newspaper, telephone etc.)	Number of cases initially reported	Number of deaths initially reported	Location (health centre)	Date district was notified	Date suspected outbreak was investigated by the district	Result of district investigation (Confirmed, Ruled Out, or Unknown)	Date outbreak began

Date onset of index case	Date crossed threshold or first cluster	Date a case was first seen at a health facility	Date specific intervention began	Type of concrete intervention that was begun	Date on which district notified national level of the outbreak	Date district received national response	Comment (include if sample taken and results)	Name and signature

APPENDIX M

SMALL-GROUP EXERCISE - FLOW OF INFORMATION

Prepared flipchart paper for the small-group exercise:

Q1: When should information be reported up administrative levels? Why?	**Q2:** How should information be reported up administrative levels? Why?
Q3: Why is feedback back to reporters in communities and health facilities important?	

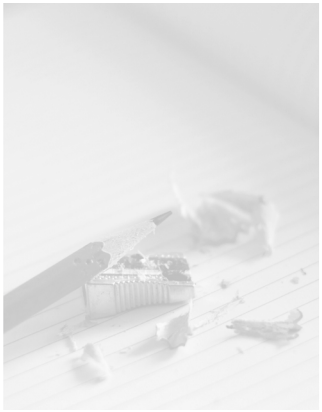
APPENDIX N

SUPPORTIVE SUPERVISION

SUPPORTIVE SUPERVISION

EVENT-BASED SURVEILLANCE AT THE INTERMEDIATE LEVEL

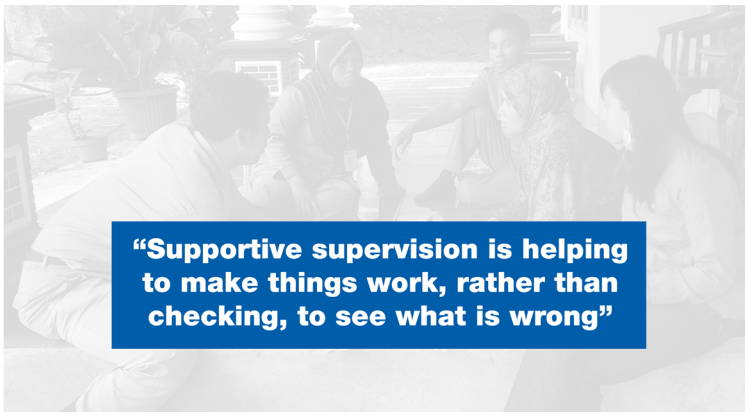
[Insert name & credentials of facilitator]



Learning Outcomes

- List the supportive behaviors to improve commitment and performance
- Identify the most suitable supportive behavior according to circumstances

2



Why Is It important?

- It can increase staff capacity to collect, manage, and use data
- It helps staff to improve their own work performance continuously
- It helps to establish a collaborative working environment
- It facilitates understanding of common goals
- It is carried out in a respectful and non-authoritarian way with a focus on using supervisory visits as an opportunity to improve knowledge and skills of health staff
- It encourages open, two-way communication, and team-building approaches that facilitate problem-solving

4

Comparison of Two Supervision Approaches

Non-Supportive Supervision	Supportive Supervision
• Focus is on finding faults with individuals • Supervisor is like a policeman • Episodic problem-solving • Little or no follow-up • Punitive actions intended	• Focus is on improving performance and building relationships • More like a teacher, coach or mentor • Uses local data to monitor performance and solve problems • Follows up regularly • Only support is provided

World Health Organization. (2008). Training for mid-level managers (MLM). 4. Supportive Supervision. Geneva.

5

The Three 'Rs' for Effective Supportive Supervision

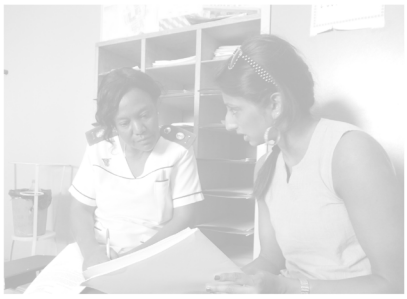
- Right supervisors: A core set of supervisors, well trained on supportive supervision techniques and with updated information and skills on EBS issues
- Right tools: Availability of training materials and job aids to update skills of health workers during supervision visits, and checklists and forms for recording recommendations and follow up
- Right resources: Sufficient vehicles, per diems, and time allocated for supervision and follow-up

6

Supportive Supervision Techniques to Improve Commitment and Performance

- Supervision should be facilitative, not fault-finding
- Always praise work well done before raising problems
- If you see a problem, check if the supervisee sees the same problem
- Analyze problems with the supervisee to gain a good understanding of the underlying causes
- Let the supervisee suggest possible solutions; this facilitates ownership and acceptance of the solutions

7



Conducting a Supportive Supervisory Visit

- Observation
- Use of data
- Problem-solving
- On-the-job training
- Recording observations and feedback

8

Summary

- Supportive supervision is important to improve performance and commitment
- Plan for supervisory visits
- During the visits: adopt supportive supervision techniques
- After the visits: follow-up and regular contact

9

APPENDIX O

ROLE-PLAY SCENARIOS

Scenario 1: CBS local-level supervisors are not conducting triage correctly

Context

Dr. Gonzales is the surveillance officer in charge of District X. His district is the largest in the country, including 50 communities with a total population of 10,000 inhabitants. Since EBS has been introduced in the country, it has been well integrated into the national IBS system. During the first three months of the implementation of EBS, Dr. Gonzales was able to train at least one person in each community and recommended that this person organize a cascade training, or at least instruct one person among the staff about EBS. Dr. Gonzales has also conducted at least one supervisory visit in each of the communities in his district. However, in the last month, due to important meetings on surveillance at the national level, he has been out of his office and left his deputy, Dr. Gomez, in charge.

Upon his return, Dr. Gonzales calls Dr. Gomez for a debrief of any important issues during his absence. Dr. Gomez is a medical doctor particularly interested in epidemiological surveillance and EBS, which he finds fascinating. During the debriefing, Dr. Gomez immediately reports on the EBS activity, pointing to one community in particular. He thinks that something is going on in that community and that the reports of Mr. Linera, the point of contact for that community, have been strange and inconsistent lately. It seems that the same report on a number of diarrhea cases had been sent twice, and the name of the school where the cases occurred was the same, indicating two different events. Dr. Gonzales asks Dr. Gomez whether he had undertaken any actions to explore that situation, but Dr. Gomez replies that he has not, as he prefers to discuss this with Dr. Gonzales before taking action.

After the debriefing, Dr. Gonzales calls Mr. Linera on the phone to ask if everything is fine. Mr. Linera sounds unwell and says that he has been in bed for the last week with the flu. He says that he has delegated all his tasks, including EBS, to another person, Mrs. Chavez, and that she had reported nothing unusual in the last week.

Dr. Gonzales wishes Mr. Linera a quick recovery and agrees to visit him the week after.

The following week, Dr. Gonzales, together with Dr. Gomez, organizes a supervisory visit to Mr. Linera.

When they arrive to Mr. Linera's community, Mr. Linera is waiting for them at the post office. They go to Mr. Linera's house together and his wife prepares coffee for everybody. Mr. Linera, still recovering from his illness, calls Mrs. Chavez to join them.

Mr. Linera is a very organized man and very well respected in his community. He had appointed Mrs. Chavez to his tasks as she was his cousin's wife and had also lived in that community for a long time. Mr. Linera had shared the EBS training material with her and they had gone through the training together to make sure that everything was clear. Mrs. Chavez was very precise and attentive, and she could rely on a number of CHVs in the community that she knew personally.

Role-play starts during tea at Mr. Linera's house
Instructor presents: Mr. Linera, his wife, Dr. Gonzales, Dr. Gomez, Mrs. Chavez

Mr. Linera: Thanks a lot for coming all the way here, it's always an honor to have you both in my small community.

Dr. Gonzales: Thanks a lot, Mr. Linera, it's always a pleasure to be here.

After a small round of pleasantries, Dr. Gonzales starts exploring the situation discretely to understand what has happened.

Dr. Gonzales: As you know, I was away for a week but wanted to see how you are doing. Is everything okay with EBS? How have you managed the situation during the week that you were sick? Was Mrs. Chavez in charge?

Mr. Linera: Yes, indeed, Mrs. Chavez has always covered in my absence. Is there any problem?

Mrs. Chavez looks nervous, and it is clear that she wants to say something. She realizes that Dr Gonzales has invited her to intervene.

Mrs. Chavez: Dr Gonzales, first I really wanted to thank you for your visit. EBS is a very interesting activity, and I am very proud to be part of the team. It has also been an excellent opportunity to be in very close contact with the community. There is something I actually wanted to report myself, as in the last week we have received information about a certain number of diarrhea cases in a small village nearby. The CHV in charge of that part of the community is relatively new, and I am not sure that he reported correctly.

Dr. Gomez: Now that you mention that, I have to say that we had noticed that small inconsistency and that is actually one of the reasons for our visit. What do you think was the problem?

Mrs. Chavez: I am not sure, the only thing I could think of was that there is a new CHV in that community and I wanted to pay a visit to his neighborhood to check if he's doing well.

Mr. Linera: Mrs Chavez, is there a way to call this CHV and ask him to join us here to understand together what happened?

Mrs. Chavez: Sure, let me call him.

Mrs. Chavez talks on the phone with the CHV who agrees to join the meeting.

CHV: Good morning everybody. Sorry I am late.

Mr. Linera: No problem, it's a pleasure meeting you. I've heard that you are new in the community. First, I wanted to thank you for the very important work that you are doing for our community.

CHV: Thanks, Mr. Linera, it's an honor for me to be part of the team. Yes, as you know, I have recently moved here from the other town, and EBS was a very good way to integrate into this community.

I have reported all the unusual things that may happen in my community, sometimes I do not know whether it is relevant, but I report them anyway. Last week, for instance, I heard that in the school where my son goes there were 10 cases of diarrhea, and I thought that it was something to report. Two days later, another of my friends told me that in the same school there were 10 cases of diarrhea, and I reported them. I am afraid I have to go now (and he looks at his watch), I need to go pick up my son at school.

Mr. Linera: Sure, no problem, thanks so much for coming. Keep up the good work that you are doing. We may organize another training session for CHVs soon, since you were not in the previous one as you have just moved, please make sure that you will attend this one.

CHV: Sure thing, you can count me in.

When the CHV leaves the house, Mr. Linera looks at Dr. Gonzales and Dr. Gomez.

Mr. Linera: Dr. Gonzales, Dr. Gomez, I have to apologize. I just realized what has happened here: there was a problem in the triage as the second report of the CHV is a duplicate. I am really sorry.

Dr. Gonzales: Mr. Linera, not a problem at all, we know that we can trust you, and I am sure that you will organize a training session for the new CHV very soon. If I may give you some advice: if there are not too many new CHVs, perhaps you can just have an individual meeting with each of them and go through the forms together whenever they have something to report. Working with them to show them how, if, and what to report will be very effective.

Mr Linera: Thanks, Dr. Gonzales, for your understanding, for your trust and for your advice. It is an excellent idea.

Questions for the group:

- What do you think of this scenario? Do you think it is possible to have duplicate reporting? Why/why not?
- What if it happened in your jurisdiction? Would your participation in/observation of the role-play help you manage the situation?
- Do you think Mr. Linera and Dr. Gonzales handled this scenario well? Why/why not?
- What would you have done differently and how?

Scenario 2: Health facility is not reporting any signals

Wonderland is a big country with 25 districts, each consisting of an average of 30 health facilities and one hospital. Traditional medicine is still practiced there, though the medical doctors at the health facilities know the local traditional practitioners well and often collaborate with them.

Dr. Jain is the District Medical Officer of District Lake, which is the biggest district in the country. District Lake includes more than 50 health facilities and two hospitals, Hospital A, situated in the North of the district, and Hospital B, in the center of the district. The country has recently undergone a major reorganization, and District Lake has formed as a result of two smaller districts being merged. In the reorganization, Hospital A will be dismantled, but it will take some time as the personnel have to be reassigned and/or absorbed by the other hospital. The process will take at least six months to one year, and for the time being, all the personnel of the two hospitals have been instructed to conduct their routine activity as usual.

Dr. Jain is aware of this situation, and his appointment as Medical Officer of that district was instrumental for this re-organization. His previous experience as Medical Officer at the national level in the Surveillance Department of the Ministry of Health provides him with the professional experience to accept this new appointment.

Dr. Jain is originally from that district, which is one of the reasons why he welcomed this new appointment. The appointment gave him a way to return home, as the capital was becoming too crowded and busy for him. He will be retiring in three years.

At the national level, Dr. Jain was responsible for EBS and would collect all the reports coming from the districts. He organized and delivered EBS training at the district level when EBS was first introduced in the country.

District Lake, or at least each of the former districts constituting what is now called District Lake, was one of the best-performing districts in EBS. They were very timely in their reporting, their triage was always perfect, and their response activities were appropriate for the events detected. He thought that this new appointment was going to be easy.

A couple of weeks into his new appointment, Dr. Jain noticed that some cholera cases being reported by a group of small health facilities in the North of the country were not being fully reported to him. From the reports, the situation looked very serious, and he was surprised that he only knew of their incidence but not pertinent details such as admission to the hospital.

After this incomplete reporting came to his attention, Dr. Jain decided to visit Hospital A as he suspected that with the reorganization, something could have gone wrong.

He called Dr. Chopra, the Medical Officer in charge of Hospital A, but Dr. Chopra's phone number had been disconnected. He then called the Deputy Medical Officer of Hospital A, and after a few attempts, succeeded in reaching Dr. Sharma. Dr. Sharma was a young medical doctor that had been appointed as interim deputy during the transition process, and was in charge of the Infection Control Unit at Hospital B. Dr. Jain managed to set up a visit to Hospital A for the following morning and immediately started organizing his five-hour drive to Hospital A.

The next morning, Dr. Jain went to Hospital A to meet Dr. Sharma, who was waiting for him in his office. Dr. Sharma had a large pile of documents on his desk and looked very busy.

Dr. Sharma: Good morning Dr. Jain, it is such a pleasure meeting you, thank you so much for the visit, I need your help!

Dr. Jain: Dr. Sharma, of course, I am here to assist you. How can I help?

Dr. Sharma: Actually, Dr. Jain, as you know, last year there was a team that came here from the capital to train the medical doctors on EBS. Unfortunately, in this time of transition, most of the doctors have left and accepted other positions in other hospitals in the country. We only have three doctors left, and all of them are overwhelmed with work. In addition, they often do not have time for surveillance, so I am afraid routine surveillance, as well as EBS, has been neglected lately.

Dr. Jain: I understand Dr. Sharma. It is very common, unfortunately, but I am sure they are doing their best to treat the patients and are taking care of their priorities.

Dr. Sharma: That is true Dr. Jain, but I really do not know what to do with routine surveillance and with EBS, that is so important.

Dr Jain: I cannot agree more, of course. Let me think.
After careful consideration, Dr. Jain suggests a possible creative solution that might resolve the issue.

Dr. Jain: Dr. Sharma, what about involving the nurses? Do you think it is possible to create a pool of nurses that might be interested and motivated to contribute to routine surveillance and to EBS?

Dr. Sharma: This is an excellent idea Dr. Jain. Traditionally it was a group of nurses in charge of surveillance here. We could reinstate that tradition, and I am sure that the nurses will be happy to receive that recognition. With your permission, I can immediately call the senior nurse to organize a meeting with all nurses and decide a plan of action together. If I remember correctly, she has already attended training on EBS in the past.

Dr. Sharma calls Mrs. Malik, the senior nurse, on the phone and she arrives to Dr. Sharma's office after 10 minutes.

Dr. Sharma: Mrs. Malik, thanks a lot for coming so quickly. This is Dr. Jain from the district, here to assist us in resuscitating routine surveillance and EBS. He was suggesting that you and your team could be in charge of these two activities again.

Mrs. Malik: I would love to, and though the nurses on my team are new, I would be happy to organize a training for them. I would just need the updated documents and forms, if any, and some help in organizing the logistics. Also, if I may, Dr. Jain, it would be such an honor for us if you could attend. That would help me a lot to motivate the team. Dr. Jain, what do you think?

Dr. Jain: Mrs. Malik, Dr. Sharma, the answer, of course, is yes. I would be extremely happy to contribute, and I'll tell you more. This is the very hospital where I started my career as a medical doctor, before moving to epidemiology and public health. It would also be of sentimental value to do so. Mrs. Malik, Dr. Sharma, with your help the team will be up and running in no time.

The three of them start planning, and the training starts the next day. The nurses are very happy and proud to be in charge of surveillance and EBS again. They know that this new knowledge and experience will be of great value for them in their future career.

Questions for the group:

- What do you think of this scenario? Do you think clinicians frequently neglect reporting surveillance information because they consider it not to be a priority?
- What would you have done differently and how?

Scenario 3: CBS local-level supervisors are incorrectly filling out data

Dr. Abebe is the district supervisor in Mji, a relatively large town in the country. He has 20 villages/communities in his district and EBS has already been implemented for a year or so. He has conducted extensive training sessions, and he knows that he can rely on community leaders and on the health facilities in his territory to conduct EBS well.

It was during Christmas time when reports coming from one particular community (Community A) started looking strange and contradictory. Sometimes the information was recorded twice, clearly a duplication, but other times it was as though there was a miscoding or a misclassification of information. Community A was a small community in the East of the district with a population of about 600. Dr. Abebe remembered that the CHVs in this community participated actively in their training session, and understood EBS well.

Dr. Abebe called Mrs. Umoja the day after he noticed the odd reports. Mrs. Umoja, who was the local level supervisor for EBS, sounded nervous on the phone but agreed to receive Dr. Abebe for a visit two days later.

The visit

Mrs. Umoja was waiting for Dr. Abebe when he arrived in the main square of Community A. They went to Mrs. Umoja's office at the local clinic (she was the general practitioner's assistant in addition to being the local level supervisor) together. There were many patients in the waiting room, mostly mothers with children. It was vaccination week for measles for a special catch-up campaign that the WHO had organized.

Dr. Abebe: Good morning Mrs. Umoja. How are you and how are things over here?

Mrs. Umoja: Doctor, it is such a pleasure to have you here. As you see we are very busy with this vaccination campaign and definitely understaffed, as you know.

Dr. Abebe wanted to be sensitive about the situation and avoid taking too much time of Mrs. Umoja's already busy schedule, so he went straight to the point.

Dr. Abebe: Mrs. Umoja, I notice that some of the EBS reporting forms that you sent me were strange. Knowing how excellent your work normally is, I was wondering whether something had changed.

Mrs. Umoja (looking extremely nervous now): Dr. Abebe, I am really sorry about this. The fact is that during the preparation for this week's vaccination, I delegated the EBS task to a newly hired nurse. I had no time to train her and to show her the forms and the instructions, but at the beginning, I was able to supervise her and double-check the reports before she would send them to you. However, this last week I have been really busy with the vaccination campaign and have been unable to supervise her. I thought that everything was clear and she never complained during the week. She told me that she had sent everything to you.

Dr. Abebe: Indeed, your timeliness in reporting is excellent, and you never miss a week. However, in this last week, some of the signals reported as verified were not true signals, and there was also a duplicate in the reports. That's why I have decided to organize this visit. I understand that it might have been difficult for you to manage all this, and it was a very good idea to involve the newly hired nurse to do the job. I am sure that your supervision was excellent, and I am sure that this is an excellent opportunity for her to learn about EBS and to contribute to improving the health of the population in this community. Perhaps we could meet with her so we can go through the forms together? Then the new nurse could officially replace you in this task. It would be for me an opportunity to meet her and include her in the staff.

Mrs. Umoja was very happy with Dr. Abebe's reaction and immediately called the nurse on the phone, asking her to join her in the office. Mrs. Ima (the new nurse) arrived 15 minutes later and was extremely nervous to meet with the district supervisor.

Dr. Abebe: Good afternoon Mrs. Ima, it is such a pleasure to meet you. Mrs. Umoja is telling me that you have been involved in EBS during this busy period. How do you like it?

Mrs. Ima (very shy): Good morning Dr. Abebe, it is an honor to meet you. Yes, Mrs. Umoja asked me to help her with this task, and I am actually learning a lot. However, if I have to be honest with you, when Mrs. Umoja left me alone with the EBS I was not sure that I was doing a good job. But I did not want to bother Mrs. Umoja, as I know she is very busy with the campaign. I hope I can be involved officially one day in EBS, I really like it, and I think it is very important for our population.

Dr. Abebe: Actually Mrs. Ima, this is precisely what I want to talk to you about. That day is already today, and I would like to go through the forms together with you and with Mrs. Umoja so that you can start officially being the focal point for EBS in this community. What do you think?

Mrs. Ima was very happy about this good news and accepted the task. Dr. Abebe went through the documents with her, using the opportunity to show Mrs. Ima what was not correct in the previous forms. This was also a way for Dr. Abebe to show Mrs.Umoja that her supervisory style was probably too present: a better approach would be to let Mrs. Ima complete the job on her own first, and then coming together at the end to review and revise the forms if necessary.

After that visit, the reports from that community were always on time and filled in very well.

Questions for the group:

- What do you think of this scenario? Do you think it is common for a supervisor to do the supervisee's job, in order to make it better or do it faster, and neglect to explain why? Do you think it is common for a supervisee to not want to bother a supervisor with their questions, from the fear of being judged?
- What would you have done differently and how?

Scenario 4: Community residents are unaware of CBS

Dr. Lulu, a district EBS officer, wants to organize a second training for her 50 CHVs but has very limited resources. She had already conducted an initial training six months earlier and thought it was successful. However, she is now concerned about one community in particular (Village B) because she heard that all of the CHVs in that community had died. This community only had three CHVs, all of whom were elderly and had been selected because they were very well respected by the whole community. Unfortunately, all three had died in the recent cholera outbreak, and Dr. Lulu did not know who was in charge now.

Dr. Lulu calls her cousin Angela, who lives in Village B and tells her that she will be travelling to Village B the week after to visit her, but also to better understand the situation.

Dr. Lulu arrives in Village B and meets with Angela.

Dr. Lulu: Angela, thanks for meeting on such short notice. I have a problem with this community as I have the feeling that nobody knows about EBS now that the three CHVs have died of cholera. What do you think?

Angela: Dear cousin, it is so nice that you came. You are always very busy in the big city with your work. Yes, the situation is not good over here. As you know, the recent cholera outbreak was very bad, and many people died, including your CHVs. Their families left the village, and now I have no idea who is in charge of EBS. People don't trust the public health system anymore and are relying more on traditional medicine for their diseases or conditions.

Dr. Lulu is worried that nobody is in charge of EBS and that it will be difficult to manage the mistrust in the system that the outbreak has generated. She is a determined woman though, and after thinking for some time, she decides to organize a meeting with several community leaders for the next day. She calls her supervisor (at the national level) to ask if he can join their meeting. There are two issues at stake that require the involvement of someone from the capital: the first is the lack of EBS reporting in the community, and the second is the lack of trust the village has in the public health system.

The day of the meeting

Dr. Lulu: Good morning, everybody. Thanks for coming to this meeting. I am very happy to see you all here. How many of you know about EBS?

The attendees look at each other as though Dr. Lulu is from another planet. One attendee, Mr. X, says:

Mr. X: Of course we know about EBS. We have even recently attended a two-day training on EBS. But you know, the last cholera outbreak hit this community very hard, and people don't want to see a doctor now. They prefer to go to a traditional practitioner. Also, we are still working on gathering people to show how to treat water, and we have no time to spend on additional tasks. People are scared of getting ill, and they have no time for these meetings.

Dr. Lulu looks at her cousin, who does not look surprised by what Mr. X is saying. Taking advantage of the side discussions happening in the crowd, Dr. Lulu takes a few minutes to talk to her cousin about her ideas. With her cousin's approval, she then regains the floor to share some of these ideas with the audience.

Dr. Lulu: Sir, sir, please, I understand that the situation is not easy, but as you may remember from the EBS training, performing excellent EBS helps the population to prevent outbreaks such as the cholera outbreak you just had. If the signal is immediately reported and verified as true, then action can be implemented immediately, and many cases of cholera can be avoided. Please, follow me for another five minutes.

We had a couple of ideas. I know that this is a particularly religious community and that you all gather in church on Sundays. Also, my cousin tells me that there are still three schools in this village and two of them are still working. I understand that people are busy, but we were wondering whether those places (church and schools) could be used to spread the word about EBS and refresh the value of EBS in this community. It is very sad what happened here, but we need to use this very sad occasion to show people that we can do better to avoid such a situation from happening again. What do you think?

Mr. X: Dr Lulu, you are right. This is a very sad situation, but I know my people are strong and will survive this challenge. Faith will help us all to do so. I am not sure about the schools at the moment, because since the outbreaks happened, not many kids are going to school. But we can certainly try with the church. I go myself every Sunday, and the majority of the community still goes. I am sure that the reverend will agree on using his sermon to help us.

Questions for the group:

- What do you think of this scenario? Is it possible that trust in the public health system is so low? Can this happen in your community?
- What do you think of the suggested solution? Would it work in your community? If not, what other opportunities could you use to achieve the objective?

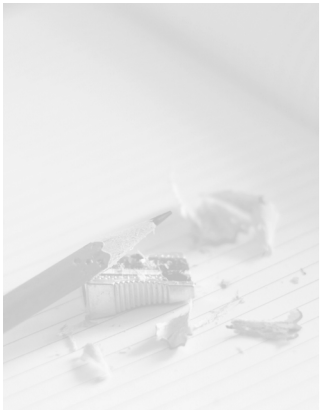
APPENDIX P

HOW TO TRAIN OTHERS ON COMMUNITY-BASED SURVEILLANCE AND HEALTH FACILITY EVENT-BASED SURVEILLANCE

HOW TO TRAIN OTHERS ON CBS AND HEBS

EVENT-BASED SURVEILLANCE AT THE INTERMEDIATE LEVEL

[Insert name & credentials of facilitator]



Learning Objectives

- Describe different learning strategies and techniques
- Identify the most suitable training method according to the context

2

Design of Training Activities

3

What to Promote in Adult Learning Methods

- Interactivity
- Active participation (interaction with others)
- Discussion
- Experience
- Appropriate motivational context
- Application to real life problems

4

Topics

- Lectures
- PowerPoint presentations
- Facilitating a group discussion
- Effective facilitation and communication tips
- Role-play facilitation tips
- Case study facilitation tips

5

Lectures

Traditional and the oldest method of training by an instructor to a group of learners

- Talking without any support
- Using a PowerPoint presentation
- Using a discussion

6

How to Effectively Deliver a Lecture

- Take time to prepare
  - Collect the needed information
  - Practice your lecture
- State the objective(s) of your lecture in the beginning
- Limit the number of messages conveyed
- Adapt to and engage the audience
- Show enthusiasm
- Summarize the main points of the lecture at the end
- Allow some time for questions at the end

7

PowerPoint Presentations

- Collection of individual slides that contain information on a topic
- Requires preparation
- Requires practice
- Requires a clear objective
- Should target the audience
- Should engage the audience

8

PowerPoint Presentations

Do's	Don'ts
• Put one message per slide • Limit to 5 to 6 bullet points per slide • Use key phrases and include only essential information • Use contrasting colors for text and background. • Allow one minute per slide • Prepare, design, deliver	• Put more than one message per slide • Create overly "busy" slides with too much text • Overuse special effects such as animations and sounds • Read the slides • Use 3D graphs • "Karaoke" slides

9

Group Discussion

- A communicative situation that allows participants to share their views and opinions with other participants
- A systematic exchange of information, views, and opinions about a topic, problem, issue or situation
- Discussion takes place among the members of a group who share some common objectives

10

How to Facilitate a Group Discussion

- Make sure all participants know the objective of the discussion and the reason to be in that group
- Be involved in the discussion from the beginning
- Encourage all participants to contribute
- Keep the time
- Maintain the focus of the discussion on the relevant topic
- Summarize the main points at the end
- Share a list of action points at the end

11

Effective Facilitation and Communication Tips

- Active listening techniques
  - Building trust and establishing rapport
  - Demonstrating concern
  - Paraphrasing to show understanding
  - Nonverbal cues which show understanding such as nodding, eye contact, and leaning forward
  - Brief verbal affirmations like “I see,” “I know,” “Sure,” “Thank you,” or “I understand”
- Give each participant the opportunity to contribute
- Remain neutral during the discussion

12

Role-Play Technique

- A **technique** that allows participants to explore realistic situations by interacting with other people in a managed way
- Objective is to develop experience and trial different strategies in a supported environment

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Role-Play Facilitation Tips

- Make sure to present the purpose of the exercise and its ground rules
- Arrange the room to allow all participants to observe the players
- Ask participants to take notes
- Talk through the roles and the play with the “actors”
- Let the role-play start
- Observe and take notes
- Allow some time for feedback and discussion after the role-play

14

Case Study Technique

- Analyzes a defined problem consisting of a real situation and uses real information as methodological tool
- Allows students to develop and enhance different skills (e.g., comprehension and analysis of real problems and the capacity to propose and evaluate alternatives)

15

Case Study Facilitation Tips

- Adapt the details of the case study to fit the participants' reality and that of their country and/or community
- Be available to answer questions or provide clarification if needed
- Guide the participants through the case study without interfering
- Make sure that all participants contribute

16

Demonstration

- Show how to do it
- Ask participants to do it
- Supervise their practice
- Follow-up with debriefing and questions

17

How can I choose the right technique?

- According to the objective(s) of the learning activity

18

Categories of objectives

- The three domains of learning are:
  - **Cognitive** domain that emphasizes thinking and knowledge (concepts)
  - **Skills** domain that features manually or physically performing actions (psychomotor)
  - **Attitudinal** domain that highlights attitudes, values, interests, attentions, concerns, responsibilities, and the ability to listen, respond and demonstrate interactions with others

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Training with a cognitive objective

- Describe the concepts of virology, bacteriology and immunology related to different test formats
- Define the advantages and limitations of forecasting
- Define surveillance of vaccine-preventable diseases, vaccine uptake, vaccine safety, immune status, sero-epidemiology and vaccine effectiveness

→Interactive lectures with PowerPoint presentations

20

Training with a skills objective

- Develop basic computer programmatic and analytical skills
- Apply criteria and algorithms to decide on reporting at the national level
- Carry out analysis for cohort and (matched) case-control studies, including stratified and multivariable analysis

→Demonstrations
→Supervised practice
→Follow-up

21

Training with an attitudinal objective

- Be comfortable in the communication of a decision
- Encourage collaboration between groups to share information
- Implement collaborative activities and teamwork with other professionals
- Critically appraise and cope with the consequences of wrong decisions
- Negotiate a project
- Improve teamwork skills

→Role play
→Brainstorming
→Group discussion

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Summary

- Learning strategies are only one component of training
- There are different strategies in adult learning
- It is important to choose the most appropriate according to the context

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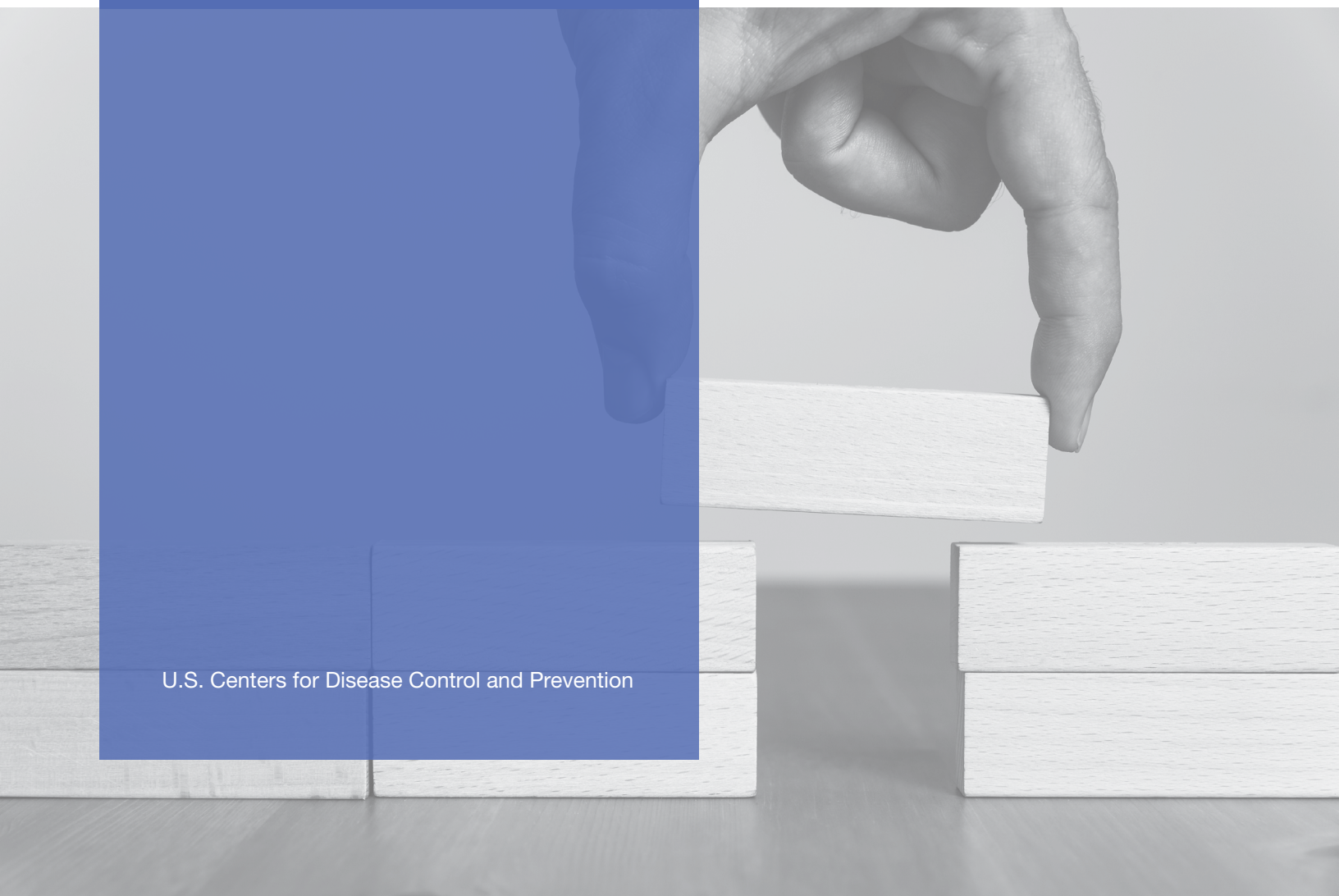
MODULE 3.2

INTERMEDIATE-LEVEL EVENT-BASED SURVEILLANCE TRAINING MODULE

PARTICIPANT GUIDE



U.S. Centers for Disease Control and Prevention

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ACRONYMS

US CDC	U.S. Centers for Disease Control and Prevention
CBS	Community-Based Surveillance
CHV	Community Health Volunteer
EBS	Event-Based Surveillance
EI	Epidemic Intelligence
EWAR	Early Warning and Response
HEBS	Health Facility Event-Based Surveillance
IBS	Indicator-Based Surveillance
IDSR	Integrated Disease Surveillance and Response
IHR	International Health Regulations (2005)
MOH	Ministry of Health
MS	Member States
NGO	Non-Governmental Organization
WHO	World Health Organization

EVENT-BASED SURVEILLANCE GLOSSARY OF TERMS

Community-based surveillance (CBS):	CBS is the systematic detection and reporting of events of public health significance within a community, by community members. Community health volunteers (CHV), the public, religious leaders, civil society members, teachers, and similar groups are engaged and trained to detect and immediately report events or health risks occurring in their communities. CBS may also be known as community health surveillance or community event-based surveillance.
Community health volunteers (CHV):	According to a WHO study group, CHVs may be members of the communities where they work, should be selected by the communities, are answerable to the communities for their activities, and should be supported by the health system but not necessarily a part of its organization. They may also be known as community health workers, among other terms.
Event:	The International Health Regulations (IHR) define an event as "[…] a manifestation of disease or an occurrence that creates a potential for disease; […]". This includes events that are infectious, zoonotic, food safety, chemical, radiological or nuclear in origin and whether transmitted by persons, vectors, animals, goods/food, or through the environment.
Event-based surveillance (EBS):	Defined by the World Health Organization(WHO) as the organized collection, monitoring, assessment and interpretation of mainly unstructured ad hoc information regarding health events or risks, which may represent an acute risk to health. Such information can come from diverse sectors and may include animal, environment and other sectors.
Health facility:	Defined by WHO as any establishment that is engaged in direct on-site patient care.
Health facility event-based surveillance (HEBS):	EBS that is conducted in health facilities. Healthcare workers are involved as either the primary reporting sources, such as during patient consultations, or as secondary sources, reporting unusual health events or health risks picked up through patient consultations.
Indicator-based surveillance (IBS):	Defined by WHO as the systematic (regular) collection, monitoring, analysis, and interpretation of structured data, i.e., of indicators produced by a number of well-identified, mostly health-based, formal sources.

Intermediate administrative level:	Intermediate administrative levels may be defined differently in different countries. For the purpose of this document, an intermediate level is the public health administrative level below the national level that is responsible for conducting preliminary investigations and implementing responses to reported public health events or suspected outbreaks in a given jurisdiction. The intermediate level may otherwise be referred to as districts or counties, among other terms.
Local administrative level:	Local administrative levels may be defined differently in different countries. For the purpose of this document, a local administrative level is the lowest administrative division within a country, directly above the community level.
One Health:	An approach to address a shared health threat at the human-animal-environment interface based on collaboration, communication, and coordination across all relevant sectors and disciplines, with the ultimate goal of achieving optimal health outcomes for both people and animals. A One Health approach applies to the local, regional, national, and global levels.
Outbreak:	A disease outbreak is the occurrence of cases of disease in excess of what would normally be expected in a defined community, geographical area or season. An outbreak may occur in a restricted geographical area or may extend over several countries. It may last for a few days or weeks, or for several years. A single case of a communicable disease long absent from a population, or caused by an agent (e.g. bacterium or virus) not previously recognized in that community or area, or the emergence of a previously unknown disease, may also constitute an outbreak and should be reported and investigated.
Reporting:	The process by which health events and health risks are brought to the knowledge of the health authorities.
Response:	Any public health action triggered by the detection of a public health risk (e.g. monitoring of the event, information of the public, triggering field investigation and/or implementation of any control or mitigation measures). The nature of the response will have to be adapted according to the nature of the public health risk.
Risk:	The likelihood of an event resulting in negative consequences for public health.

Risk assessment:	A systematic process for gathering, assessing and documenting information to assign a level of risk to human health to an event. Risk assessment is conducted as part of an investigation of an event.
Risk characterization:	According to WHO, once a risk assessment team has carried out hazard, exposure, and context assessments of an event, a level of risk should be assigned. This process is called risk characterization.
Signals:	Patterns of disease or other information considered by the Early Warning and Response system as representing potential acute risk to human health, such as an outbreak. All signals may not become events and as such need to be triaged and verified before a response is initiated. Signals may consist of reports of cases or deaths (individual or aggregated), potential exposure of human beings to biological, chemical or radiological and nuclear hazards, or occurrence of natural or man-made disasters.
Surveillance:	Is the ongoing systematic collection, analysis, and interpretation of health data essential to the planning, implementation, and evaluation of public health practice, closely integrated with the timely dissemination of these data to those who need to know.
Triage:	The process of screening out the data and information that are relevant for early detection purposes (i.e., the screening out of mild/irrelevant events from potential acute public health events, and the cleaning to eliminate duplicates and correct obvious mistakes).
Verification:	In the context of the IHR (article 1): "[…] the provision of information by a State Party to WHO confirming the status of an event within the territory or territories of that State Party". Under the IHR, all State Parties are required to provide verification upon request by WHO within a limited time period. In the current document, verification is also the pro-active cross-checking of the validity (veracity) of the signals collected by Early Warning and Response, by contacting the original source, additional sources, or by performing field investigation. Verification requires that hoaxes, false rumors, and artefacts are eliminated from further consideration.

INTRODUCTION

Event-based surveillance (EBS) is defined by the WHO as the organized collection, monitoring, assessment and interpretation of mainly unstructured ad hoc information regarding health events or risks which may represent an acute threat to health. EBS may allow for the recognition of emerging or re-emerging public health threats because it is not disease-specific, requires immediate reporting, and is highly sensitive and broad. For EBS, information can come from any source, including the community, media, healthcare workers, pharmacies and non-governmental organizations. This information, termed a signal, needs to be triaged and verified before the signal becomes an event. An event is an occurrence that could be a public health threat.

Implementation of EBS in health facilities and communities requires public health authorities at the intermediate level of a public health surveillance system to be trained to analyze the reports that they receive from those communities and health facilities in their jurisdiction. These individuals would also be required to organize and conduct supportive supervision and EBS training for communities and health facilities in order to create a local network of EBS collaborators. Additionally, since reporting does not require laboratory results and relies on clinicians' experiences, EBS in health facilities and communities may be practical and simple to establish and sustain. This type of surveillance can be readily extended to private practices or health facilities that may not participate in routine reporting through traditional surveillance.

Purpose

The Intermediate-Level Event-Based Surveillance Training Module will provide public health authorities at the intermediate-level with the knowledge, skills, and tools necessary to effectively implement EBS in the health facilities and communities in their jurisdiction. The module will additionally help you plan, organize and deliver EBS trainings at the community and health facility levels, to organize and conduct supportive supervisory visits, and to maintain regular contact with supervisees.

This module is divided into eleven sessions, including a pre- and a post-test to set the baseline knowledge of participants on EBS and to check the progress after the module, respectively.

General Objectives

By the end of this training module, participants will have the skills, knowledge, and resources to complete the following tasks:

- Supervise and conduct effective EBS activities in the health facilities and communities in their jurisdiction in line with the routine surveillance strategy, and
- Contribute to the flow of surveillance-related information between the community level and the existing public health surveillance system.

INTERMEDIATE-LEVEL EVENT-BASED SURVEILLANCE TRAINING

DAY 1

SESSION	ACTIVITIES	TIME
1. Welcome and Introductions	Icebreaker	15 minutes
2. Training Objectives, Pre-Test, and Agenda	Agenda Pre-test	30 minutes
3. Event-Based Surveillance Overview ▶ Why is Event-Based Surveillance Important?	Lecture Small group exercise	50 minutes
4. List of Signals for Event-Based Surveillance In-Country: Signals for Community-Based Surveillance and Health Facility Event-Based Surveillance	Lecture	35 minutes
5. Functions of Event-Based Surveillance at the Intermediate Level ▶ Conducting Triage, Verification, and Risk Assessment	Lecture Case study	80 minutes
6. How to Record Data for Event-Based Surveillance ▶ How to Record Event Data in the District Logbook	Lecture Case study	60 minutes
Intermediate-Level Event-Based Surveillance Training Day 1		**Total 4.5 hours**

DAY 2

SESSION	ACTIVITIES	TIME
Review of Day 1		30 minutes
7. Flow of Information	Lecture Group discussion	30 minutes
8. Supportive Supervision	Lecture Role-play	75 minutes
9. Multisectoral Collaboration	Lecture Q&A discussion	45 minutes
10. How to Train Others on Community-Based Surveillance and Health Facility Event-Based Surveillance	Lecture	60 minutes
11. Training Review, Post-Test, and Close	Post-test	30 minutes
Intermediate-Level Event-Based Surveillance Training Day 2		**Total 4.5 hours**

SESSION 1

WELCOME AND INTRODUCTIONS

Purpose

- Getting to know each other
- Group formation

Total time: 15 minutes

Introductions

Please answer the following questions and share your answers with those in your group.

- What is your name and where do you work?
- What two things do you enjoy most about the work you do?
- What is one expectation you have for this training?
- What two core values or ground rules should the group have during this training?

Ask questions

Ask any questions that you may have regarding expectations for the training and the ground rules.

SESSION 2

TRAINING OBJECTIVES, PRE-TEST, AGENDA

Purpose

- Understand the objectives, content, agenda, logistics, and materials for the training
- Test your current knowledge of event-based surveillance implementation in health facilities and communities

Total time: 30 minutes

Review the content of this activity

Review the training objectives, content and agenda by listening to the lecture and taking notes on the slides below.

Agenda

SESSION	ACTIVITIES	TIME
1. Welcome and Introductions	Icebreaker	15 minutes
2. Training Objectives, Pre-Test, and Agenda	Agenda Pre-test	30 minutes
3. Event-Based Surveillance Overview ▸ Why is Event-Based Surveillance Important?	Lecture Small group exercise	60 minutes
4. List of Signals for Event-Based Surveillance In-Country: Signals for Community-Based Surveillance and Health Facility Event-Based Surveillance	Lecture	35 minutes
5. Functions of Event-Based Surveillance at the Intermediate Level ▸ Conducting Triage, Verification, and Risk Assessment	Lecture Case study	80 minutes
6. How to Record Data for Event-Based Surveillance ▸ How to Record Event Data in the District Logbook	Lecture Case study	60 minutes
Intermediate-Level Event-Based Surveillance Training Day 1		Total 4.5 hours

3

Agenda

SESSION	ACTIVITIES	TIME
Review of Day 1		30 minutes
7. Flow of Information	Lecture Group discussion	30 minutes
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10. How to Train Others on Community-Based Surveillance and Health Facility Event-Based Surveillance	Lecture	60 minutes
11. Training Review, Post-Test, and Close	Post-test	30 minutes
Intermediate-Level Event-Based Surveillance Training Day 2		Total 4.5 hours

4

Ground Rules

- Switch your mobile phone to silent mode/no side conversations
- Respect others and their opinions
- If something is not clear, do not hesitate to ask
- Participate actively and contribute with your own experience
- Different opinions are welcomed and valued

5

Complete the pre-test

The purpose of this test is to assess your knowledge, understanding, and application of event-based surveillance. Your facilitator will distribute the test for you to complete.

Ask questions

Ask any questions that you may have regarding the training objectives, content, or agenda.

SESSION 3

EVENT-BASED SURVEILLANCE OVERVIEW

Purpose

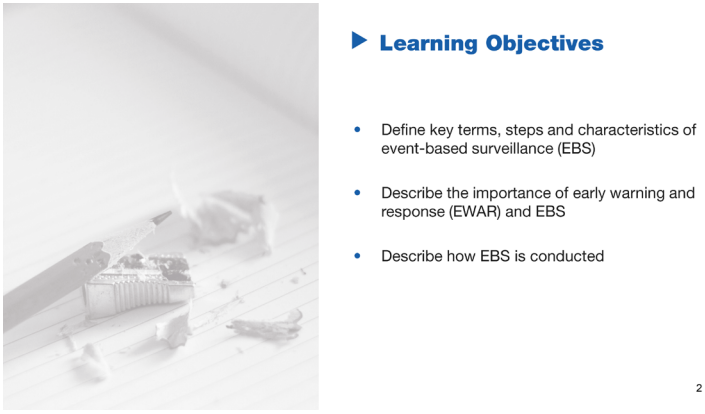
- Define key terms, steps and characteristics of EBS
- Describe the importance of EWAR and EBS
- Describe how EBS is conducted

Total time: 50 minutes

View the presentation

Learn the importance of EBS, key theoretical aspects, and the role public health authorities at the intermediate-level play by listening to the lecture and taking notes on the slides below.

Detailed lecture notes can be reviewed after the presentation in Appendix E: Notes for Session 3: Event-Based Surveillance Overview.

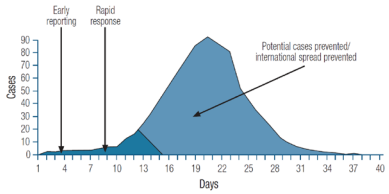


Early Warning and Response (EWAR)

- The organized mechanism for the early detection of public health events requiring rapid investigation and response, in order to ensure that events of all origins are rapidly detected and controlled
- Embedded in overall surveillance
- Relies on two main channels of information: indicator-based surveillance (IBS) and event-based surveillance (EBS)

4

Early Outbreak Detection Can Result in Rapid Response



Source: The World Health report 2007; a safer future, global public health security in the 21st century. (2008). Scitech Book News, 32(1). Retrieved from http://search.proquest.com/docview/200164111/

5

Indicator-Based Surveillance (IBS)

“The systematic (regular) collection, monitoring, analysis and interpretation of **structured data**, i.e., of indicators produced by a number of well-identified, mostly health-based, formal sources”

6

Event-Based Surveillance (EBS)

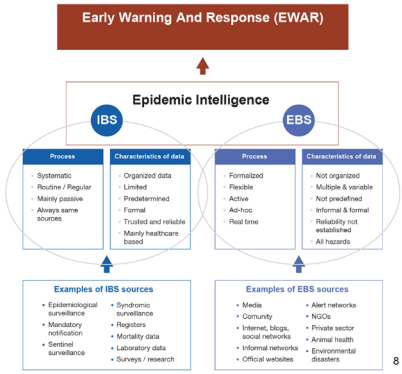
"The organized collection, monitoring, assessment and interpretation of mainly ***unstructured ad hoc information*** regarding health events or risks, which may represent an acute risk to human health"

Data for EBS systems can originate from a variety of sources, including:

- Community residents
- Health facilities
- News reports of deaths causing public anxiety
- Schools
- Animal and environmental sectors

7

EWAR, IBS, and EBS



Source: World Health Organization. (2014). *Early detection, assessment and response to acute public health events: Implementation of Early Warning and Response with a focus on Event-Based Surveillance (Interim version). WHO.* Retrieved March 9, 2020, from https://www.who.int/ihr/publications/WHO_HSE_GCR_LYO_2014.4/en/

8

IBS and EBS Processes

IBS	EBS
• Systematic • Routine / Regular • Mainly passive • Always the same sources	• Formalized • Flexible • Active • Ad-hoc • Real time

9

IBS and EBS Main Characteristics

IBS	EBS
• Specific case definitions • Disease-specific • Immediate, weekly, or monthly reporting • Facility-based • Trigger: Pre-defined thresholds • Best for seasonal endemic disease (seasonal flu, dengue etc.) • May be slow to respond	• Broad signal • Not disease-specific • Immediate reporting • Unstructured: Reports can enter from anywhere (community, hospitals, etc.) • Best for localized outbreaks, emerging pathogens, areas with poor healthcare access • Rapid response

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Sources of Information for EBS at the Intermediate Level

- Community (key informants, health volunteers, community members, etc.)
  Also referred to as community-based surveillance (CBS)
- Health facilities (healthcare workers such as clinicians, nurses, infection control officers, etc.)
  Also referred to as health facility event-based surveillance (HEBS)

11

What is CBS?

"The systematic detection and reporting of events of public health significance within a community by community members" (France, 2019)

- This definition encompasses the detection and reporting of events
- This module will employ the term CBS as it is defined above

Guerra, J., Bayugo, Y., Acharya, P., Adjabeng, M., Bamadas, C., Bellizzi, S., ... Cognat, S. (2019). A definition for community-based surveillance and a way forward: Results of the who global technical meeting, France, 26 to 28 June 2018. Eurosurveillance. https://doi.org/10.2807/1560-7917.ES.2019.24.2.1800681

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What is HEBS?

- HEBS is event-based surveillance (EBS) that is conducted in health facilities
- A health facility is any establishment that is engaged in direct, on-site patient care
- Healthcare workers such as physicians, nurses, etc., are the primary reporters detecting and reporting signals that may be predictive of an emerging event

13

What is a signal?

A signal is an observation that may represent an event occurring in a population including:

- A pattern, such as a cluster of cases with similar illnesses
- Something that is unusual, such as treatment failure on a standard drug regimen

14

What is an event?

An event is an occurrence that can threaten public health. An event can be:

- A single case of disease in some settings
  - Notifiable diseases, e.g. cholera
  - Diseases under elimination, e.g. polio
- Clusters/outbreaks
- Unusual diseases such as drug-resistant tuberculosis

15

Functions of EBS

Source: Africa CDC. (2018). *Africa CDC event based surveillance framework*. Addis Ababa: African Union.

16

Signal Detection

- Detecting a signal means identifying or suspecting the occurrence of one of the pre-determined signals designated by national public health authorities
- Signals can be detected from various sources, including communities and health facilities

17

Signal Reporting

- Reporting signals means communicating this information to a designated public health authority
- All signals that are detected must be reported immediately

18

Triage

- Sorting of information into “likely to be relevant” or “not likely to be relevant” for early warning and response (EWAR)
- Enables identification of real events

19

Verification

- Confirms the authenticity of the signal (is the information true or false?)
- May need additional information

20

Verification

- Not all signals become events
- Signals that are triaged and verified as true become events
- Verification must take place within 24 hours of initial signal detection

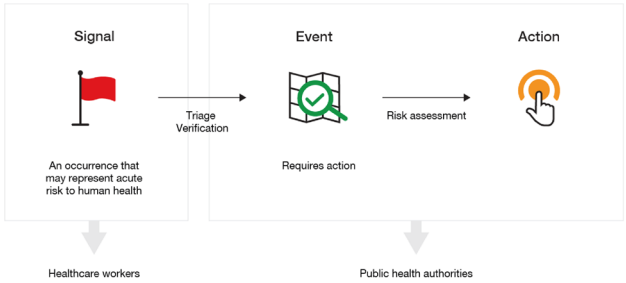
21

Risk Assessment (RA)

- RA is done after an event is confirmed
- RA means determining the level of risk of an event to human health and the appropriate level of investigation and response
- Intermediate/national-level public health authorities should lead RA
- Initial RA of an event must take place within 48 hours of original signal detection

22

Signals and Events



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Summary

- Early detection is key to control the spread of disease
- EWAR detects public health events early
- IBS and EBS form epidemic intelligence, and are EWAR components
- Data from EBS can come from a variety of sources
- EBS is an all hazards approach

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Participate in the small-group exercise

Return to the same groups formed during the introductory icebreaker activity to complete the small-group exercise below.

Answer the following questions on the prepared flipchart or in the space below:

Q1: How do you currently conduct surveillance in your jurisdiction?	**Q2:** What is EBS?
Q3: Do you know the purpose and importance of EBS? Why is it important?	**Q4:** What is the value of adding EBS to the current surveillance?

Ask questions

Ask any questions that you may have regarding the content.

Now that we have some ideas about what EBS is, why it is important, and how it should be conducted at the intermediate level, we will start Session Four focused on how to identify signals for detection.

SESSION 4

LIST OF SIGNALS FOR EVENT-BASED SURVEILLANCE IN-COUNTRY: SIGNALS FOR COMMUNITY-BASED SURVEILLANCE AND HEALTH FACILITY EVENT-BASED SURVEILLANCE

Purpose

- Define signals and events
- Identify differences between signals and events
- Describe CBS and HEBS signals in your country

Total time: 35 minutes

View the presentation

Learn about signals for CBS and HEBS in-country by listening to the lecture and taking notes on the slides below.

Detailed lecture notes can be reviewed after the presentation in Appendix F: Notes for Session 4: Signals for Community-Based Surveillance and Health Facility Event-Based Surveillance.

What is a signal?

A signal is an observation that may represent an event occurring in a population. This may include:

- A pattern, such as a cluster of cases with similar illnesses
- Something that is unusual, such as treatment failure on a standard drug regimen

3

What is an event?

An event is an occurrence that can threaten public health. An event can be:

- A single case of disease in some settings
  - Notifiable diseases, e.g. cholera
  - Diseases under elimination, e.g. polio
- Clusters/outbreaks
- Unusual diseases such as drug-resistant tuberculosis

4

Examples of Signals and Events

Signal	Event
• A critical care physician hospitalized with a severe respiratory illness with travel history to Saudi Arabia	• A suspected case of MERS
• Siblings (3) are admitted with severe dehydration and profuse diarrhea	• A cluster of suspect cholera cases
• A case of typhoid fever with failure to respond to ceftriaxone treatment	• A suspected case of extensively drug-resistant (XDR) typhoid fever
• A 4-year-old child admitted with fever, rash, coughing, coryza, and conjunctivitis	• A suspected case of measles

5

Examples of Signals for HEBS

- Any severe illness in health staff after taking care of a patient with similar illness
- Large, sudden increases in admission for any severe illness of the same type
- Any severe, unusual, unexplainable illness including a failure to respond to standard treatment

6

Examples of signals for CBS

- Two or more cases of people presenting with similar severe signs/symptoms from the same community, school, or workplace within one week.
- A cluster of unexplained animal deaths within one week.
- An illness with novel or rare symptoms (NB: Novel and rare can be explained as signs/symptoms that the community has not seen before)
- Any person with fever and rash

7

List of Signals for CBS

Adapt the list of signals pre-determined by national public health authorities in each country

- TBD
- TBD
- TBD
- TBD
- TBD
- TBD

8

List of Signals for HEBS

Adapt the list of signals pre-determined by national public health authorities in each country

- TBD
- TBD
- TBD
- TBD
- TBD
- TBD

9

Summary

- Signal detection is key for EBS
- A list of pre-determined signals for CBS and HEBS is necessary to guide signal detection

10

Ask questions

Ask any questions that you may have regarding the content.

A signal is a pattern or an unusual occurrence that may be an event representing a threat to public health.

Each country should elaborate a list of signals for CBS and HEBS. These will guide signal detection in communities and health facilities.

SESSION 5

FUNCTIONS OF EVENT-BASED SURVEILLANCE AT THE INTERMEDIATE LEVEL

Purpose

- Recognize the functions of EBS at the intermediate level
- Describe triage, verification and risk assessment at the intermediate level
- Identify signals relevant to EWAR by conducting triage
- Verify authenticity and conformity of triaged signals
- Conduct risk assessment to categorize the overall risk of events

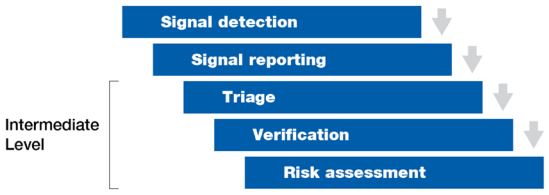
Total time: 80 minutes

View the presentation

Learn the functions of EBS at the intermediate level by listening to the lecture and taking notes on the slides below.

Detailed lecture notes can be reviewed after the presentation in Appendix G: Notes for Session 5: Functions of Event-Based Surveillance at the Intermediate Level.

Functions of EBS



Source: Africa CDC. (2018). *Africa CDC event based surveillance framework*. Addis Ababa: African Union.

3

EBS Functions at the Intermediate Level

- Public health authorities at the intermediate level may receive EBS-related information in the form of signals or events from a variety of sources, including communities and health facilities
- Regardless of the source of EBS information, the functions of EBS implementation that take place at the intermediate level are triage, verification, and risk assessment

4

EBS Functions at the Intermediate Level

Source of information	EBS function
• Community	• Risk assessment
• Health facility	• Triage • Verification • Risk Assessment

5

Triage

- Public health authorities at the intermediate level may receive signals from health facilities conducting health facility EBS, or HEBS
- Because of its high sensitivity, EBS is likely to generate signals from non-events
- When authorities receive information about a reported signal, they conduct triage
- Triage: The process of screening out the data and information that are relevant for early detection purposes

6

Triage

Is the reported information relevant to early warning (i.e., could this signal be a genuine public health event)?

Was this signal previosly reported (i.e., is this signal a duplicate)?

7

Verification

- Intermediate-level authorities receiving signals from health facilities must also verify these signals before they are determined to be events
- Verification is the determination that a signal is valid (i.e. it is not a false alarm or a false rumor), reliable, and that it corresponds to at least one of the signals pre-defined for EBS implementation
- Verification must take place within 24 hours of initial signal detection

8

Verification

- The result of verification is the confirmation that a signal is true or false. Once a signal is verified, it becomes an event
  An event is an occurrence that can threaten public health
- If confirmed as an event, information related to the event must be entered into a logbook or registered at the intermediate level

9

How to Determine the Outcome of Signal Verification

Discard if...

- Report is a hoax or a false rumour
- Information has been reported by an unreliable source (e.g., by word of mouth)
- Report does not meet signal signals

Confirm as an event if...

- Information is accurate and true
- Report meets criteria for one or more signals
- Information has been reported by a credible source or sources (e.g., CHV, hospital focal point, or key informants)

10

Risk Assessment

- Risk assessment (RA) is done after an event is confirmed
- RA is the systematic process of gathering, assessing and documenting information to assign a level of risk to human health to an event
- Regardless of the source of the information, a risk assessment should be carried out at the intermediate level and, if relevant, at the higher levels as well

11

Risk Assessment

- Public health authorities evaluate all available information and then assess or characterize the level of risk that the situation poses to public health
- The first risk assessment of an event must take place within 48 hours of the detection of one or more signals

12

Processes and Possible Outcomes of RA

No investigation required if...

- Report is a rumour

Monitor if...

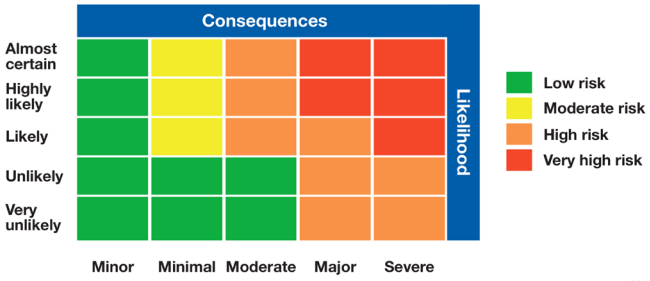
- Report is verified as true
- Mortality/morbidity is as expected for the disease
- Severity of cases is low

Investigate /respond if...

- Report is verified as true
- Mortality/morbidity is higher than expected
- The disease is unexpected/novel to the community
- There are possible consequences to trade and/or travel
- Severity of cases is high or higher than expected for the disease
- The public health event creates major panic in the community
- The number of cases is increasing

13

Risk Characterization Matrix



14

Interpretation of Risk Level

Low risk	Managed according to standard response protocols, routine control programs and regulation (e.g. monitoring through routine surveillance systems)
Moderate risk	Roles and responsibility for the response must be specified. Specific monitoring or control measures required (e.g. enhanced surveillance, additional vaccination campaigns)
High risk	Senior management attention needed: there may be a need to establish command and control structures; a range of additional control measures will be required some of which may have significant consequences
Very high risk	Immediate response required even if the event is reported out of normal working hours. Immediate senior management attention needed (e.g. the command and control structure should be established within hours); the implementation of control measures with serious consequences is highly likely

15

Summary

- Public health authorities at the intermediate level may receive EBS-related information in the form of signals or events from communities and health facilities
- The intermediate level will conduct only RA for all events reported through CBS, and triage, verification and RA for all signals reported through HEBS
- The intermediate level should report all events and RA results to the corresponding upper administrative level

16

Participate in the small-group exercise

Complete the interactive case study exercise in groups of up to 10 participants. Start by reviewing the case study assigned to your group, then answer the questions that follow.

Refer to Appendices A and B for the EBS verification and risk assessment tools.

Case 1: Cluster of a gastrointestinal disease in the community

Scenario description

One morning, Dr. Fasso, a surveillance officer at the intermediate level, received a call from Khady Diallo, the local-level supervisor in the village of Butumba. Ms. Diallo told him that she was informed by a CHV that five sick persons (two children and three adults) were taken to a traditional healer after they fell ill with the same symptoms. Ms. Diallo informed Dr. Fasso that all five persons had attended a wedding ceremony at a neighboring village the day before, had eaten from the same bowl with their hands, and had drunk water from the same cup. Around 12 hours later, all became ill with severe vomiting and abdominal pain. All of them were attended to in the local clinic and received intravenous fluid therapy to treat moderate dehydration. The two children were referred to the nearest hospital because their clinical condition did not improve. The youngest (4 years old) died two hours ago.

Questions: Complete the following questions using the triage, verification, and risk assessment tools.

1. Is this information reported by the CHV a signal? Why?

2. If this information is a signal, who should conduct the triage?

3. Describe how the triage should be conducted for this case scenario.

4. If the signal is not a duplicate and is relevant to EWAR, what is the next step?

5. Who should verify this signal?

6. How should signal verification be conducted?

7. If the signal has been verified as an event, what is the next step?

8. Once the event has been reported, what is the next step? Please explain.

9. Who should conduct the initial risk assessment?

10. Describe how the initial risk assessment should be conducted.

11. What should the decision of the risk assessment team be after evaluating the event and available information?

Case 2: Sudden bleeding and multi-organ failure in a pregnant woman

Scenario description

Dr. Chan, a surveillance officer, received a call from the HEBS focal point at the county hospital. The call was from Dr. Xi who reported that 2 days earlier, a 23-year-old pregnant woman (in her 3rd trimester) had been admitted to the emergency room with a fever, general malaise, weakness, headache, vomiting and shortness of breath. A chest X-ray revealed bilateral lobar pneumonia. A standard pneumonia treatment plan was initiated. The patient developed bleeding in the gums and nose 5 hours after being admitted, and her clinical condition worsened with facial swelling and pain in the chest, back, and abdomen. She has been transferred to the intensive care unit (ICU). In spite of adequate treatment, the patient has developed shock and multi-organ failure. The head of the ICU reported the case to the HEBS focal point as a signal because he thinks the patient presents unusual clinical manifestation and failed to respond to standard therapy.

Questions: Complete the following questions using the triage, verification, and risk assessment tools.

1. Is this case a signal? Why?

2. If this information is a signal, who should conduct the triage?

3. Describe how the triage should be conducted.

4. If the signal is not a duplicate and is relevant to EWAR, what is the next step?

5. Who should verify this signal?

6. How should signal verification be conducted?

7. If the signal has been verified as an event, what is the next step?

8. Once the event has been reported, what is the next step? Please explain.

9. Who should conduct the initial risk assessment?

10. Describe how the initial risk assessment should be conducted.

11. What should the decision of the risk assessment team be after they evaluate the event and information available?

Ask questions

Ask any questions that you may have regarding the content.

SESSION 6

HOW TO RECORD DATA FROM EVENT-BASED SURVEILLANCE

Purpose

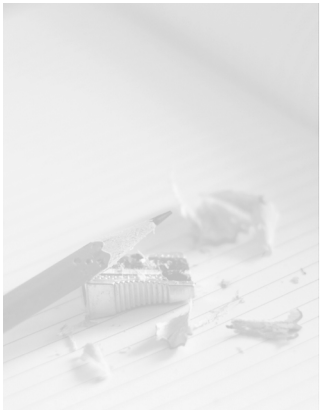
- Describe the importance of EBS data recording at the intermediate level
- Record EBS data from health facilities and communities at the intermediate level using an example of an event logbook, the IDSR District Log of Suspected Outbreaks and Rumors

Total time: 60 minutes

View the presentation

Learn how to record EBS data at the intermediate level by listening to the lecture and taking notes on the slides below.

Detailed lecture notes can be reviewed after the presentation in Appendix H: Notes for Session 6: Event-Based Surveillance Data Recording at the Intermediate Level.



Learning Objectives

- Describe the importance of EBS data recording at the intermediate level
- Record EBS data from health facilities and communities at the intermediate level using an example of an event logbook, the IDSR District Log of Suspected Outbreaks and Rumors

2

Data Recording

- EBS data recording is important for reporting purposes
- Public health authorities at the intermediate level should be able to record EBS data from health facilities and communities using a tool that enables the collection of event data

3

Recording EBS Data Reported by the Community and Health Facilities

- The intermediate-level should only record events reported from the community level or events verified by the intermediate level from signals reported by health facilities
- Event data should be registered in a logbook that incorporates the recording of events, such as the IDSR District Logbook of Suspected Outbreaks and Rumors

4

IDSR District Log of Suspected Outbreaks and Rumors

Record verbal or written information from health facilities or communities or social media about suspected outbreaks, alerts or reports of unexplained events. Record the steps taken and any response activities carried out.

Condition or Disease or Event	Source of suspected outbreak or rumour (newspaper, telephone etc.)	Number of cases initially reported	Number of deaths initially reported	Location (health centre)	Date district was notified	Date suspected outbreak was investigated by the district	Result of district investigation (Confirmed, Ruled Out, or Unknown)	Date outbreak began

5

IDSR District Log of Suspected Outbreaks and Rumors

Date onset of index case	Date crossed threshold or first cluster	Date a case was first seen at a health facility	Date specific intervention began	Type of concrete intervention that was begun	Date on which district notified national level of the outbreak	Date district received national response	Comment (include if sample taken and results)	Name and signature

6

Summary

- The intermediate level should record all events that are reported and verified from health facilities and communities
- Event data should be registered in a logbook that incorporates the recording of events, as soon as they are reported or verified

7

Participate in the small-group exercise

Complete this exercise by returning to the case studies presented in Session 5 and answer the questions, below. You should also refer to the IDSR District Log of Suspected Outbreaks and Rumors in Appendix C.

Answer the following questions as a group:

- Did you have all the information you needed to complete the IDSR District Log of Suspected Outbreaks and Rumors?
- List what additional information would be helpful to complete it.
- Describe how completing this case study will help you better conduct EBS at the intermediate level.

Ask questions

Ask any questions that you may have regarding the content.

Event data should be registered in a logbook that incorporates the recording of events, such as the IDSR District Logbook of Suspected Outbreaks and Rumors as soon as they are reported by communities or health facilities.

SESSION 7

FLOW OF INFORMATION

Purpose

- Identify when information should be reported up administrative levels
- Describe how information should be reported up administrative levels
- Explain the importance of feedback to reporters in communities and health facilities

Total time: 20 minutes

Participate in the small-group exercise

Return to the same groups formed during the introductory icebreaker to complete the interactive case study exercise below.

Answer the following questions on prepared flipchart paper or in the space provided:

Q1: When should information be reported up administrative levels? Why?	**Q2:** How should information be reported up administrative levels? Why?
Q3: Why is feedback back to reporters in communities and health facilities important?	

Ask questions

Ask any questions that you may have regarding the content.

SESSION 8

SUPPORTIVE SUPERVISION

Purpose

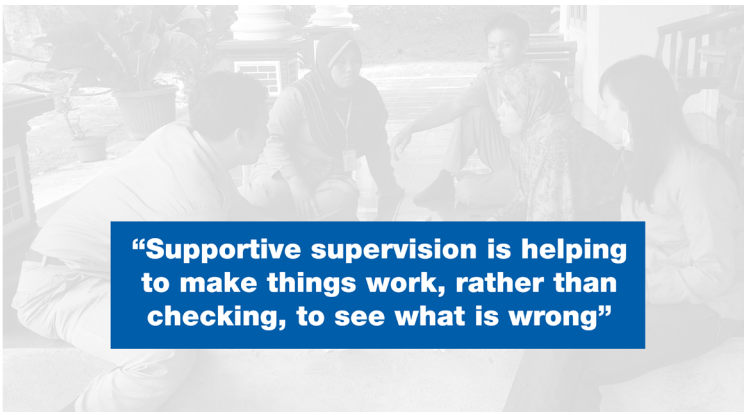
- List the supportive behaviors to improve commitment and performance
- Identify the most suitable supportive behavior according to circumstances
- Demonstrate how to use supportive behaviors in practice

Total time: 60 minutes

View the presentation

Learn how to provide supportive supervision to supervisees by listening to the lecture and taking notes on the slides below.

Detailed lecture notes can be reviewed after the presentation in Appendix J: Notes for Session 8: Supportive Supervision.



Why Is It important?

- It can increase staff capacity to collect, manage, and use data
- It helps staff to improve their own work performance continuously
- It helps to establish a collaborative working environment
- It facilitates understanding of common goals
- It is carried out in a respectful and non-authoritarian way with a focus on using supervisory visits as an opportunity to improve knowledge and skills of health staff
- It encourages open, two-way communication, and team-building approaches that facilitate problem-solving

4

Comparison of Two Supervision Approaches

Non-Supportive Supervision	Supportive Supervision
• Focus is on finding faults with individuals • Supervisor is like a policeman • Episodic problem-solving • Little or no follow-up • Punitive actions intended	• Focus is on improving performance and building relationships • More like a teacher, coach or mentor • Uses local data to monitor performance and solve problems • Follows up regularly • Only support is provided

World Health Organization. (2008). Training for mid-level managers (MLM). 4. Supportive Supervision. Geneva.

5

The Three 'Rs' for Effective Supportive Supervision

- Right supervisors: A core set of supervisors, well trained on supportive supervision techniques and with updated information and skills on EBS issues
- Right tools: Availability of training materials and job aids to update skills of health workers during supervision visits, and checklists and forms for recording recommendations and follow up
- Right resources: Sufficient vehicles, per diems, and time allocated for supervision and follow-up

6

Supportive Supervision Techniques to Improve Commitment and Performance

- Supervision should be facilitative, not fault-finding
- Always praise work well done before raising problems
- If you see a problem, check if the supervisee sees the same problem
- Analyze problems with the supervisee to gain a good understanding of the underlying causes
- Let the supervisee suggest possible solutions; this facilitates ownership and acceptance of the solutions

7

Conducting a Supportive Supervisory Visit

- Observation
- Use of data
- Problem-solving
- On-the-job training
- Recording observations and feedback

8

Summary

- Supportive supervision is important to improve performance and commitment
- Plan for supervisory visits
- During the visits: adopt supportive supervision techniques
- After the visits: follow-up and regular contact

9

Participate in the small-group exercise

Practice supportive supervision techniques by role-playing the four different scenarios below.

Scenario 1: CBS local-level supervisors are not conducting triage correctly

Context

Dr. Gonzales is the surveillance officer in charge of District X. His district is the largest in the country, including 50 communities with a total population of 10,000 inhabitants. Since EBS has been introduced in the country, it has been well integrated into the national IBS system. During the first three months of the implementation of EBS, Dr. Gonzales was able to train at least one person in each community and recommended that this person organize a cascade training, or at least instruct one person among the staff about EBS. Dr. Gonzales has also conducted at least one supervisory visit in each of the communities in his district. However, in the last month, due to important meetings on surveillance at the national level, he has been out of his office and left his deputy, Dr. Gomez, in charge.

Upon his return, Dr. Gonzales calls Dr. Gomez for a debrief of any important issues during his absence. Dr. Gomez is a medical doctor particularly interested in epidemiological surveillance and EBS, which he finds fascinating. During the debriefing, Dr. Gomez immediately reports on the EBS activity, pointing to one community in particular. He thinks that something is going on in that community and that the reports of Mr. Linera, the point of contact for that community, have been strange and inconsistent lately. It seems that the same report on a number of diarrhea cases had been sent twice, and the name of the school where the cases occurred was the same, indicating two different events. Dr. Gonzales asks Dr. Gomez whether he had undertaken any actions to explore that situation, but Dr. Gomez replies that he has not, as he prefers to discuss this with Dr. Gonzales before taking action.

After the debriefing, Dr. Gonzales calls Mr. Linera on the phone to ask if everything is fine. Mr. Linera sounds unwell and says that he has been in bed for the last week with the flu. He says that he has delegated all his tasks, including EBS, to another person, Mrs. Chavez, and that she had reported nothing unusual in the last week.

Dr. Gonzales wishes Mr. Linera a quick recovery and agrees to visit him the week after.

The following week, Dr. Gonzales, together with Dr. Gomez, organizes a supervisory visit to Mr. Linera.

When they arrive to Mr. Linera's community, Mr. Linera is waiting for them at the post office. They go to Mr. Linera's house together and his wife prepares coffee for everybody. Mr. Linera, still recovering from his illness, calls Mrs. Chavez to join them.

Mr. Linera is a very organized man and very well respected in his community. He had appointed Mrs. Chavez to his tasks as she was his cousin's wife and had also lived in that community for a long time. Mr. Linera had shared the EBS training material with her and they had gone through the training together to make sure that everything was clear. Mrs. Chavez was very precise and attentive, and she could rely on a number of CHVs in the community that she knew personally.

Role-play starts during tea at Mr. Linera's house

Instructor presents: Mr. Linera, his wife, Dr. Gonzales, Dr. Gomez, Mrs. Chavez

Mr. Linera: Thanks a lot for coming all the way here, it's always an honor to have you both in my small community.

Dr. Gonzales: Thanks a lot, Mr. Linera, it's always a pleasure to be here.

After a small round of pleasantries, Dr. Gonzales starts exploring the situation discretely to understand what has happened.

Dr. Gonzales: As you know, I was away for a week but wanted to see how you are doing. Is everything okay with EBS? How have you managed the situation during the week that you were sick? Was Mrs. Chavez in charge?

Mr. Linera: Yes, indeed, Mrs. Chavez has always covered in my absence. Is there any problem?

Mrs. Chavez looks nervous, and it is clear that she wants to say something. She realizes that Dr. Gonzales has invited her to intervene.

Mrs. Chavez: Dr. Gonzales, first I really wanted to thank you for your visit, EBS is a very interesting activity, and I am very proud to be part of the team. It has also been an excellent opportunity to be in very close contact with the community. There is something I actually wanted to report myself, as in the last week we have received information about a certain number of diarrhea cases in a small village nearby. The CHV in charge of that part of the community is relatively new, and I am not sure that he reported correctly.

Dr. Gomez: Now that you mention that, I have to say that we had noticed that small inconsistency and that is actually one of the reasons for our visit. What do you think was the problem?

Mrs. Chavez: I am not sure, the only thing I could think of was that there is a new CHV in that community and I wanted to pay a visit to his neighborhood to check if he's doing well.

Mr. Linera: Mrs Chavez, is there a way to call this CHV and ask him to join us here to understand together what happened?

Mrs. Chavez: Sure, let me call him.

Mrs. Chavez talks on the phone with the CHV who agrees to join the meeting.

CHV: Good morning everybody. Sorry I am late.

Mr. Linera: No problem, it's a pleasure meeting you. I've heard that you are new in the community. First, I wanted to thank you for the very important work that you are doing for our community.

CHV: Thanks, Mr. Linera, it's an honor for me to be part of the team. Yes, as you know, I have recently moved here from the other town, and EBS was a very good way to integrate into this community.

I have reported all the unusual things that may happen in my community, sometimes I do not know whether it is relevant, but I report them anyway. Last week, for instance, I heard that in the school where my son goes there were 10 cases of diarrhea, and I thought that it was something to report. Two days later, another of my friends told me that in the same school there were 10 cases of diarrhea, and I reported them. I am afraid I have to go now (and he looks at his watch), I need to go pick up my son at school.

Mr. Linera: Sure, no problem, thanks so much for coming. Keep up the good work that you are doing. We may organize another training session for CHVs soon. Since you were not in the previous one as you have just moved, please make sure that you will attend this one.

CHV: Sure thing, you can count me in.

When the CHV leaves the house, Mr. Linera looks at Dr. Gonzales and Dr. Gomez.

Mr. Linera: Dr. Gonzales, Dr. Gomez, I have to apologize. I just realized what has happened here: there was a problem in the triage as the second report of the CHV is a duplicate. I am really sorry.

Dr. Gonzales: Mr. Linera, not a problem at all, we know that we can trust you, and I am sure that you will organize a training session for the new CHV very soon. If I may give you some advice: if there are not too many new CHVs, perhaps you can just have an individual meeting with each of them and go through the forms together whenever they have something to report. Working with them to show them how, if, and what to report will be very effective.

Mr Linera: Thanks, Dr. Gonzales, for your understanding, for your trust and for your advice. It is an excellent idea.

Questions for the group:

- What do you think of this scenario? Do you think it is possible to have duplicate reporting? Why/why not?
- What if it happened in your jurisdiction? Would your participation in/observation of the role-play help you manage the situation?
- Do you think Mr. Linera and Dr. Gonzales handled this scenario well? Why/why not?
- What would you have done differently and how?

Scenario 2: Health facility is not reporting any signals

Wonderland is a big country with 25 districts, each consisting of an average of 30 health facilities and one hospital. Traditional medicine is still practiced there, though the medical doctors at the health facilities know the local traditional practitioners well and often collaborate with them.

Dr. Jain is the District Medical Officer of District Lake, which is the biggest district in the country. District Lake includes more than 50 health facilities and two hospitals, Hospital A, situated in the North of the district, and Hospital B, in the center of the district. The country has recently undergone a major reorganization, and District Lake has formed as a result of two smaller districts being merged. In the reorganization, Hospital A will be dismantled, but it will take some time as the personnel have to be reassigned and/or absorbed by the other hospital. The process will take at least six months to one year, and for the time being, all the personnel of the two hospitals have been instructed to conduct their routine activity as usual.

Dr. Jain is aware of this situation, and his appointment as Medical Officer of that district was instrumental for this re-organization. His previous experience as Medical Officer at the national level in the Surveillance Department of the Ministry of Health provides him with the professional experience to accept this new appointment.

Dr. Jain is originally from that district, which is one of the reasons why he welcomed this new appointment. The appointment gave him a way to return home, as the capital was becoming too crowded and busy for him. He will be retiring in three years.

At the national level, Dr. Jain was responsible for EBS and would collect all the reports coming from the districts. He organized and delivered EBS training at the district level when EBS was first introduced in the country.

District Lake, or at least each of the former districts constituting what is now called District Lake, was one of the best-performing districts in EBS. They were very timely in their reporting, their triage was always perfect, and their response activities were appropriate for the events detected. He thought that this new appointment was going to be easy.

A couple of weeks into his new appointment, Dr. Jain noticed that some cholera cases being reported by a group of small health facilities in the North of the country were not being fully reported to him. From the reports, the situation looked very serious, and he was surprised that he only knew of their incidence but not pertinent details such as admission to the hospital.

After this incomplete reporting came to his attention, Dr. Jain decided to visit Hospital A as he suspected that with the reorganization, something could have gone wrong.

He called Dr. Chopra, the Medical Officer in charge of Hospital A, but Dr. Chopra's phone number had been disconnected. He then called the Deputy Medical Officer of Hospital A, and after a few attempts, succeeded in reaching Dr. Sharma. Dr. Sharma was a young medical doctor that had been appointed as interim deputy during the transition process, and was in charge of the Infection Control Unit at Hospital B. Dr. Jain managed to set up a visit to Hospital A for the following morning and immediately started organizing his five-hour drive to Hospital A.

The next morning, Dr. Jain went to Hospital A to meet Dr. Sharma, who was waiting for him in his office. Dr. Sharma had a large pile of documents on his desk and looked very busy.

Dr. Sharma: Good morning Dr. Jain, it is such a pleasure meeting you, thank you so much for the visit, I need your help!

Dr. Jain: Dr. Sharma, of course, I am here to assist you. How can I help?

Dr. Sharma: Actually, Dr. Jain, as you know, last year there was a team that came here from the capital to train the medical doctors on EBS. Unfortunately, in this time of transition, most of the doctors have left and accepted other positions in other hospitals in the country. We only have three doctors left, and all of them are overwhelmed with work. In addition, they often do not have time for surveillance, so I am afraid routine surveillance, as well as EBS, has been neglected lately.

Dr. Jain: I understand Dr. Sharma. It is very common, unfortunately, but I am sure they are doing their best to treat the patients and are taking care of their priorities.

Dr. Sharma: That is true Dr. Jain, but I really do not know what to do with routine surveillance and with EBS, that is so important.

Dr Jain: I cannot agree more, of course. Let me think.
After careful consideration, Dr. Jain suggests a possible creative solution that might resolve the issue.

Dr. Jain: Dr. Sharma, what about involving the nurses? Do you think it is possible to create a pool of nurses that might be interested and motivated to contribute to routine surveillance and to EBS?

Dr. Sharma: This is an excellent idea Dr. Jain. Traditionally it was a group of nurses in charge of surveillance here. We could reinstate that tradition, and I am sure that the nurses will be happy to receive that recognition. With your permission, I can immediately call the senior nurse to organize a meeting with all nurses and decide a plan of action together. If I remember correctly, she has already attended training on EBS in the past.

Dr. Sharma calls Mrs. Malik, the senior nurse, on the phone and she arrives to Dr. Sharma's office after 10 minutes.

Dr. Sharma: Mrs. Malik, thanks a lot for coming so quickly. This is Dr. Jain from the district, here to assist us in resuscitating routine surveillance and EBS. He was suggesting that you and your team could be in charge of these two activities again.

Mrs. Malik: I would love to, and though the nurses in my team are new, I would be happy to organize a training for them. I would just need the updated documents and forms, if any, and some help in organizing the logistics. Also, if I may, Dr. Jain, it would be such an honor for us if you could attend. That would help me a lot to motivate the team. Dr. Jain, what do you think?

Dr. Jain: Mrs. Malik, Dr. Sharma, the answer, of course, is yes. I would be extremely happy to contribute, and I'll tell you more. This is the very hospital where I started my career as a medical doctor, before moving to epidemiology and public health. It would also be of sentimental value to do so. Mrs. Malik, Dr. Sharma, with your help the team will be up and running in no time.

The three of them start planning, and the training starts the next day. The nurses are very happy and proud to be in charge of surveillance and EBS again. They know that this new knowledge and experience will be of great value for them in their future career.

Questions for the group:

- What do you think of this scenario? Do you think clinicians frequently neglect reporting surveillance information because they consider it not to be a priority?
- What would you have done differently and how?

Scenario 3: CBS local-level supervisors are incorrectly filling out data

Dr. Abebe is the district supervisor in Mji, a relatively large town in the country. He has 20 villages/communities in his district and EBS has already been implemented for a year or so. He has conducted extensive training sessions, and he knows that he can rely on community leaders and on the health facilities in his territory to conduct EBS well.

It was during Christmas time when reports coming from one particular community (Community A) started looking strange and contradictory. Sometimes the information was recorded twice, clearly a duplication, but other times it was as though there was a miscoding or a misclassification of information. Community A was a small community in the East of the district with a population of about 600. Dr. Abebe remembered that the CHVs in this community participated actively in their training session, and understood EBS well.

Dr. Abebe called Mrs. Umoja the day after he noticed the odd reports. Mrs. Umoja, who was the local level supervisor for EBS, sounded nervous on the phone but agreed to receive Dr. Abebe for a visit two days later.

The visit

Mrs. Umoja was waiting for Dr. Abebe when he arrived in the main square of Community A. They went to Mrs. Umoja's office at the local clinic (she was the general practitioner's assistant in addition to being the local level supervisor) together. There were many patients in the waiting room, mostly mothers with children. It was vaccination week for measles for a special catch-up campaign that the WHO had organized.

Dr. Abebe: Good morning Mrs. Umoja. How are you and how are things over here?

Mrs. Umoja: Doctor, it is such a pleasure to have you here. As you see we are very busy with this vaccination campaign and definitely understaffed, as you know.

Dr. Abebe wanted to be sensitive about the situation and avoid taking too much time of Mrs. Umoja's already busy schedule, so he went straight to the point.

Dr. Abebe: Mrs. Umoja, I notice that some of the EBS reporting forms that you sent me were strange. Knowing how excellent your work normally is, I was wondering whether something had changed.

Mrs. Umoja (looking extremely nervous now): Dr. Abebe, I am really sorry about this. The fact is that during the preparation for this week's vaccination, I delegated the EBS task to a newly hired nurse. I had no time to train her and to show her the forms and the instructions, but at the beginning, I was able to supervise her and double-check the reports before she would send them to you. However, this last week I have been really busy with the vaccination campaign and have been unable to supervise her. I thought that everything was clear and she never complained during the week. She told me that she had sent everything to you.

Dr. Abebe: Indeed, your timeliness in reporting is excellent, and you never miss a week. However, in this last week, some of the signals reported as verified were not true signals, and there was also a duplicate in the reports. That's why I have decided to organize this visit. I understand that it might have been difficult for you to manage all this, and it was a very good idea to involve the newly hired nurse to do the job. I am sure that your supervision was excellent, and I am sure that this is an excellent opportunity for her to learn about EBS and to contribute to improving the health of the population in this community. Perhaps we could meet with her so we can go through the forms together? Then the new nurse could officially replace you in this task. It would be for me an opportunity to meet her and include her in the staff.

Mrs. Umoja was very happy with Dr. Abebe's reaction and immediately called the nurse on the phone, asking her to join her in the office. Mrs. Ima (the new nurse) arrived 15 minutes later and was extremely nervous to meet with the district supervisor.

Dr. Abebe: Good afternoon Mrs. Ima, it is such a pleasure to meet you. Mrs. Umoja is telling me that you have been involved in EBS during this busy period. How do you like it?

Mrs. Ima (very shy): Good morning Dr. Abebe, it is an honor to meet you. Yes, Mrs. Umoja asked me to help her with this task, and I am actually learning a lot. However, if I have to be honest with you, when Mrs. Umoja left me alone with the EBS I was not sure that I was doing a good job. But I did not want to bother Mrs. Umoja, as I know she is very busy with the campaign. I hope I can be involved officially one day in EBS, I really like it, and I think it is very important for our population.

Dr. Abebe: Actually Mrs. Ima, this is precisely what I want to talk to you about. That day is already today, and I would like to go through the forms together with you and with Mrs. Umoja so that you can start officially being the focal point for EBS in this community. What do you think?

Mrs. Ima was very happy about this good news and accepted the task. Dr. Abebe went through the documents with her, using the opportunity to show Mrs. Ima what was not correct in the previous forms. This was also a way for Dr. Abebe to show Mrs. Umoja that her supervisory style was probably too present: a better approach would be to let Mrs. Ima complete the job on her own first, and then come together at the end to review and revise the forms if necessary.

After that visit, the reports from that community were always on time and filled in very well.

Questions for the group:

- What do you think of this scenario? Do you think it is common for a supervisor to do the supervisee's job, in order to make it better or do it faster, and neglect to explain why? Do you think it is common for a supervisee to not want to bother a supervisor with their questions, for fear of being judged?
- What would you have done differently and how?

Scenario 4: Community residents are unaware of CBS

Dr. Lulu, a district EBS officer, wants to organize a second training for her 50 CHVs but has very limited resources. She had already conducted an initial training six months earlier and thought it was successful. However, she is now concerned about one community in particular (Village B) because she heard that all of the CHVs in that community had died. This community only had three CHVs, all of whom were elderly and had been selected because they were very well respected by the whole community. Unfortunately, all three had died in the recent cholera outbreak, and Dr. Lulu did not know who was in charge now.

Dr. Lulu calls her cousin Angela, who lives in Village B and tells her that she will be travelling to Village B the week after to visit her, but also to better understand the situation.

Dr. Lulu arrives in Village B and meets with Angela.

Dr. Lulu: Angela, thanks for meeting on such short notice. I have a problem with this community as I have the feeling that nobody knows about EBS now that the three CHVs have died of cholera. What do you think?

Angela: Dear cousin, it is so nice that you came. You are always very busy in the big city with your work. Yes, the situation is not good over here. As you know, the recent cholera outbreak was very bad, and many people died, including your CHVs. Their families left the village, and now I have no idea who is in charge of EBS. People don't trust the public health system anymore and are relying more on traditional medicine for their diseases or conditions.

Dr. Lulu is worried that nobody is in charge of EBS and that it will be difficult to manage the mistrust in the system that the outbreak has generated. She is a determined woman though, and after thinking for some time, she decides to organize a meeting with several community leaders for the next day. She calls her supervisor (at the national level) to ask if he can join their meeting. There are two issues at stake that require the involvement of someone from the capital: the first is the lack of EBS reporting in the community, and the second is the lack of trust the village has in the public health system.

The day of the meeting

Dr. Lulu: Good morning, everybody. Thanks for coming to this meeting. I am very happy to see you all here. How many of you know about EBS?

The attendees look at each other as though Dr. Lulu is from another planet. One attendee, Mr. X, says:

Mr. X: Of course we know about EBS. We have even recently attended a two-day training on EBS. But you know, the last cholera outbreak hit this community very hard, and people don't want to see a doctor now. They prefer to go to a traditional practitioner. Also, we are still working on gathering people to show how to treat water, and we have no time to spend on additional tasks. People are scared of getting ill, and they have no time for these meetings.

Dr. Lulu looks at her cousin, who does not look surprised by what Mr. X is saying. Taking advantage of the side discussions happening in the crowd, Dr. Lulu takes a few minutes to talk to her cousin about her ideas. With her cousin's approval, she then regains the floor to share some of these ideas with the audience.

Dr. Lulu: Sir, sir, please, I understand that the situation is not easy, but as you may remember from the EBS training, performing excellent EBS helps the population to prevent outbreaks such as the cholera outbreak you just had. If the signal is immediately reported and verified as true, the action can be implemented immediately, and many cases of cholera can be avoided. Please, follow me for another five minutes.

We had a couple of ideas. I know that this is a particularly religious community and that you all gather in church on Sundays. Also, my cousin tells me that there are still three schools in this village and two of them are still working. I understand that people are busy, but we were wondering whether those places (church and schools) could be used to spread the word about EBS and refresh the value of EBS in this community. It is very sad what happened here, but we need to use this very sad occasion to show people that we can do better to avoid such a situation from happening again. What do you think?

Mr. X: Dr Lulu, you are right. This is a very sad situation, but I know my people are strong and will survive this challenge. Faith will help us all to do so. I am not sure about the schools at the moment, because since the outbreaks happened, not many kids are going to school. But we can certainly try with the church. I go myself every Sunday, and the majority of the community still goes. I am sure that the reverend will agree to use his sermon to help us.

Questions for the group:

- What do you think of this scenario? Is it possible that trust in the public health system is so low? Can this happen in your community?
- What do you think of the suggested solution? Would it work in your community? If not, what other opportunities could you use to achieve the objective?

Ask questions

Ask any questions that you may have regarding the content.

SESSION 9

MULTISECTORAL COLLABORATION

Purpose

- Describe the importance of multisectoral collaboration in EBS
- List the stakeholders that can be involved in EBS implementation in health facilities and communities
- Identify the most suitable method to involve them

Total time: 45 minutes

Participate in the Q&A discussion

Form groups of 4-5 and participate in the guided Q&A discussion by completing the small group activities below:

1. Use the flipchart to draw the existing flow of disease surveillance in your country.

2. Make a list of additional actors that could be involved to improve or complete the EBS.

3. For actors not yet involved, brainstorm:
   - How to involve them
   - How to maintain EBS discussions
   - How to benefit from the collaboration

Ask questions

Ask any questions that you may have regarding the content.

SESSION 10

HOW TO TRAIN OTHERS ON COMMUNITY-BASED SURVEILLANCE AND HEALTH FACILITY EVENT-BASED SURVEILLANCE

Purpose

- Describe different learning strategies and techniques to use when training others
- Identify the most suitable training method according to the context

Total time: 60 minutes

View the presentation

Learn about different learning strategies by listening to the lecture and taking notes on the slides below.

Detailed lecture notes can be reviewed after the presentation in Appendix K: Notes for Session 10: How to Train Others on Community-Based Surveillance and Health Facility Event-Based Surveillance.

Design of Training Activities

3

What to Promote in Adult Learning Methods

- Interactivity
- Active participation (interaction with others)
- Discussion
- Experience
- Appropriate motivational context
- Application to real life problems

4

Topics

- Lectures
- PowerPoint presentations
- Facilitating a group discussion
- Effective facilitation and communication tips
- Role-play facilitation tips
- Case study facilitation tips

5

Lectures

Traditional and the oldest method of training by an instructor to a group of learners

- Talking without any support
- Using a PowerPoint presentation
- Using a discussion

6

How to Effectively Deliver a Lecture

- Take time to prepare
  - Collect the needed information
  - Practice your lecture
- State the objective(s) of your lecture in the beginning
- Limit the number of messages conveyed
- Adapt to and engage the audience
- Show enthusiasm
- Summarize the main points of the lecture at the end
- Allow some time for questions at the end

7

PowerPoint Presentations

- Collection of individual slides that contain information on a topic
- Requires preparation
- Requires practice
- Requires a clear objective
- Should target the audience
- Should engage the audience

8

PowerPoint Presentations

Do's	Don'ts
• Put one message per slide • Limit to 5 to 6 bullet points per slide • Use key phrases and include only essential information • Use contrasting colors for text and background. • Allow one minute per slide • Prepare, design, deliver	• Put more than one message per slide • Create overly "busy" slides with too much text • Overuse special effects such as animations and sounds • Read the slides • Use 3D graphs • "Karaoke" slides

9

Group Discussion

- A communicative situation that allows participants to share their views and opinions with other participants
- A systematic exchange of information, views, and opinions about a topic, problem, issue or situation
- Discussion takes place among the members of a group who share some common objectives

10

How to Facilitate a Group Discussion

- Make sure all participants know the objective of the discussion and the reason to be in that group
- Be involved in the discussion from the beginning
- Encourage all participants to contribute
- Keep the time
- Maintain the focus of the discussion on the relevant topic
- Summarize the main points at the end
- Share a list of action points at the end

11

Effective Facilitation and Communication Tips

- Active listening techniques
  - Building trust and establishing rapport
  - Demonstrating concern
  - Paraphrasing to show understanding
  - Nonverbal cues which show understanding such as nodding, eye contact, and leaning forward
  - Brief verbal affirmations like "I see," "I know," "Sure," "Thank you," or "I understand"
- Give each participant the opportunity to contribute
- Remain neutral during the discussion

12

Role-Play Technique

- A **technique** that allows participants to explore realistic situations by interacting with other people in a managed way
- Objective is to develop experience and trial different strategies in a supported environment

13

Role-Play Facilitation Tips

- Make sure to present the purpose of the exercise and its ground rules
- Arrange the room to allow all participants to observe the players
- Ask participants to take notes
- Talk through the roles and the play with the “actors”
- Let the role-play start
- Observe and take notes
- Allow some time for feedback and discussion after the role-play

14

Case Study Technique

- Analyzes a defined problem consisting of a real situation and uses real information as methodological tool
- Allows students to develop and enhance different skills (e.g., comprehension and analysis of real problems and the capacity to propose and evaluate alternatives)

15

Case Study Facilitation Tips

- Adapt the details of the case study to fit the participants’ reality and that of their country and/or community
- Be available to answer questions or provide clarification if needed
- Guide the participants through the case study without interfering
- Make sure that all participants contribute

16

Demonstration

- Show how to do it
- Ask participants to do it
- Supervise their practice
- Follow-up with debriefing and questions

17

How can I choose the right technique?

- According to the objective(s) of the learning activity

18

Categories of objectives

- The three domains of learning are:
  - **Cognitive** domain that emphasizes thinking and knowledge (concepts)
  - **Skills** domain that features manually or physically performing actions (psychomotor)
  - **Attitudinal** domain that highlights attitudes, values, interests, attentions, concerns, responsibilities, and the ability to listen, respond and demonstrate interactions with others

19

Training with a cognitive objective

- Describe the concepts of virology, bacteriology and immunology related to different test formats
- Define the advantages and limitations of forecasting
- Define surveillance of vaccine-preventable diseases, vaccine uptake, vaccine safety, immune status, sero-epidemiology and vaccine effectiveness

→Interactive lectures with PowerPoint presentations

20

Training with a skills objective

- Develop basic computer programmatic and analytical skills
- Apply criteria and algorithms to decide on reporting at the national level
- Carry out analysis for cohort and (matched) case-control studies, including stratified and multivariable analysis

→Demonstrations
→Supervised practice
→Follow-up

21

Training with an attitudinal objective

- Be comfortable in the communication of a decision
- Encourage collaboration between groups to share information
- Implement collaborative activities and teamwork with other professionals
- Critically appraise and cope with the consequences of wrong decisions
- Negotiate a project
- Improve teamwork skills

→Role play
→Brainstorming
→Group discussion

22

Summary

- Learning strategies are only one component of training
- There are different strategies in adult learning
- It is important to choose the most appropriate according to the context

23

Ask questions

Ask any questions that you may have regarding the content.

SESSION 11

TRAINING REVIEW, POST-TEST

Purpose

- Reflect on the knowledge and skills acquired
- Provide final feedback to facilitators

Total time: 30 minutes

Review the agenda and what has been learned

Review the training you have just received by referring to your agendas and the items discussed during the second half of training.

Complete the post-test

The purpose of the post-test is to assess your knowledge, understanding, and application of EBS now that you have finished the training. Your facilitator will distribute the questionnaire to you to complete.

Review post-test answers

After all participants have completed their questionnaires, you will review the correct answers to the post-test with the facilitator. You can record the correct answers in Appendix D: Intermediate-Level Event-Based Surveillance Training Knowledge Check.

APPENDIX A

EVENT-BASED SURVEILLANCE VERIFICATION TOOL

As EBS is highly sensitive, it is essential to verify the authenticity of a reported signal and its characteristics. This process of verification involves actively cross-checking the validity of available information and collecting additional information about the report using reliable sources as needed. The process of signal verification should answer three main questions:

- Is the report accurate (i.e., true)?
- Has the information been reported by a reliable source or sources?
- Does the report meet the criteria for one or more signals?

The graphic shown below can be used to determine the outcome of signal verification, once sufficient information has been collected and validated.

Discard if...

- Report is a hoax or a false rumour
- Information has been reported by an unreliable source (e.g., by word of mouth)
- Report does not meet signal criteria

Confirm as an event if...

- Information is accurate and true
- Report meets criteria for one or more signals
- Information has been reported by a credible source or sources (e.g., CHV, health facility focal point, or key informants)

The examples on the following pages demonstrate the process of signal verification using specific signals that may be utilized in CBS or HEBS.

Two or more persons presenting with similar severe illnesses in the same setting (e.g., household, workplace, school, street) within one week

Discard if...

- There is only one person presenting with illness
- The persons present with dissimilar signs and symptoms
- There is no temporal association, and >1 week separates the patients' illness
- The persons presenting with similar symptoms reside in different settings that are physically well-separated

Confirm as an event if...

- There are two or more persons presenting with similar signs and symptoms who live or work in the same setting
- The ill persons had an opportunity for exposure or close contact with one another
- The persons' illness requires hospitalization
- One or more persons has died
- There is a common source of exposure

Unexpected large number of deaths of poultry or other (domestic) animals

Discard if...

- The number of animal deaths is what is normally expected
- There is a reasonable explanation for the animal deaths

Confirm as an event if...

- The number of animal deaths is not what is usually expected
- There are multiple clusters/groups of animal deaths
- There is no explanation for the animal deaths

Severe illness of a healthcare worker after exposure to patients with similar symptoms

Discard if...

- The ill healthcare worker did not have exposure to patients with similar symptoms
- The healthcare worker's illness does not require hospitalization
- The healthcare worker did not have exposure to patients

Confirm as an event if...

- The ill healthcare worker had exposure to patients with similar symptoms
- There are multiple clusters/groups of severely ill healthcare workers with exposure to patients with similar symptoms
- The healthcare workers' illness requires hospitalization
- One or more patients have died
- One or more healthcare workers have died

One or more hospitalized patients with unexplained severe illness, including failure to respond to standard treatment

Discard if...

- The patient is not severely ill (i.e., does not require hospitalization)
- There is a reasonable explanation for the patient's illness
- The patient is responding to standard treatment

Confirm as an event if...

- The patient is severely ill (i.e., requires hospitalization)
- There are multiple clusters/groups of severely ill patients and/or deaths with similar symptoms
- There is no explanation for the patient's illness
- The patient is not responding to standard treatment
- One or more patients have died

APPENDIX B

EVENT-BASED SURVEILLANCE RISK ASSESSMENT TOOL

In order to assess the nature and magnitude, or risk, of an acute public health event, it is important to continuously and systematically gather, assess, and document information using reliable sources. Risk assessment should be conducted on a recurring basis as more information is gathered about an event. Additional information may include, but is not limited to:

- Nature of the event/agent/disease
- Source of event identification
- Location of the event
- Potential origin (infectious, chemical, radiological, nuclear)
- Date of event or date of onset
- Number of cases/deaths, severity of the case
- Number of people potentially exposed to the hazard
- Groups affected (e.g. age, occupation, gender)
- Common clinical/laboratory characteristic among affected
- Likelihood of an intentional release
- Likelihood of group intoxication/contamination
- Potential for importation of cases to the country (for international events)

The following tool can be used to determine the outcome of a risk assessment, once sufficient information has been collected and analyzed. The outcome of a risk assessment should inform response efforts. Note that no matter what the outcome is, all information must be reported up to the next level within the public health structure.

No investigation required if...

- Report is a rumour

Monitor if...

- Report is verified as true
- Mortality/morbidity is as expected for the disease
- Severity of cases is low

Investigate /respond if...

- Report is verified as true
- Mortality/morbidity is higher than expected
- The disease is unexpected/novel to the community
- There are possible consequences to trade and/or travel
- Severity of cases is high or higher than expected for the disease
- The public health event creates major panic in the community
- The number of cases is increasing

APPENDIX C

INTEGRATED DISEASE SURVEILLANCE AND RESPONSE DISTRICT LOG OF SUSPECTED OUTBREAKS AND RUMORS

Record verbal or written information from health facilities or communities or social media about suspected outbreaks, alerts or reports of unexplained events. Record the steps taken and any response activities carried out.

Condition or Disease or Event	Source of suspected outbreak or rumour (newspaper, telephone etc.)	Number of cases initially reported	Number of deaths initially reported	Location (health centre)	Date district was notified	Date suspected outbreak was investigated by the district	Result of district investigation (Confirmed, Ruled Out, or Unknown)	Date outbreak began

Date onset of index case	Date crossed threshold or first cluster	Date a case was first seen at a health facility	Date specific intervention began	Type of concrete intervention that was begun	Date on which district notified national level of the outbreak	Date district received national response	Comment (include if sample taken and results)	Name and signature

APPENDIX D

INTERMEDIATE-LEVEL EVENT-BASED SURVEILLANCE TRAINING KNOWLEDGE CHECK

The purpose of this test is to assess your knowledge, understanding, and application of event-based surveillance. This test should be completed by intermediate-level public health authorities participating in EBS training. Please circle the best answer.

1. Fill in the blank: Event-based surveillance requires the detection and _____ reporting of signals which may indicate the possibility of a serious public health event.

2. Intermediate-level public health staff are not responsible for the triage of signals reported from health facilities.

a) True **b)** False

3. Verification is conducted to determine if a signal reported is true or false.

a) True **b)** False

4. Intermediate-level public health authorities are responsible for leading risk assessment.

a) True **b)** False

5. Risk assessment should be conducted continuously from the confirmation of an event to the end of the response to an event.

a) True **b)** False

6. Fill in the blank: The three possible outcomes of risk assessment are _____, _____, and _____.

7. Intermediate-level supervisors are responsible for only providing feedback to reporters from health facilities.

a) True **b)** False

8. Fill in the blanks: List two reasons why supportive supervision is important:

_____

_____

9. Supportive supervision requires effective communication that does not include_____.

a) active learning
b) constructive performance feedback
c) finding faults
d) encouragement

10. Cross-communication between the Ministry of Health and other relevant sectors (including animal and environmental health) ensures that signals are ultimately reported through EBS.

a) True **b)** False

11. Effective EBS training facilitators continuously _____

a) Build rapport with training participants

b) Assess the participants' needs by asking questions

c) Use learning techniques that promote interactivity and motivation

d) All the above

APPENDIX E

NOTES FOR SESSION 3: EVENT-BASED SURVEILLANCE OVERVIEW

What are early warning and response systems? (Slide 4)

Early warning and response (EWAR) is the organized mechanism to detect, as early as possible, any abnormal occurrence or divergence from the normally observed frequency of phenomena. The general objective of EWAR is to rapidly detect and control acute public health events of any origin, with attention to nationally-prioritized health risks ("detect earlier to better protect"). It is embedded in overall surveillance.

To ensure efficiency, the EWAR data collection and analysis processes need to be systematized and formalized. In this regard, EWAR relies on a process called **epidemic intelligence,** consisting of two main channels of information, indicator-based surveillance (IBS), and event-based surveillance (EBS).

Why is EWAR important? (Slide 5)

EWAR ensures that public health threats are detected in a timely manner. This can lead to faster interventions and increases the potential for the prevention of outbreaks.

What is IBS? (Slide 6)

IBS is defined as the systematic collection, monitoring, analysis, and interpretation of structured data. The collection of IBS data is a routine, regular process, which is primarily passive. Data are collected according to established case definitions, which are either disease-specific or syndromic. They may be collected as individual or aggregated data and originate from either exhaustive or sentinel systems. Data are analyzed in comparison with baseline values and thresholds to determine unusual disease patterns.

The Integrated Disease Surveillance and Response (IDSR) is an example of primarily IBS activities.

What is EBS? (Slide 7)

EBS is defined as the organized collection, monitoring, assessment and interpretation of unstructured ad hoc information regarding health events or risks, which may represent an acute risk to health.

Data for EBS systems can originate from a variety of sources, including community residents, health facilities, news reports of deaths causing public anxiety, schools, and animal and environmental sectors. As such, EBS can be implemented in communities, schools, pharmacies, the animal health sector, health facilities, or at the national level through hotlines and media scanning.

A key feature of EBS is the emphasis on immediate detection and rapid reporting of signals. When implemented correctly, EBS provides a simple and adaptable form of surveillance, that can be tailored to different settings according to the needs of the country.

Integration of IBS and EBS (Slide 8-11)

IBS and EBS are complementary sources of information, and both contribute to the early warning function critical for a prompt and proportioned response. The two are not necessarily separate surveillance systems; both are processed through a single activity (epidemic intelligence), and some of the surveillance functions might be common to both types.

Epidemic intelligence (EI) is defined as the systematic collection, analysis and communication of any information to detect, verify, assess, and investigate events and health risks with an early warning objective (as opposed to monitoring of disease trends or burdens). EI should integrate both IBS and EBS to efficiently detect acute public health events and/or risks.

Both IBS and EBS present intrinsic characteristics in terms of processes and type of data or information collected.

The IBS process is defined by public health professionals for notification and programmatic purposes; data/indicators are developed accordingly and are collected and transmitted in routine and mostly passive reporting. Conversely, in EBS, both content and format of information collected are not defined (i.e., unstructured information). Data sources for EBS are diverse, intended for varying audiences, including some with non-human health objectives (e.g., environmental health, wildlife and fisheries, and animal health).

What is CBS? (Slide 12)

In June 2018, a group of technical experts defined community-based surveillance (CBS) as "the systematic detection and reporting of events of public health significance within a community by community members". This definition encompasses the detection and reporting of events. To ensure consistency with this definition, this module will employ the term CBS.

What is HEBS? (Slide 13)

When EBS is conducted in health facilities, including hospitals, it is called health facility event-based surveillance (HEBS). A health facility is defined as any establishment that is engaged in direct on-site patient care. HEBS is not disease-specific; rather, it relies on detecting unusual occurrences and patterns of disease (signals) which are primarily reported by healthcare workers.

What is a signal? (Slide 14)

A signal is an observation that may represent an event occurring in a population. Signals can be patterns of diseases, such as a cluster of cases with a similar illness or something unusual, such as a treatment failure for infectious diseases on a standard drug regimen or unexpected deaths.

What is an event? (Slide 15)

An event is an occurrence that can threaten public health. It can be a single case of disease in some settings (a notifiable disease like measles or diseases with ongoing elimination programs like polio), clusters/outbreaks, or unusual events such as a case of drug-resistant tuberculosis.

What are the major steps for EBS? (Slide 16)

EBS can be organized into five main steps:

- **Detection** of signals
- **Reporting** of signals
- **Triage** of signals
- **Verification** of signals
- **Risk assessment** of events

Signal detection (Slide 17)

The process of EBS starts with the identification of a signal, which is an observation that might represent an event occurring in a population. Detecting a signal means identifying or suspecting the occurrence of one of the pre-determined signals designated by national public health authorities.

Signal reporting (Slide 18)

Reporting signals means communicating this information to a public health authority. Informants who detect a signal should report it immediately. Modes of signal reporting can differ depending on available resources but may include telephone, SMS, or verbal notification.

Triage (Slide 19)

Because of the often-informal nature of signal sources, once detected, signals must be evaluated to determine the likelihood that they truly represent events. This is first done through the process of triage, followed by verification. The process of triage comprises the review of information to discard duplicates, misinformation, irrelevant information, and false information to allow for the identification of real events.

Triage (Slide 19)

Because of the often-informal nature of signal sources, once detected, signals must be evaluated to determine the likelihood that they truly represent events. This is first done through the process of triage, followed by verification. The process of triage comprises the review of information to discard duplicates, misinformation, irrelevant information, and false information to allow for the identification of real events.

Verification (Slide 20-21)

Once a signal has been triaged and verified, it becomes an event. Verification is an essential step to confirm the validity and authenticity of the reported signals (is the information truly occurring or false?). According to the WHO, verification must take place within 24 hours of signal detection. This step may require additional information. **Not all signals become events.**

Risk assessment (Slide 22)

An event needs to be assessed to determine the level of risk to human health and to determine the appropriate level of investigation and control measures. Once a signal is verified as an event, risk assessment begins. Risk assessment is a systematic and continuous process for gathering, assessing, and documenting information to provide the basis for actions required to manage and reduce the negative consequences of the event. Every assessment is a process by which the available information about a real event is analyzed and a judgment is made as to whether it poses an immediate risk to public health. According to WHO, a risk assessment of an event must be conducted within 48 hours of the initial signal detection. Intermediate-/national-level public health authorities should lead risk assessment efforts.

Signals and events (Slide 23)

While events are typically occurrences of patterns of disease, such as clusters of similar illnesses, single cases of diseases in some settings can constitute an event because that illness/disease may be of high priority (e.g., a child with acute flaccid paralysis or the isolation of an Ebola virus in a laboratory). In the latter case, the event can constitute a notifiable disease within the routine surveillance system or a novel infectious threat that requires further investigation. In both instances, after triage and verification, an event enters the public health surveillance structure and will be integrated into the routine disease reporting system, such as the IDSR programs common in African countries.

APPENDIX F

NOTES FOR SESSION 4: SIGNALS FOR COMMUNITY-BASED SURVEILLANCE AND HEALTH FACILITY EVENT-BASED SURVEILLANCE

Examples of signals and events (Slide 5)

Some examples illustrating the difference between signals and events are:

- A critical care physician hospitalized with a severe respiratory disease with travel history to Saudi Arabia may be a signal requiring reporting. After triage and verification of the signal, there could be more elements to suspect a case of Middle East Respiratory Syndrome as an event.
- A case of typhoid fever that fails to respond to standard treatment may be a signal. After triage and verification, this signal could become an event as a suspected case of extensively drug-resistant typhoid fever.
- A 4-year-old child with fever and rash in the community may be a signal. It can become an event, such as a case of measles, after triage and verification.

Examples of signals for HEBS (Slide 6)

Some examples of signals for HEBS are:

- Any severe illness in health staff after taking care of a patient with a similar illness,
- A large, sudden increase in admission for any severe illness of the same type, and/or
- Any severe, unusual, unexplainable illness, including a failure to respond to standard treatment.

Examples of signals for CBS (Slide 7)

Some examples of signals for CBS are:

- Two or more cases of people presenting with similar severe signs/symptoms from the same community, school, or workplace within one week,
- A cluster of unexplained animal deaths within one week,
- An illness with novel or rare symptoms (Note: Novel and rare can be explained as signs/symptoms that the community has not seen before), and/or
- Any person with fever and rash.

List of pre-determined CBS signals for the country (Slide 8)

When presenting the list of signals for CBS, it is worth spending some time on the signals to ensure that participants understand each signal well. For each of the signals presented on this slide, ask participants to answer the following questions:

- What do you think we are trying to detect with this signal?
- Why do you think this signal is important for EBS?
- How would you describe this signal to a layperson in your community (community resident)?

List of pre-determined HEBS signals for the country (Slide 9)

When presenting the list of signals for HEBS, it is worth spending some time on the signals to ensure that training participants understand each signal well. For each of the signals presented on this slide, ask participants to answer the following questions:

- What do you think we are trying to detect with this signal?
- Why do you think this signal is important for EBS?

APPENDIX G

NOTES FOR SESSION 5: FUNCTIONS OF EVENT-BASED SURVEILLANCE AT THE INTERMEDIATE LEVEL

Functions of EBS at the intermediate level (Slide 4, 5)

In contrast to IBS, where case definitions are narrow and disease-specific, EBS requires the detection and immediate reporting of signals, which are broad and could indicate the possibility of a serious public health event. Signals that are verified as truly occurring are classified as events.

Public health authorities at the intermediate level may receive EBS-related information in the form of signals or events from a variety of sources, including communities and health facilities. If an event is reported by local-level supervisors, the intermediate level should conduct only risk assessment. If a signal is reported from a health facility, the intermediate level should conduct triage, verification, and risk assessment.

Triage (Slide 6)

Public health authorities at the intermediate level may receive signals from health facilities conducting health facility EBS or HEBS. When authorities receive information about a reported signal, they should conduct triage. Because of its high sensitivity, EBS is likely to generate signals from non-events. Therefore, the authenticity of the signal needs to be established. Figure 1 summarizes the triage process and provides possible questions to ask. Because EBS operates as a sensitive surveillance system, authorities at the intermediate level should continue to encourage the reporting of signals even if they may be later discarded as "non-events."

Figure 1: Possible question to ask during triage (Slide 7)

Questions to ask during triage:

Is the reported information relevant to early warning (i.e., could this signal be a genuine public health event)?

Was this signal previously reported (i.e., is this signal a duplicate)?

Verification (Slide 8)

Intermediate-level authorities receiving signals from health facilities must also verify these signals before they are determined to be events. Verification is the determination that a signal is valid (i.e., it is not a false alarm or a false rumor), reliable, and that it corresponds to at least one of the signals pre-defined for EBS implementation. Criteria for verification may include asking questions to those who have reported the signal to ensure that they have correctly understood the signal, whether or not the signal has been confirmed by at least two different sources, or the fact that the signal has been reported by a person with medical authority (veterinarian, physician, or laboratory assistant). Verification must be completed within 24 hours of signal detection.

(Slide 9)

The result of verification is the confirmation that a signal is true or false. Once a signal is verified as true, it becomes an event. If confirmed as an event, information related to the event must be entered into a logbook or register at the intermediate level. Systematic verification of all signals detected through EBS is essential to avoid wasting public health system resources on false signal investigations and responses based on unreliable information.

(Slide 10)
As EBS is highly sensitive, it is essential to verify the authenticity of a reported signal and its characteristics. Local-level supervisors are recommended to use the Verification Tool to complete this process. This verification process involves actively cross-checking the validity of available information and collecting additional information about the report using reliable sources as needed. The process of signal verification should answer three main questions:

- Is the report accurate (i.e., is it true)?
- Has the information been reported by a reliable source or sources?
- Does the report meet the criteria for one or more signals?

Discard if...

- Report is a hoax or a false rumour
- Information has been reported by an unreliable source (e.g., by word of mouth)
- Report does not meet signal criteria

Confirm as an event if...

- Information is accurate and true
- Report meets criteria for one or more signals
- Information has been reported by a credible source or sources (e.g., CHV, health facility focal point, or key informants)

Risk Assessment (Slide 11)
Risk assessment is the systematic and ongoing process of gathering, evaluating and documenting information that will form the basis of the actions required to manage and minimize the negative consequences of a public health event. The process results in assigning a level of risk that an event presents to human health. Risk assessment should be conducted by intermediate-level public health authorities who propose the action or response that must be taken to manage and minimize the negative consequences of public health events.

(Slide 12)
Risk assessment should be conducted continuously from the detection of a signal to the end of the response to an event. Public health authorities evaluate all available information and then assess or characterize the level of risk that the situation poses to public health. As new information about the situation can arise at any time, the ongoing risk assessment ensures that the appropriate response is triggered and that it reflects the level of risk the event poses to public health. The first risk assessment of an event must take place within 48 hours of the detection of one or more signals.

(Slide 13)
Regardless of the source of information, risk assessment should be carried out at the intermediate level and, if relevant, at higher administrative levels as well. This may involve collaboration between authorities in the public health system at these administrative levels with communities and health facilities. It is also important that risk assessment covers all relevant sectors to take into account the extent of human, animal and environmental risks. All information collected during the risk assessment should be recorded systematically.

Once enough information about the event has been gathered, intermediate-level public health authorities can determine the outcome of the risk assessment. Risk assessment can have three different outcomes:

- No new investigation or action is required, and the event may be closed,
- The event must be monitored, or
- An investigation and a response must be initiated.

APPENDIX H

NOTES FOR SESSION 6: EVENT-BASED SURVEILLANCE DATA RECORDING AT THE INTERMEDIATE LEVEL

Data recording (Slide 3, 4)

Events reported to public health authorities at the intermediate level can be recorded using existing surveillance data collection tools (where available) to ensure that data collected through EBS are integrated into existing data platforms. It is recommended that countries use the District Log of Suspected Outbreaks and Rumors available through the IDSR framework to collect data on events.

The IDSR District Log of Suspected Outbreaks and Rumors may be adapted by intermediate-level public health authorities to record information about events detected through EBS. Note that signal information should not be entered in this logbook.

Table information key for EBS information using the IDSR district logbook (Slide 5)

- 'Condition or Disease or Event' should be completed with a brief description of the event (e.g., suspected measles, cluster of suspected cholera, earthquake).
- 'Number of cases initially reported' indicates the number of cases reported when the initial signal was reported.
- State the name of the location where the event is occurring, as precisely and exactly as possible. If an address is available, record it.
- 'Date district notified' is the date that the intermediate-level public health authorities were notified about the event. Enter date in the DD-MM-YYYY format.
- 'Date suspected outbreak was investigated by the district' is the date that the intermediate-level public health authorities began investigation of the reported event. Enter the date in the DD-MM-YYYY format.
- 'Result of district investigation' asks public health authorities to state whether the event was ruled out or confirmed as a suspected outbreak requiring a response, or whether the status is still unknown.
- 'Date outbreak began' is the date that the event began, or the date of symptom onset of the index case. Depending on the event occurring, this may also be the date the threshold was crossed for a seasonal disease, or the date the first cluster of cases was recognized. Enter the date in the DD-MM-YYYY format.
- 'Date a case was first seen at a health facility' is the earliest known date that a case sought medical care. Enter the date in the DD-MM-YYYY format.
- 'Date specific intervention began' is the date a response was initiated. Enter the date in the DD-MM-YYYY format.
- 'Type of concrete intervention that was begun' asks public health authorities to describe what was conducted as part of the response.
- 'Date district notified national level of the outbreak' is the date the intermediate-level public health authorities communicated with higher levels about the occurrence of an outbreak. Enter the date in the DD-MM-YYYY format.
- 'Date district received national response' is the date that intermediate-level public health authorities received response support from the national level. Enter the date in the DD-MM-YYYY format.
- Enter any further comments in this field.

APPENDIX I

NOTES FOR SESSION 7: FLOW OF INFORMATION

Model answer: When should information be reported up administrative levels?

Intermediate-level public health authorities may receive EBS-related information in the form of signals or events from a variety of sources, including communities and health facilities. Signals detected in communities by CHVs, key informants, or small health facilities are typically reported to local-level authorities who conduct triage and verification of signals. Public health authorities at the intermediate level may receive signal information from large health facilities, such as large hospitals, which require triage and verification. Regardless of the source of EBS information, public health authorities at the intermediate level conduct risk assessment to help define additional actions, which may include immediate reporting to higher administrative levels. All events must be reported and investigated according to the existing national surveillance and reporting structure.

Model answer: How should information be reported?

Intermediate-level public health authorities can record and report data using existing surveillance data collection tools (where available) to ensure that data collected through EBS is integrated into existing data platforms, such as IDSR. These reporting tools may be electronic or paper-based but should be clearly defined among all administrative levels to ensure consistent EBS reporting and feedback.

Model answer: Why is feedback to immediate lower levels necessary?

Equally important to timely reporting is timely, routine feedback. Intermediate-level public health authorities should provide feedback about events and signals to surveillance focal points at health facilities and local-level supervisors, who in turn provide feedback to health care workers, community health volunteers, and key informants. Providing regular feedback on the signals and events reported is essential to sustain motivation for reporting among communities and health facilities.

APPENDIX J

NOTES FOR SESSION 8: SUPPORTIVE SUPERVISION

Supportive supervision techniques to improve commitment and performance (Slide 7)
These are behaviors that will help you improve the commitment of the people under your supervision as well as the quality of their performance as they aim to achieve the common goal.

Supervision should be facilitative and not fault-finding: when supervising someone, remember that that person is crucial for the achievement of the common goal; in this case, the quality of EBS in your jurisdiction. Your role is to increase the commitment of your collaborators so that they can ultimately improve the quality of their job, and hence the achievement of the common objective. You don't start the supervision by saying what went wrong, but instead by trying to understand why an issue occurred and by facilitating the process of finding a solution together.

Always praise work well done before raising problems. You may want to start your supervision visit by acknowledging the hard work they have done, despite, for instance, their work conditions. Then you can state the objective(s) of your visit and start analyzing the situation together.

If you see a problem, check if the supervisee sees the same problem: very often mistakes are made because of a lack of knowledge, not because of bad performance. Therefore, before pointing the finger at something done wrong, check if your supervisee shares the same perspective and sees the same problem. By doing this you can identify where the problem is. If the supervisee doesn't see the same problem, your solution should simply be to guide them through the procedures in order to make sure that he/she shares the same understanding.

Analyze problems with the supervisee to gain a good understanding of the underlying causes. Once you have both identified the problems and what can be improved, work together to find a creative solution to address the issue.

Let the supervisee suggest possible solutions, as this facilitates ownership and acceptance of the solutions. Once you have identified the problem, let the supervisee suggest possible solutions and limit yourself in guiding the process. Sometimes the knowledge of the context helps to formulate a solution that you may not have thought of. Also, if the supervisee finds a solution to the problem, you can be sure that they understand how they may be able implement it.

APPENDIX K

NOTES FOR SESSION 10: HOW TO TRAIN OTHERS ON COMMUNITY-BASED SURVEILLANCE AND HEALTH FACILITY EVENT-BASED SURVEILLANCE

Design of training activities (Slide 3)

In this slide you can see that "how to teach" is only one of the elements to be taken into consideration when preparing training activities.

We will not go into too much detail on the other elements, but perhaps we can have a look and comment together so we are aware of the complexity of such an activity.

The elements are:

- **Why and what to teach:** Make sure that the objectives of our training are clear and well formulated. They could be related to knowledge, procedures, or attitudes.
- **When to teach:** Timing is also important. We normally design and deliver training to adult professionals, and they are busy with their routine activities. We need to take that into account when deciding the timing of our training for it to be successful, to gather the maximum number of participants and to have them on board for the duration of training.
- **How to teach:** Choose the best training methodology according to the object of your training, whether that be a PowerPoint presentation, lecture, focus group discussion or role-play. We will see each of these techniques in a minute.
- **Last, but not least:** Always include time in your schedule to **evaluate** your training activity. This includes evaluation of the trainer, the suitability of the program for the audience, how well the messages in the program were delivered, and how engaged (attentive, interactive, etc.) the participants were. *The Training Curriculum for Event-Based Surveillance in Health Facilities and Communities and Internet-Event Based Surveillance* includes a Post-Training Evaluation that can be used immediately following training, as well as an Event-Based Surveillance Training Impact Evaluation that can be used to understand knowledge retention in the months following the training.

What to promote in adult learning methods (Slide 4)

In this slide, you can see the general elements that have to be considered when organizing and delivering training for adults.

- **Interactivity:** Keep the activities interactive and promote structured interactivity with the audience. Use their experience and let them talk and contribute to the activity.
- **Discussion:** The presentation should not be a monologue. Promote discussion with the audience and give them space to share their own experiences. Make sure to keep an eye on the time and do not entertain endless discussions.
- **Experience:** Your audience will likely include experienced people who have learned their jobs by doing them, facing challenges, and finding their own solutions. You may need to use those experiences and facilitate sharing with the rest of the group.
- **Appropriate motivation context:** Normally, adults participating in training are driven by the motivation of learning something new that will help them in their daily jobs. Keep an eye on that motivation and always keep it high.
- **Applied to real-life problems:** The training material needs to be adapted to the audience. Make sure to use examples, situations and contexts that "speak to" your audience.

Lectures (Slide 6)
A lecture is the most traditional (and probably the oldest) method of teaching. Lectures are typically one-way presentations.

Lectures can be delivered without any support by speaking directly to the audience. However, lectures can be made more effective by using technical support, such as PowerPoint presentations or even some prepared points to launch the discussion.

How to effectively deliver a lecture (Slide 7)
To make a lecture effective you need to:

- **Prepare:** Take time to prepare your material, making sure your slides are clear, simple, and not too busy. We'll see how to prepare a PowerPoint presentation in the next few slides.
- **Practice:** Take time to practice your presentation.
- **Be clear:** State the objective(s) of your lecture in one of the first few slides.
- **Be succinct:** Limit the number of messages you want to convey with your lecture. Ideally focus on one. A few messages could also be acceptable, but make sure that the audience is following you if you introduce a new objective/message.
- **Adapt:** Adapt to the audience and use examples and situations that are familiar to them. Engage the audience in the discussion and ask for feedback throughout the presentation rather than just at the end.
- **Show enthusiasm:** When giving your presentation, you need to convey a message, and it must be effective. It is important that you believe in that message yourself.
- **Summarize:** Make sure to take some time at the end of your presentation to summarize the main points of the presentation and reinforce the key messages.
- **Answer questions:** Include time for answering questions at the end of the presentation.

PowerPoint presentations (Slide 8)
A PowerPoint presentation is a collection of slides that helps you present your topic. It is a tool that allows you to be clearer and more effective in delivering your message. Therefore, a PowerPoint presentation **requires preparation** and time to practice, to make sure that your message is clear.

Formulate the objectives in a way that they will be clear to the audience and state the objective(s) of your presentation at the beginning.

Target your audience, making sure that you know something about the audience in advance to tailor your presentation accordingly, in terms of jargon, language, etc.

Engage your audience in the discussion, avoiding monologues and regularly checking the pulse of the situation by asking for questions and feedback.

PowerPoint presentations (Slide 8)
These are some Dos and Don'ts when using a PowerPoint presentation as the tool to clearly convey your messages. These include:

The Dos

- **Do put one message on each slide:** It is easier to guide the audience if the slide is simple.

- **Do use key phrases or key words in the slides** and complete your thought when talking. The slides should be an aid for you rather than a textbook's worth of content (see Don'ts: no karaoke slides). You need to use keywords to prompt your memory, and to make sure that you don't forget any important points/messages that you want to convey.
- **Do use contrasting colors so slides are clearly visible:** Use contrasting colors for the text and background, making sure (where possible) that you design with the venue of your presentation in mind (e.g., is the room too dark or too light?).
- **Do practice presenting to test amount of text in your slide:** You should practice presenting the slide in less than one minute. Although less than one minute is ideal, this does not apply to slides that require more time to explain, such as formulas.
- As with everything we do in our work: prepare, design, and deliver.

Now the Don'ts:

- **Don't put more than one message on each slide:** It is already difficult to make sure that one message is clear for the audience.
- **Don't put too much text on the slides:** Although text helps you convey the message, you should only put a few keywords on your slides and complete your sentences when talking.
- **Don't overuse animations and special effects:** They are distracting and take the attention of the audience away from your message.
- **Don't read off of the slides:** If you simply put keywords on your slides it will be more natural to use those words and complete your thoughts by talking.
- **Don't use 3D graphs:** They are difficult to interpret and see properly.
- **Don't include more than 5 or 6 bullet points in the slides**, otherwise, the slide will be too busy

Group discussion (Slide 10)
Now we'll see what we mean by group discussion.

How to facilitate a group discussion (Slide 11)
A discussion could be endless and ineffective if not moderated well and if there is no facilitation.
That is your role.

- **Make sure that participants know the objective of the discussion** and the reason that they are in that group. Present the objective of the discussion in the beginning and make sure it is clear to everybody. Confirm the reason why they are there. For example, you can say, "Good morning everybody, thanks for coming, I invited you here to discuss together how to …and I invited you here because you are …"
- **Start the discussion** and be involved in it in the beginning, but then,
- **Encourage all participants to contribute.** Observe the room and make sure that each of the participants is contributing to the discussion. If not, try a discreet way to involve the "silent" participants, but also a discreet way to avoid parallel discussion in small groups among a subset of participants.
- **Keep an eye on the time of the session** to make sure that you reach the objective of the discussion within the allocated time.
- **Keep the focus of the discussion on the topic.** You may allow side discussions, but keep them short, and if they continue, remind the audience about the objective of the discussion.
- **At the end of the allocated time**, make sure to summarize the main points of the discussion, and if you have formulated some action points together, make sure they are clear to the group and distributed to the appointed responsible person(s).

Effective facilitation and communication tips (Slide 12)
In this slide you can see some tips that can be applied to any facilitation task that you may be involved in, whether it's a meeting you're moderating, a case study, a group discussion, or a meeting with your collaborator.

- **Active listening** is a technique that allows you to establish effective communication with another person. It relies on a trusting environment that you must build, often in a very short period of time (think of a visit to a doctor).
- To **demonstrate concern** about the topic of the discussion, you may repeat the sentence, changing the words of the other person to show understanding of the situation.
- **Non-verbal communication** is crucial: eye contact and nodding are the most common.
- **Brief verbal affirmations** such as "I see" or "I know" show interest and attention to the conversation.
- **Give each participant the opportunity to contribute.** You may miss an important contribution if one of the participants feels left out of the discussion.
- **Remain neutral** during the discussion. Your role is to moderate and facilitate the discussion and to gather the different opinions in the room, not to convince or to impose your opinion on others.

Role-play technique (Slide 13)
And now another learning technique: the role-play.

Role-play facilitation tips (Slide 14)
In order to facilitate a role-play effectively, you should:

- Present the purpose of the exercise and its ground rules at the beginning
- Arrange the room in a way that allows all participants to observe what is happening during the role-play
- Ask the participants to note their observations
- Distribute the roles to participants before you start the play, taking time to ensure that each participant understands their role-play
- Let the play start
- Observe and take notes, but avoid intervening unless needed (e.g., if participants go off the script)
- Once the play is over, allow some time to collect feedback from the actors as well as the other participants, then facilitate a brief group discussion to summarize the main points of the exercise and what has been learned

Case study technique (Slide 15)
Now we will discuss the last learning technique: the case study.

The case study is often used in the field of epidemiology to present a real case scenario and guide participants through the real investigation or experiences of the authors. There's no correct answer in a case study; rather, it is the real experience of the authors that we are learning from.

Case study facilitation tips (Slide 16)
Some tips that may increase the effectiveness of the case study as a learning technique include the following:

- Be conscious of the context in which you're using a specific case study and be prepared to adapt it to your context if needed. Use examples that "speak to your audience" and that they are familiar with already.

- When facilitating a case study, be available to answer questions and provide clarification as needed. You'll always find the "facilitators' notes" in the facilitators' version of the case study. These will help you address questions and will also provide additional clarification for the audience.
- When facilitating a case study, it is important that you guide participants through the case study without including your personal opinion.
- Make sure that all participants contribute to the discussion and observe if you have "silent" participants in the group that may require help contributing.

Demonstration (Slide 17)
Demonstration is a useful technique when you need to train a group of people to do something new, such as learn a new software or a new reporting form that they will be using in the future.

- Begin by demonstrating the new skill.
- Next, ask participants to try themselves.
- While they are attempting the skill, you can observe, take notes, and supervise. If mistakes are observed, you can intervene to correct them.
- After the practical session, make sure that you allocate some time for follow-up questions and to share your notes with the group during the debriefing.

Choosing the right technique (Slide 18)
Now that we have learned a number of new techniques, you may be wondering how to choose the right technique for your training program. The answer is, it depends on the objectives of your training.

Categories of objectives (Slide 19)
These are the three domains of learning:

- **Cognitive:** This is related mostly to the domain of the concepts and knowing more about something.
- **Skills:** This is a more practical domain, where the objective is to learn how to do something.
- **Attitudinal:** This relates more to attitudes, values, interests.

We'll see a few examples now and try to associate the right learning activity to each of them.

Training with a cognitive objective (Slide 20)
These are examples of a training program with a cognitive objective.

A learning strategy that we can use for this type of training includes the use of interactive PowerPoint lectures, something that we are very familiar with and that we have used a lot during this training.

Training with a skills objective (Slide 21)
These are examples related to the other learning categories: the skills. In other words: every time the objective is to know how to do something and it is very practical.

The most effective techniques to learn skills are:

- Demonstration
- Supervised practice and follow-up

Training with an attitudinal objective (Slide 22)
And finally, the attitudinal objective. This relates more to a change in behavior or attitude towards a common goal or concept. In the slide, you can see a few examples of attitudinal objectives.

In this case, the techniques that can help in interacting with your audience are:

- Role-play
- Brainstorming
- Group discussion

These activities need facilitation as we have seen earlier. During these activities, the facilitator has, among others, the crucial role of observing the audience and making sure that each participant contributes to the discussion.

Summary (Slide 23)
In summary:

The learning strategy is only one of the components of a training, together with logistics, the facilitators, and most importantly, you, the audience.

In this session, we have learned the most commonly-used strategies for adult learning, and you have had the opportunity to practice them all. As you have experienced in other sessions in this two-day training, we have chosen different techniques according to the learning objectives that we wanted to achieve. If you now look back at the different sessions in the training, you should understand why we did not always choose to give a PowerPoint presentation, and why for certain activities, we have preferred a group discussion or a role-play.

What do you think? Now that you know most of the techniques, would you have chosen a different learning strategy or method for any of the activities in this training? If so, which activity and what other strategy would you have replaced it with?