

Event Based Surveillance

Module 5: Establishing an EBS Unit



Module 5 Learning Objectives

- 5.1 Describe the daily workflow of an EBS unit (sequence of tasks to be performed).
- 5.2 Identify the core competencies and specialized skills required to conduct EBS.
- 5.3 Define key resources and tools necessary for an EBS Unit



Implementing event-based surveillance (EBS)

The mission of an EBS unit is to provide a single source of reliable, comprehensive, and high quality information on international disease outbreaks and other health threats.



EBS unit routine activities

- Daily workflow

EBS unit formation

- Staffing, funding, stages of development, time requirements, unit cohesion, points of contact, protocols and job aids

EBS unit sustainability

- Training, succession planning, risk assessments, needs assessment, process improvements

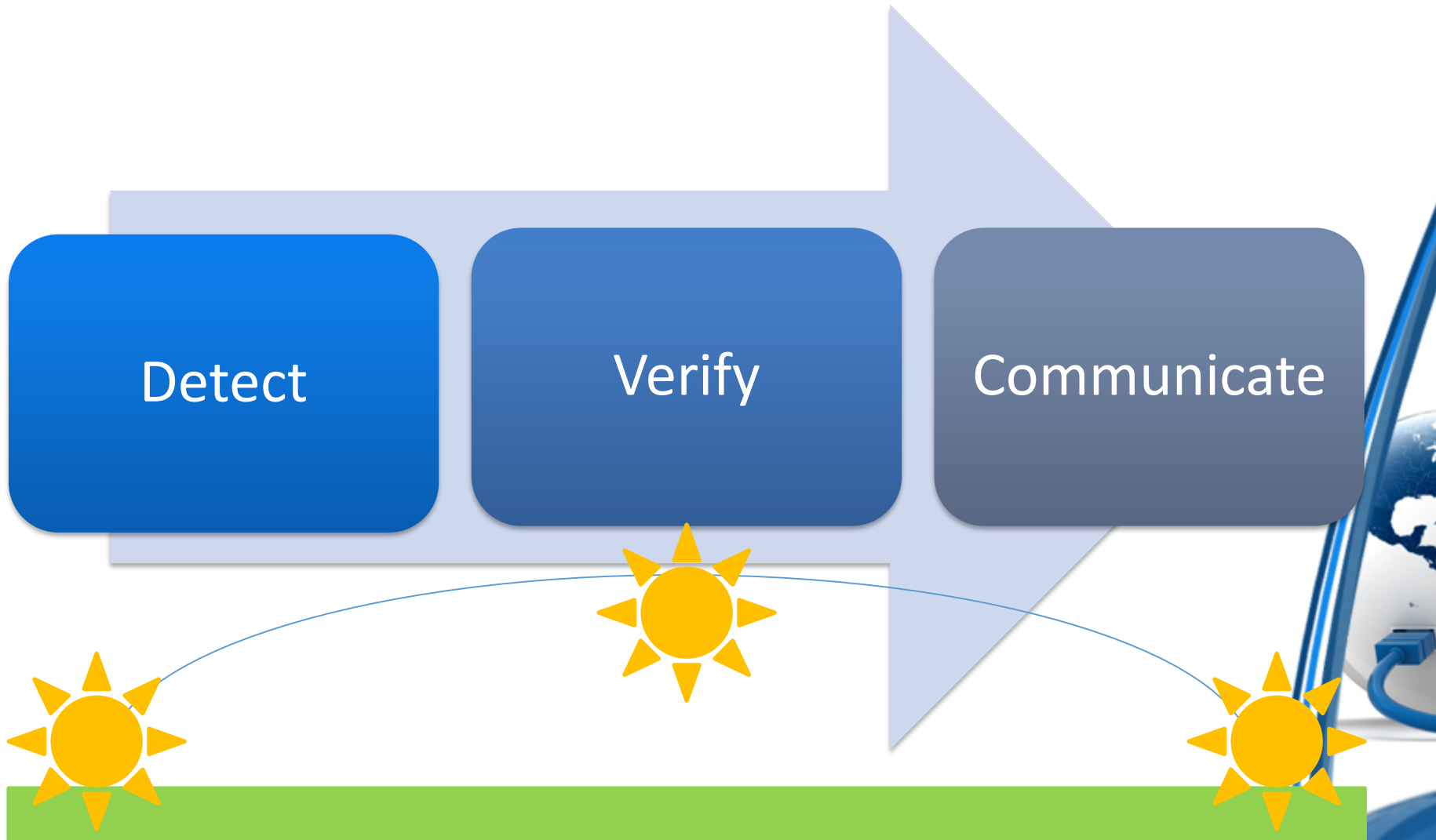


Operationalizing the EBS Unit

ROUTINE ACTIVITIES – DAILY WORKFLOW



EBS functions can be organized into specific tasks scheduled according to a daily workflow



Daily General Workflow of EBS Unit

Review information sources systematically



Collect, organize and assess available information



Attempt to verify information through outreach



Collaboratively review information and assess risks
(EBS team meetings)



Register and report surveillance information
(EBS Daily Report)



Continue to monitor active events for new information



Analyst daily responsibilities –

1) Scanning sources/systems; identifying signals

Analysts begin the work day by screening multiple sources to see if there is a new public health event of interest or an update to a previously identified event.

Based on our previous discussions...

- *What is one example of an official source that could be used when scanning purposes?*
- *What is one example of an unofficial source that could be used when scanning purposes?*
- *What is one example of a media scanning system that could be used for scanning purposes?*



Analyst daily responsibilities –

2) Collect, organize and assess available information

Once an EBS analyst has detected a signal, s/he should follow the following steps to contextualize this information:

- Check additional sources for corroborating reports
- Check baseline disease epidemiologic data to determine if this information is unusual or unexpected (consider geographic locations, seasonality, etc.)
- Determine whether an event meets reporting criteria
- Determine whether an event requires alert and response actions (including EBS unit coordination)



Analyst daily responsibilities –

3) Participate in EBS daily meetings to share and review information as a team

During the mid-day EBS Unit Daily Meeting, analysts:

- Share and discuss signals (unverified) or events (verified) discovered over the past 24 hours to decide if reporting/updating is warranted
- Identify “lead analyst” for continued monitoring (and reporting) of each new signal or event
- Discuss/characterize a high-level risk assessment (i.e. geo-scope; public health impact) based on all available information and contextualized data
- Identify information to be conveyed in the daily report
- Discuss policy, logistics, administrative, or other issues



Analyst daily responsibilities –

4) Register and report surveillance information

Following the EBS Unit daily meeting, analysts:

- Continue surveillance of information
- Enter key information into outbreak database (i.e. an event management system)
- After discussion in the team meeting, develop an event report/update to be included EBS Daily Report
- Seek comments and feedback from subject matter experts (SME) on the EBS Daily Report if needed
- Finalize and distribute the EBS Daily Report



Analyst daily responsibilities –

5) Continuous monitoring of events for new information

- Follow up on information sources and feedback (until event is no longer actively being followed or is “closed”)
- Regularly check for updates on websites
- Continuously check e-mail (EBS group mailbox) or other communications from reliable sources to verify event information
- Continue to share updated information in daily EBS team meetings and provide updates on the EBS Daily Report



Operationalizing the EBS Unit

EBS UNIT FORMATION - RESOURCES AND TOOLS



Analysts in an EBS unit work as a team to carry out EBS functions collaboratively

Collecting and analyzing

- National and international health event data for early detection

Classifying

- Health risks associated with these events

Disseminating

- Event information

Facilitating

- Appropriate and rapid interventions

Leveraging

- Existing expertise in-country via formal and informal networks

Human resources needed to staff the EBS Unit

- EBS Unit Director
- EBS analysts/epidemiologists
 - Two to 5 EBS analysts are required for an efficient EBS Unit to function
- Administrative assistant & other support staff
 - Support for emergency response and coordination



EBS Unit staff require a combination of “hard” and “soft” skills

Technical competencies



- Data collection
- Data analysis
- Report writing

Contextual competencies



- Understand sensitivity of information
- Preserve trust with sources
- Use technical/analytical knowledge to distinguish signal from noise



Characteristics of an ideal EBS Unit analyst

Requisite skills

- Advanced epidemiology/public health training and related analytical skills;
- General public health expertise;
- Previous experience in infectious disease surveillance or environmental health;
- Good knowledge of the national public health structure and mechanisms;
- Good knowledge of international public health and mechanisms (if applicable);
- Good written and verbal communication skills for preparing and presenting reports
- Interpersonal skills to interact with different stakeholders including subject matter experts;
- Good knowledge of data management and IT tools, particularly Internet searches.

Additional desirable skills and attributes

- Good knowledge of infectious diseases, particularly zoonotic diseases
- Flexibility & adaptability to cope with a wide range of health events and tasks;
- Ability to work under time pressure;
- Well organized and able to handle high volume of information
- Good knowledge of geographic medicine (when applicable)
- Curious and always eager to learn

The EBS team functions as one unit

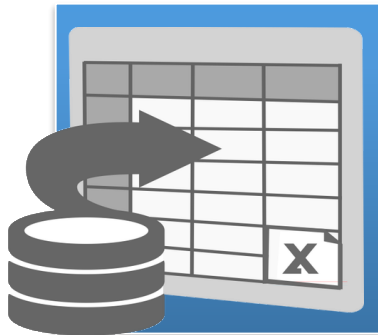


Shared email box

Shared resource portal
(or network drive) for
research and reference



Outbreak database for
logging, managing, and
reporting events



Tools for EBS Unit daily workflow:

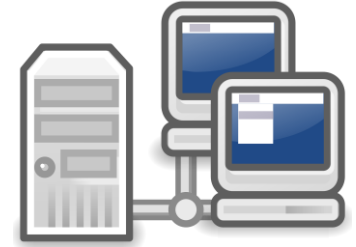
EBS Team Group Mailbox



- Secure, shared inbox for all EBS Unit staff
 - Incoming messages copied to all staff
 - Staff copy the shared inbox on all EBS Unit-related communications
- Benefits:
 - Prompt response to queries
 - Transparency and knowledge-sharing among team
 - Assists searches for archived messages on active and inactive events

Tools for EBS Unit daily workflow:

Shared resource portal (or network drive) for research and reference

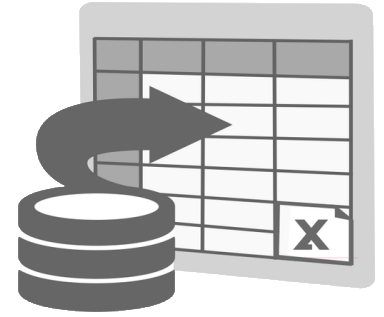


- Mechanism for analysts to share research and reference information
 - Electronic portal (such as Microsoft SharePoint) for saving tagged documents by disease, country, region, etc.
 - Alternatively, a shared network drive (secured by permissions) can serve as a repository for relevant documents



Tools for EBS Unit daily workflow:

Outbreak database for logging, managing, and reporting events



- Database for logging, managing and reporting events that meet the EBS Unit’s criteria, ideally comprising a web-based application that:
 - Is accessible only to EBS analysts
 - Allows analysis of quantitative and qualitative data
 - Includes a function for generating reports directly
- The outbreak database should contain the “Active List” of all public health events that are currently actively followed by the EBS Unit
 - Reviewed and revised weekly by analysts

Tools for EBS Unit daily workflow:

List of priority public health events

Detect

A list of priority public health events for surveillance should be established in the context of EBS selection criteria and national planning for EWAR. The list may contain:

- **Diseases** (e.g. measles)
- **Syndromes** (e.g. hemorrhagic fevers)
- **Hazards** (e.g. contamination of drinking water source)
- **Unexpected/unusual events** (e.g. unexplained mortality)



Tools for EBS Unit daily workflow:

A “Source List” for online resources

Detect

EBS Unit analysts should assemble, maintain, and use a Source List for data collection that is shared among all analysts.

- The Source List should be kept in a password-protected database or spreadsheet that includes:
 - Name of each organization or source
 - URL (hyperlink) of source
 - Log-in information (username, ID, password)
- Analysts are responsible for updating passwords as needed

Tools for EBS Unit daily workflow:

Key officials/SME contact list

Verify

EBS analysts should develop and maintain a roster of key officials and other leadership staff who can assist with timely clarification and verification of information related to country-specific events.

Identify key officials at the national, intermediate, and local levels (including MOH- and other state-affiliated institutions and international organizations)

- Name
- Agency
- Position
- Contact information (office phone, mobile phone, email)

Tools for EBS Unit daily workflow:

Subject Matter Expert (SME) list

Detect

Communicate

EBS analysts should develop and maintain SME lists in a database or a spreadsheet on a shared network drive (or portal).

This list should be used by all analysts to identify and find contact information quickly for SMEs who can be consulted for assistance during an event. Key information includes

- Disease / Agent of expertise
- Contact name
- Organization/unit
- Contact information (office phone, mobile phone, email)



Tools for EBS Unit daily workflow:

Reporting templates

Communicate

EBS analysts should develop and use templates for drafting reports for leadership and key stakeholders.

When developing daily reports, an analyst should consider the following: Audience, purpose, timeline, and template defined for daily, summary (weekly/monthly), ad hoc, and urgent reports

Reporting templates should include the following essential information:

- Event description
- Timelines
- Public health impact
- Geographic scope and risk of spread
- Ongoing or planned activities
- Additional context



Resources:

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). Geneva: World Health Organization, 2014.

http://www.who.int/ihr/publications/WHO_HSE_GCR_LYO_2014.4/en/

Standard Operating Procedures: Handbook for Event-based Surveillance. Atlanta, Georgia: US Centers for Disease Control and Prevention, 2018.

