Jhpiego Event-Based Surveillance technical Assistance to Nigeria CDC

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22nd June 2022

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Outline

- Introduction
- Definition
- Surveillance cycle
- IDSR/ IBS & EBS
- Event-based surveillance
- NCDC's EBS Phases
- EBS Contributions at NCDC

NCDC Event based Surveillance TA Support to NCDC

Scope:
Strengthen NCDC event-based surveillance by providing technical assistance in human resource support in surveillance activities associated with EBS systems and associated alert and response operations (ARO) at the Nigeria CDC.

Design:
- Strengthen national and subnational level communication on daily EBS routine activities to boast early warning, signal verification and reporting.
- Improve early/timely outbreak response in communities that are epidemic prone and the general public.

Funding: Awarded by
US CDC

Period of Performance:
5-year COAG effective September 2020 to six states in West Africa. With funding for CDC in Nigeria for 1 year – subject to renewal

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Definitions

Public Health Surveillance
The continuous, ongoing systematic identification, collection, analysis and interpretation of health-related data needed for the planning, implementation, and evaluation of public health practice.

GOAL: Data for Action

Epidemic Intelligence (EI)
The systematic collection, analysis and communication of any information to detect, verify, assess, and investigate events and health risks with an early warning objective

Early Warning Alert and Response System (EWARS)
An organized mechanism to detect and respond rapidly to acute public health events of any origin, with a focus on country-specific needs and objectives.
Both indicator-based and event-based surveillance components serve the early warning and response (EWARS) function of the public health

Integrated Disease surveillance and response
Integrated Disease Surveillance and Response (IDSR) is a strategy adopted by countries in the WHO African Region for implementing comprehensive public health surveillance and response systems for priority diseases, conditions and events at all levels of health systems. Successful implementation will require a well-trained, competent and dedicated workforce

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Definitions

Signal
Data and/or information considered by the Early Warning and Response (EWAR) system as representing a potential acute risk to human health.

Event
When a signal has been verified, a signal becomes an "event."

Event based surveillance
Event-based surveillance (EBS) is defined 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.

Indicator Based Surveillance
Is a more traditional way of reporting diseases to public health officials. Indicator-based surveillance involves reports of specific diseases from health care providers to public health officials routinely. Such information may be described as structured information because the information obtained is standardized

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Generic surveillance cycle

Identify

Verify/Interpret

Assess

Communicate

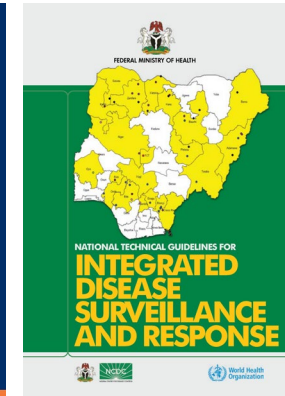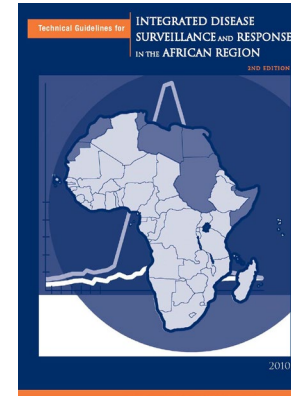Prepare/Respond

Evaluate

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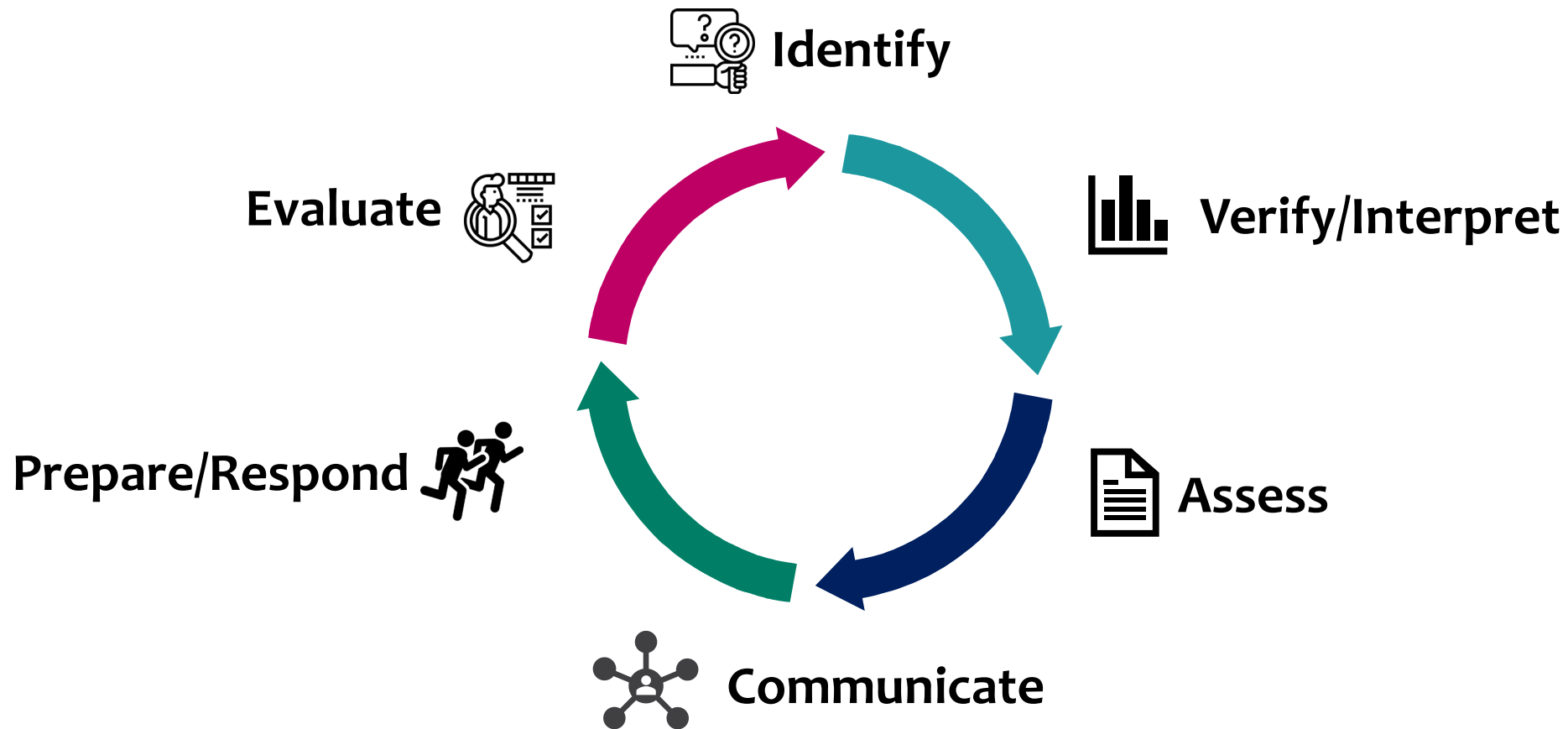
Public Health Surveillance Approach/IDSR

To ensure **robust early warning and prompt response,** the IDSR data collection and analysis system relies on two main channels of information or signal generation:

- IBS and EBS are Back bone to IDSR Strategy

- Both are components of Early Warning Alert and Response System (EWARS) and Epidemic Intelligence incorporated in the IDSR strategy

Indicator-Based Surveillance (IBS)

Event-Based Surveillance (EBS)

IBS & EBS contribute to epidemic intelligence

Indicator-based surveillance (IBS)

Routine collection of data on priority diseases or syndromes according to established case definitions

Most information from health facilities

Health care facility based Weekly, monthly reporting

Event-based surveillance (EBS)

Organized collection, assessment, and interpretation of mainly unstructured information on health events or risks

Information from multiple sources (official, unofficial, informal)

Immediate reporting

HEALTH FACILITY LEVEL
ROUTINE WEEKLY NOTIFICATION FORM: IDSR 002

Importance of EBS

- Early Detection of Outbreak
- Reduction in Transmission of Diseases
- Enhances Prompt Response
- Reduction in Morbidity and Mortality
- To increase early suspicion of potential threats
- Involvement of Community in Outbreak detection
- Building of Trust in Agency by the community
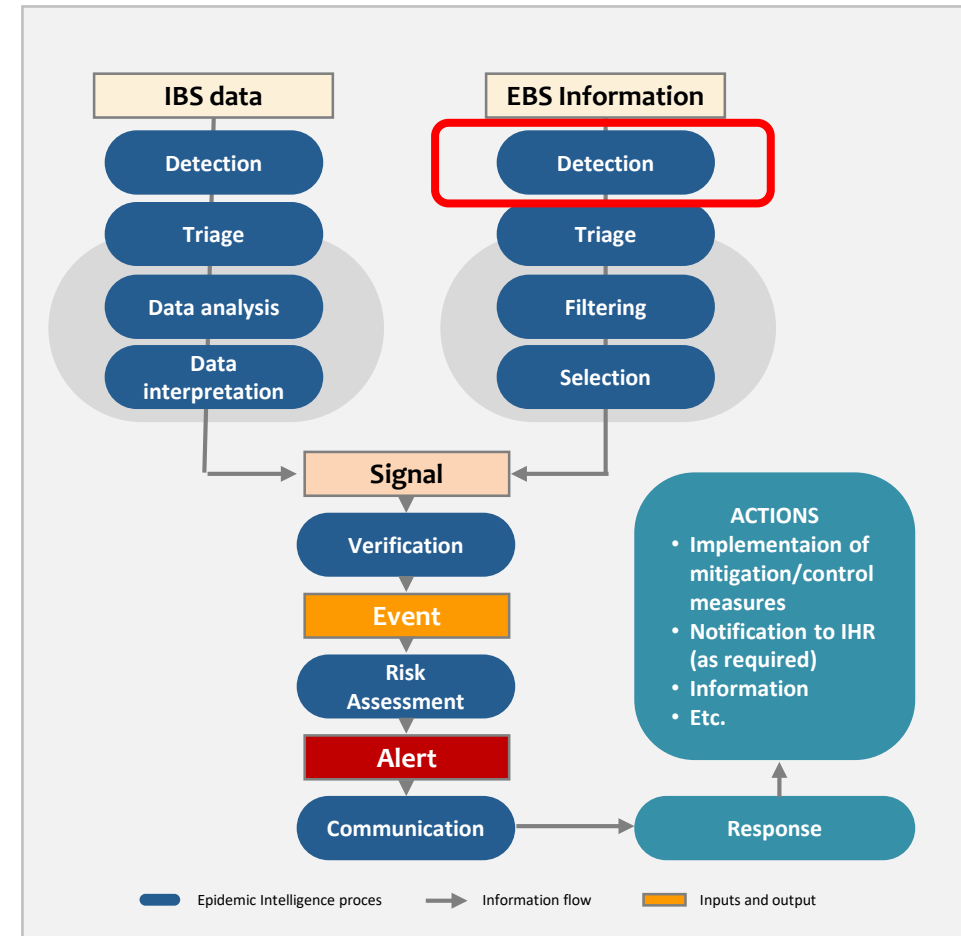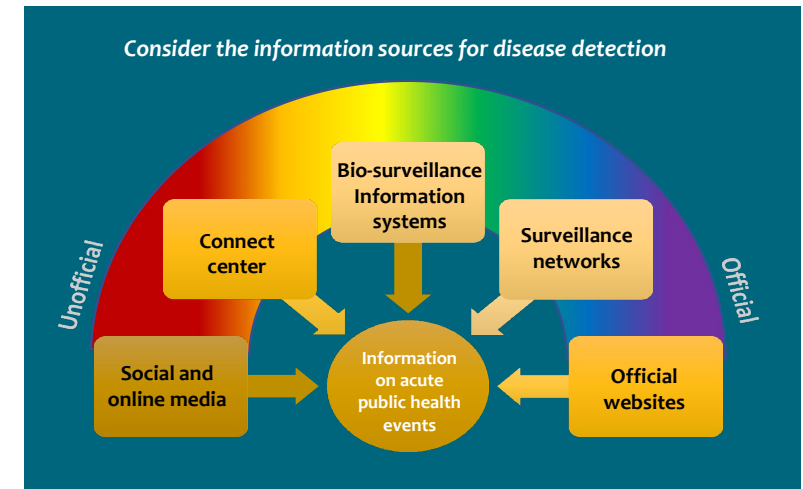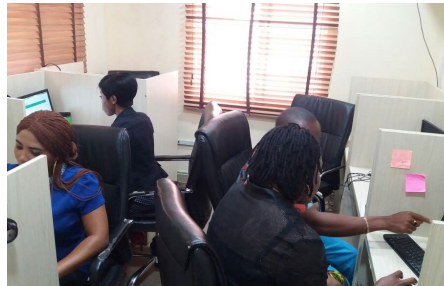
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PROCESS: Epidemic intelligence (EI) within EWAR
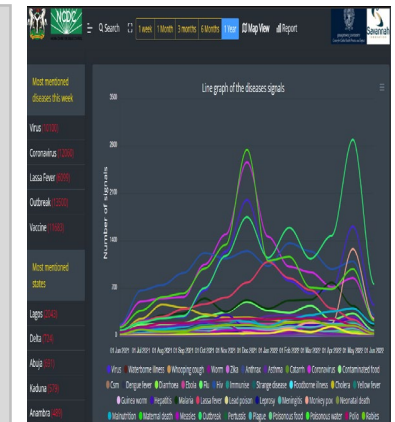
Detection
EBS/early warning vs public health/risk communication

Early Warning

- Clusters of an unknown disease
- Unusual or excess death occurring in a community
- Unusual die-off of animals
- Unexpected of a disease not previously reported from an area
- Accidental or deliberate pathogen release
- Toxic chemical releases
- Radio nuclear releases

Public Health/Risk Communications

- Growing public health sentiment or discord
- Circulating public health misinformation
- New public health laws or regulations passed
- Annual/routine reports of morbidity and mortality
- Drug/vaccine developments
- New public health/ministry of health leadership
- Chronic or noninfectious disease reports
- Reports on occupational health
- New Motor vehicle or other travel related safety measures

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PROCESS: Triage and Filtering

IBS data
- Detection
- Triage
- Data analysis
- Data interpretation

EBS Information
- Detection
- Triage
- Filtering
- Selection

Signal → Verification → Event → Risk Assessment → Alert → Communication → Response

ACTIONS
- Implementaion of mitigation/control measures
- Notification to IHR (as required)
- Information
- Etc.

Legend:
- Epidemic Intelligence proces
- Information flow
- Inputs and output

Conduct triaging by asking the following questions

1 *Is the reported information relevant to early warning? (i.e could this alert be genuine public health event?)*

2 *Was this alert previously reported? (i.e., is this signal a duplicate?)*

If the report is pertinent and is not a duplicate, then alert must be verified.

Filtering of EBS raw inputs

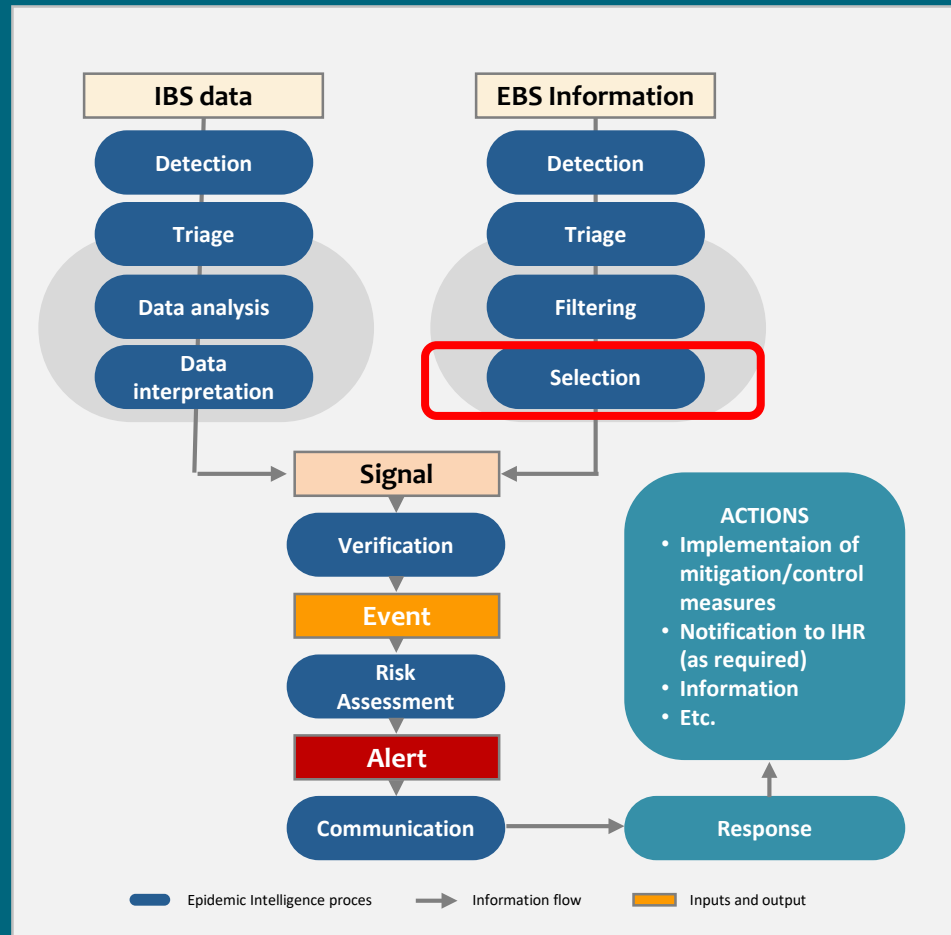**1** *Identifying and removing duplicates (the same event reported by the same source)*

2 *Identifying and discarding information not relevant to EWAR (information that matches the criteria for public health events but is irrelevant for early warning, such as a generic review of a disease)*

Filtering: The process of screening out duplicates and information which is not relevant for EWAR

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PROCESS: Selection

Flow Diagram

IBS data
- Detection
- Triage
- Data analysis
- Data interpretation

EBS Information
- Detection
- Triage
- Filtering
- **Selection** *(highlighted in red box)*

Signal

- Verification
- **Event**
- Risk Assessment
- **Alert**
- Communication
- Response

ACTIONS
- Implementaion of mitigation/control measures
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Legend:
- Epidemic Intelligence proces
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- Inputs and output

Right Panel

The sorting out of information according to national priority criteria

Selecting information that is pertinent/ relevant for early warning (depends upon objectives/mission of the EBS Unit; human-driven)
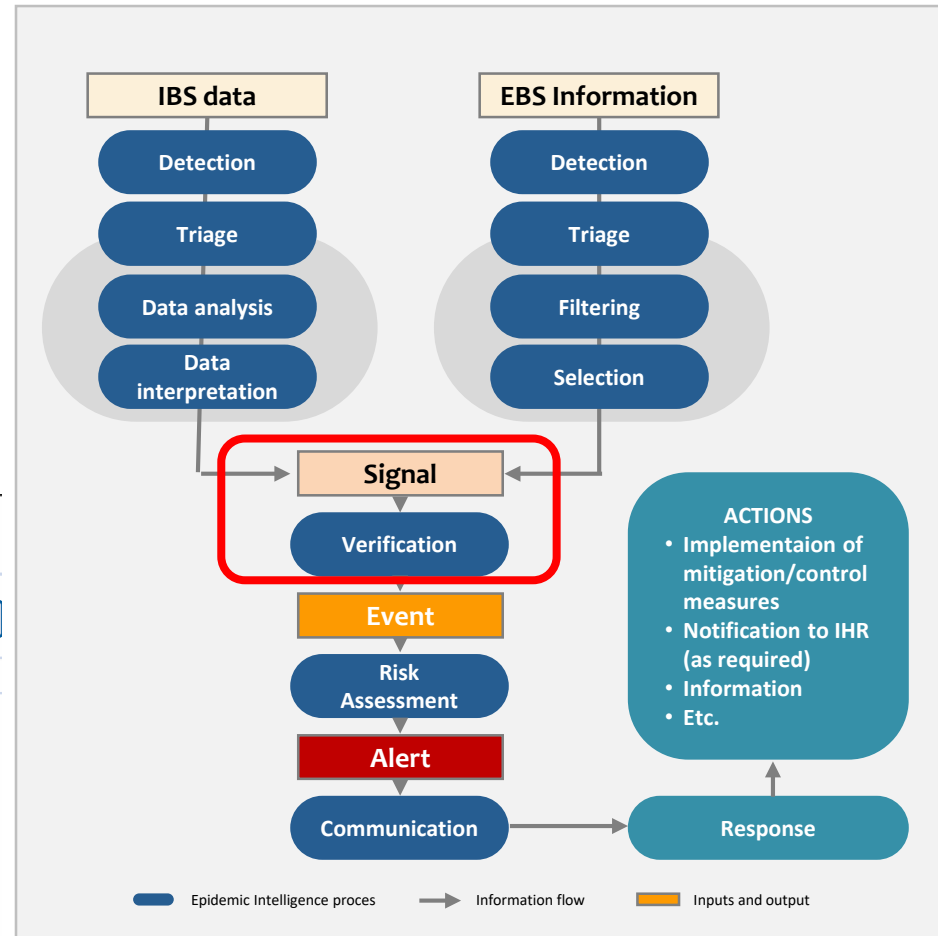
EWAR surveillance objectives
- Diseases (e.g. measles)
- Syndromes (e.g. hemorrhagic fevers)
- Hazards (e.g. contamination of drinking water source)
- Unexpected/unusual events (e.g. unexplained mortality)

An alert is any new signal
- of public health relevance
- occurring in any part of Nigeria or externally
- with potential of spread into Nigeria
- reported to or identified by the EBS team

The process of selection – The national context ofpriority publichealth events for EBS

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PROCESS: Signal and Verification

Relevant Signals

SORMAS
- Dashboard
- Tasks
- Persons
- Cases
- mSERS
- Contacts
- Events
- Samples
- Immunizations
- Reports

Surveillance Dashboard

This epi week: Wk 26-2022 (20/06 - 21/06/2022)

Most relevant date | Region

COVID-19 **80** ⌄ 1037
Last report: Nassarawa
Fatalities 0
Number of events 0

CHOLERA **8** ^ 4

IBS data
- Detection
- Triage
- Data analysis
- Data interpretation

EBS Information
- Detection
- Triage
- Filtering
- Selection

Signal
→ Verification

Event

Risk Assessment

Alert

Communication → Response

ACTIONS
- Implementaion of mitigation/control measures
- Notification to IHR (as required)
- Information
- Etc.

Legend:
- Epidemic Intelligence proces
- Information flow
- Inputs and output

Key steps in verification process

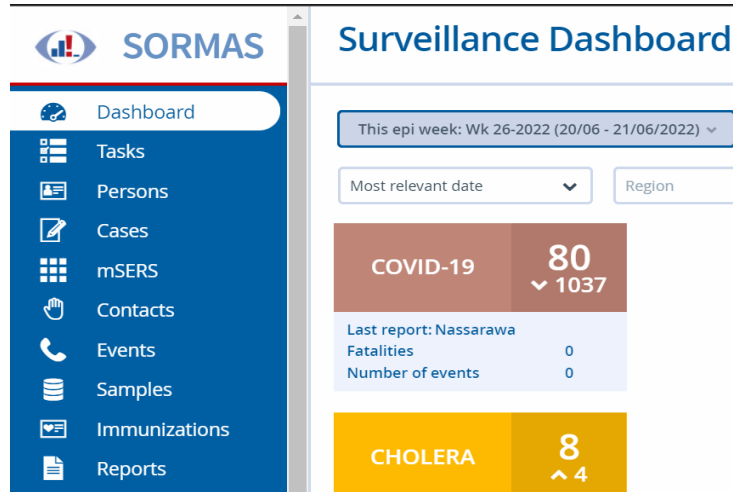*First consider the information source (official or unofficial)*

Search for and collect additional corroborating information if possible

Actively cross-check the validity of the information using reliable sources, with input from SMEs

Begin to characterize the potential event, considering spread, severity and public health impact

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Verification of signals

Ministry's of Health
- National level epidemiology or laboratory units
- Local and intermediate-level health units
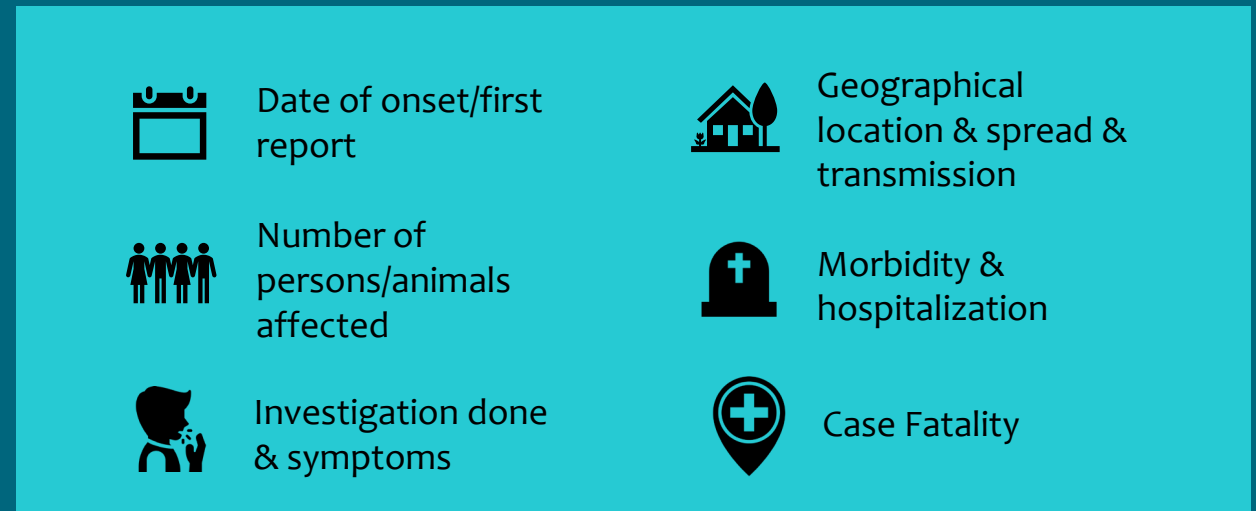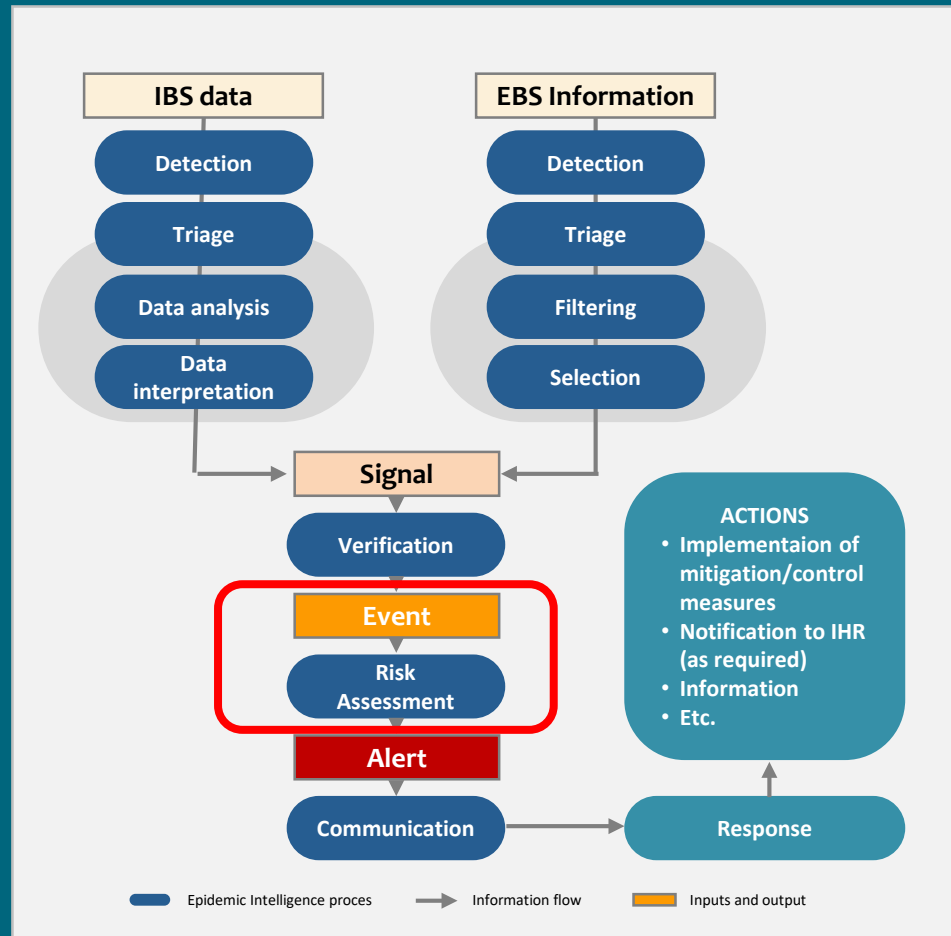- Healthcare facilities which may conduct surveillance

Other government entities
- Other Ministries (Ministry of Ag, Defense, etc) STATE & LGA EPID TEAM & HFs, informants
- National Public Health Institutes
- National Reference Laboratories or other lab networks

Others
- NGOs operating in the area and partners (Red Cross, Samaritans Purse, etc)
- United Nations Organizations
- Subject Matter Experts (SMEs) of the respective diseases/syndrome reported, influencers

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PROCESS: Preliminary risk Assessment of the Event

IBS data
- Detection
- Triage
- Data analysis
- Data interpretation

EBS Information
- Detection
- Triage
- Filtering
- Selection

Signal

Verification

Event

Risk Assessment

Alert

Communication → Response

ACTIONS
- Implementaion of mitigation/control measures
- Notification to IHR (as required)
- Information
- Etc.

Legend:
- Epidemic Intelligence proces
- → Information flow
- Inputs and output

- Date of onset/first report
- Number of persons/animals affected
- Investigation done & symptoms
- Geographical location & spread & transmission
- Morbidity & hospitalization
- Case Fatality

SITAware

Platform for documenting and managing signals & events

PROCESS: Notification & Communication

NCDC's EBS Phases

Identify

Verify

Preliminary risk assessment

Notify & communicate

Monitor

Events of Interest
-Known/unknown cause of deaths in humans and animals -Spread of known/unknown illness
-Mass gatherings -Diseases targeted for elimination –Environmental hazards

Sources
Channels:
- TV - Websites - Radio - Newspapers - Search engines - Calls - Blogs - Social media
Who:
-Health Worker -General public - Journalists

Screening/Filtering

Event Identified

Verification & Validation

Event Established
Public health significance?

Risk Assessment

Risk Identified

No Risk

Determine action(s) and notify responsible persons, units, departments, others

Track action (s)

Completed action(s)

Reports/ Feedback

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Onboarding /
Project Objectives

- To strengthen NCDC event-based surveillance by providing technical assistance through embedded human resource on surveillance activities associated with EBS systems and associated alert and response operations (ARO).

- Improve early/timely outbreak response in communities

- Strengthen national and subnational level communication to boost early warning, signal verification and signal reporting.

Duration of project & Funder:
The project is fully funded by the U.S. Center for Disease Control

Implementing Partner :
Jhpiego Global & Nigeria Office
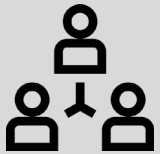
Supporting Partner:
Nigeria CDC

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Contributions to NCDC

SIGNAL MONITORING

SIGNAL ESCALATION

SIGNAL VERIFICATION AND REPORTING

COORDINATION AND COMMUNICATION

SIGNAL DOCUMENTATION

OTHER COMPLETED TASK

TECHNICAL ASSISTANCE

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Diseases outbreak incidents captured on SITAware; Yellow fever, Lassa Fever, Monkeypox, Whooping cough, Measles, Cholera , COVID-19 and unknown death
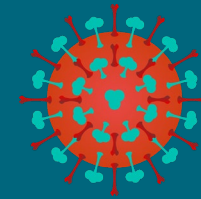
25 Yellow Fever incidents created and updates documented
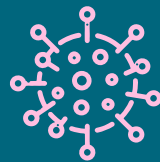
40 Lassa Fever incidents created and updates documented
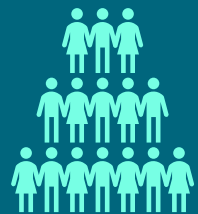
13 Monkeypox incidents created and updates documented

43 cholera events created for and updates documented

36 +1 COVID-19 data updates captured

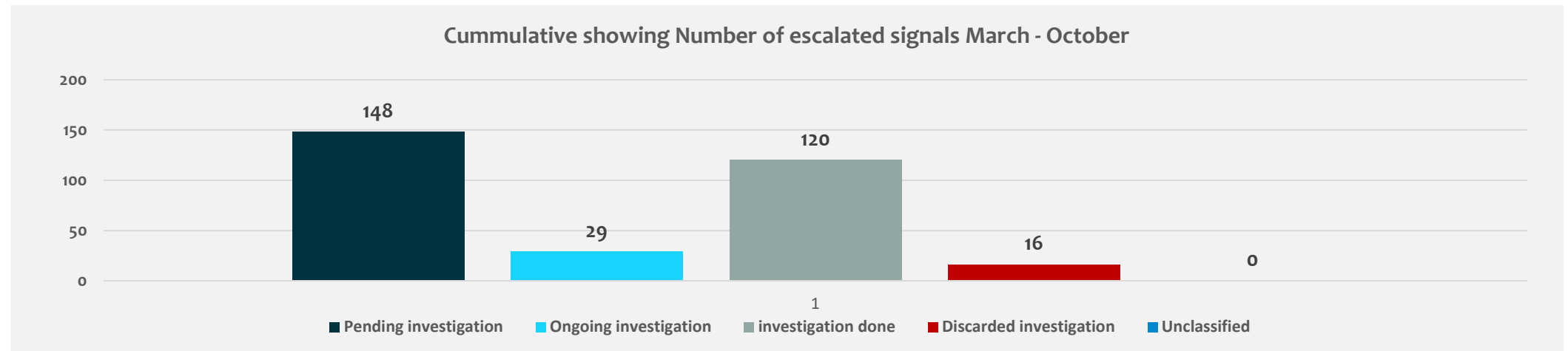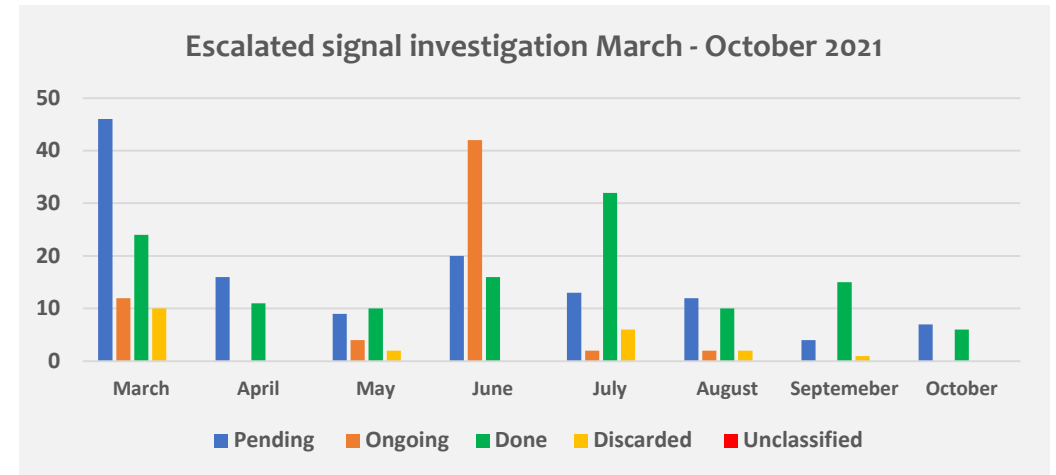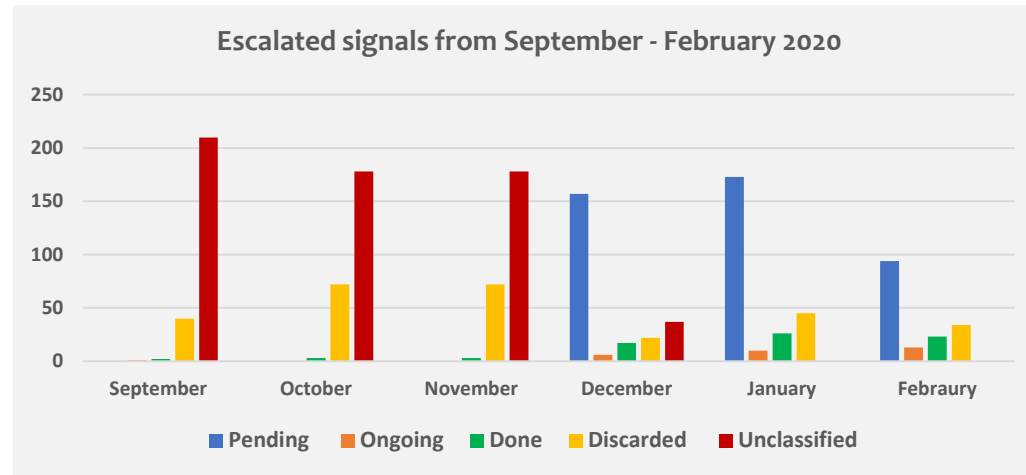**28** Measles outbreak incidents created and actions documented

3 Whooping cough events created and updates documented

4 Unknown death incidents captured

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Signals Escalated and Reported Feedback

THANK YOU