Experience on the Implementation of EBS and EIOS in Sierra Leone

With Highlight on the Mentorship Approach Piloted between Sierra Leone and Nigeria CDC

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Areas of Discussion

Experience on the implementation
of EBS and EIOS in Sierra Leone

Highlight of the mentorship approach
piloted between Sierra Leone and
Nigeria CDC

Background – Disease Surveillance in Sierra Leone

- Disease surveillance started in 1999, in **2004 Sierra Leone adapted** Integrated Diseases Surveillance & Response **(IDSR) strategy** provided by WHO-AFRO for control of communicable diseases.

- Sierra Leone has suffered a series of serious health emergencies, mainly disease outbreaks & natural disasters. For example;

  - **Cholera Outbreak** (2012-2013) declared a national emergency, with 23,308 cases, 301 deaths
  - **Ebola Virus Disease (EVD) outbreak** in 2014-16 recorded 14,124 cases, 3,956 deaths
  - **Flooding & mudslide disaster** in Freetown in 2017 killed over 500 people, rendered thousands homeless

- EVD outbreak exposed the **country's fragile health system** - health system suffered a severe shock

- Post EVD outbreak, Sierra Leone embarked on a journey to **revitalize the disease surveillance system** to strengthen capacity to prevent, **detect** and respond to public health threats.

Areas of Focus – Revitalization of Disease Surveillance 2015 to 2020

Validity of Data

IDSR now being implemented in **all districts** in the country. Data quality assessments of IDSR data are regular. Surveillance **data accuracy** has improved to 89.3% in 2021. Data timeliness and completeness above 90%

Informatics & IT

System for **electronic reporting** of weekly epidemiological data established in 2016, has been sustained and is being improved.

M&E of Surveillance

National disease surveillance **strategic plan** for 2019-2023 was developed. **Supportive supervision** & OJT of disease surveillance program sustained. **National reviews of program performance**

Sustainability

An **IDSR curriculum** has been introduced and the public health training institutions are now implementing it.
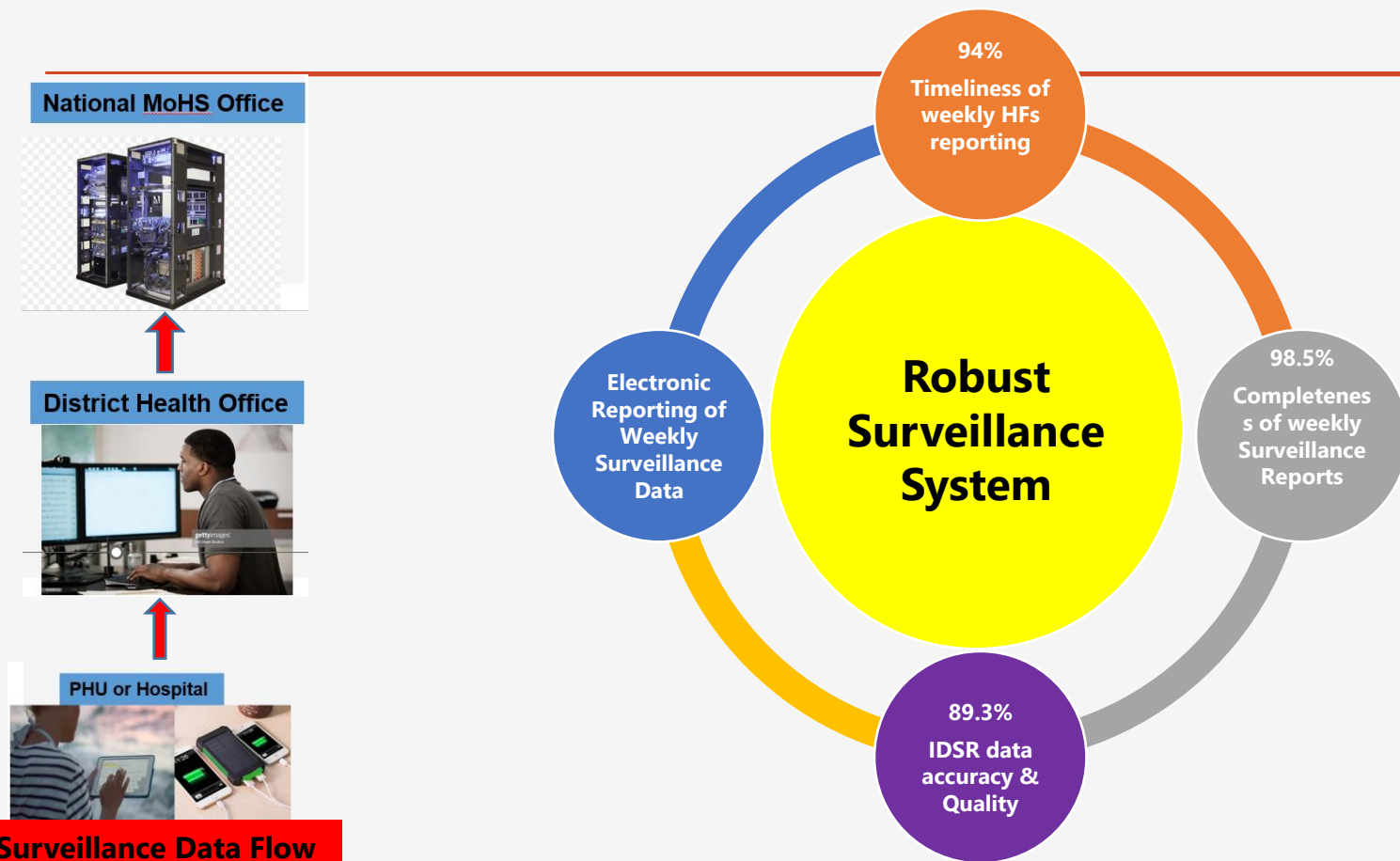
The revitalization had impact mainly on **indicator based surveillance**.....

Capacity Building

WHO-AFRO Surveillance **guidelines**, **training** materials and **reporting tools** introduced, staff trained, and **surveillance focal persons designated in all health facilities**
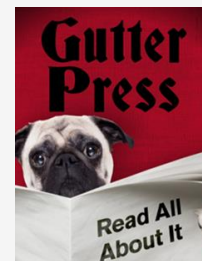
Outcomes of Revitalization of the Disease Surveillance system

EBS Implementation in Sierra Leone

- EBS in Sierra Leone **mainly takes 3 forms**;
  - Community based surveillance
  - 117 toll free telephone hotline
  - Internet based surveillance

- In 2021 EBS in Sierra Leone **enhanced with introduction of EIOS** with the support of WHO, US-CDC, Africa-CDC, and JHPIEGO.

- HR: With the support of JHPIEGO, **2 EBS analysts designated** at MoHS to detect, verify & report signals from various sources including EIOS.

Sources of EBS signals in Sierra Leone

EBS Implementation in Sierra Leone – Improvements between 2020 & 2022

Status of Various Aspects of Surveillance	Indicator Based Surveillance - 2020	Indicator Based Surveillance - 2022
Governance, finance and planning	Strong	Strong
Aggregation, analysis and quality of data	Strong	Strong
Archive of data	Strong	Strong
Response to outbreaks and alerts	Average	Average
Feedback to stakeholders	Strong	Strong
Training and capacity building	Strong	Strong
M&E	Strong	Strong
Resource mobilization	Strong	Strong

Status of Various Aspects of Surveillance	Event Based Surveillance - 2020	Event Based Surveillance - 2022
Governance, finance and planning	Weak	Average
Aggregation, analysis and quality of data	Weak	Strong
Archive of data	Weak	Average
Response to outbreaks and alerts	Average	Average
Feedback to stakeholders	Weak	Strong
Training and capacity building	Weak	Average
M&E	Weak	Weak
Resource mobilization	Weak	Strong

EBS in Sierra Leone

Detection → **Alert** → **Verify** → **Event Management** → **Response**

EBS Activity

Detection
- **scan media** using EIOS, talk walker and other electronic media, including: Google Alerts, Tweeter, WhatsApp, YouTube and social media accounts
- **Monitor broadcasts** of radio and television
- **Scan local print media** e.g. newspaper and magazine
- **Monitor routine surveillance reporting platforms**: EIDSR (eCBDS, Aggregated weekly Reporting, Sentinel Surveillance, POE locator forms)
- **EOC toll free line** (117)

Alert
- **Send 'signal enquiry' email to EBS group mailbox**, Public Health Emergency Operations Center, Director Health Security/NPHA, & Subject Matter Experts
- **If a signal poses potential high public health impact, produce a spot rep and share** with the DHMT and DHSE Pillar Leads
- **Report alert** to National Surveillance, Lab, RC technical working group meeting team and weekly EPRG meeting, at District Level Report alert to DSO and weekly Surveillance
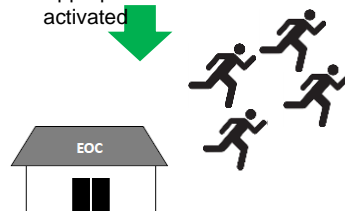
Verify
- **Inform District RRT members**
- **Engage Subject Matter Experts**
- **Deploy RRT to verify event**
- **RRT provides feedback** to district and National MOHS officials and partners
- **Continue to scan media**
- Continue to monitor and detect new information on a verified event

Event Management
- **Send 'event verified/notification notice' to PH-EOC stakeholders**
- Notify WHO If event threshold is reached.
- Initiate activated EOC coordination meetings with established IMS structures
- Support production of Situation Reports
- Support development of media briefings
- Develop Incident Action Plan (IAP)
- Initiate coordinated resource mobilization
- Continue event assessments and situation awareness (generate presentations, visual displays and dashboards)
- Assess event progression and activate surge personnel deployment mechanism accordingly.

Response
- **Outbreak declared**
- Incident management structure established/ EOC activated
- Required RRTs deployed (DRRT or NRRT)
- Daily situation reports produced
- IAP produced and updated
- Receive/triage RFAs/RFIs and distress calls from the field
- Resources, and actions tracked
- Appropriate PDP mechanism activated

EOC

Systems in Use

| DHIS2 | DHIS2 | DHIS2 | DHIS2 | DHIS2 |

Responsible Person(s)

| -Health Facility Staff
-EBS Analyst | -Health Facility Staff
-EBS Analyst
-Surveillance officer | -Surveillance officer
-Rapid Response Team | -Event Management Team | • Director DHSE
• Incident Manager
• Surveillance
• PH Lab |

EBS team

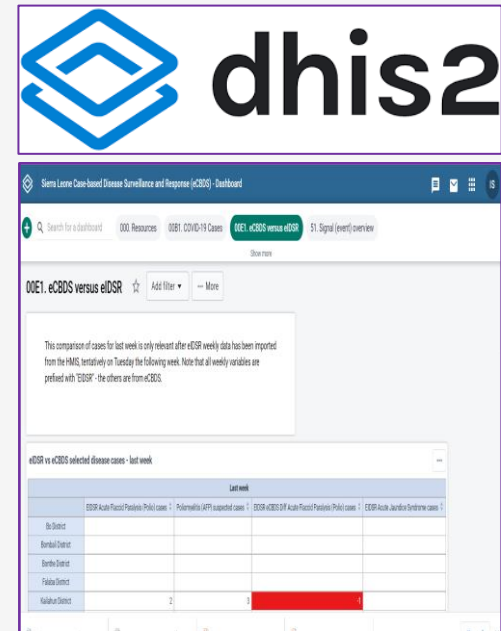**EMS team**

EBS Event Management System Set up within DHIS2

- An EBS-EMS platform is being developed to help **manage and archive important EBS signals and events in the DHIS2**

- Support from web development specialists (HISP*) & Africa CDC

- Our system is a modification from Africa-CDC EMS system and partially a lesson from the Uganda EMS instance

- We appreciate the collaboration with Uganda in strengthening our EBS

- *HISP is a global movement to support DHIS2 implementation

Screenshot of Event Management System Platform on the DHIS2

EIOS Implementation in Sierra Leone

- EBS & EIOS **trainings** done in June & November 2021

- EBS analysts been receiving **follow-up technical assistance & mentorship** from partners - especially by WHO-AFRO, Africa CDC & CDC Atlanta, both **remotely and in-person**

- Sierra Leone **EBS products** now include : Daily & Weekly Epidemic Intelligence Report, EBS Workflow, DHIS2- Event Management Platform , EBS SOP, 7-1-7 matrix monitoring framework for efficiency of response

- We **disseminate daily Epidemic Intelligence Report** on signals gathered from EIOS sources

Daily Epidemic Intelligence Report

Next…..

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Highlight of the Mentorship approach piloted between Sierra Leone and Nigeria CDC

Highlight of the Mentorship from US-CDC and JHPIEGO

- The EBS Analysts have received mentorship and technical assistance from US-CDC and JHPIEGO in recent months

- JHPIEGO also organizes a weekly meeting (**virtual follow up technical support meetings**) with the EBS analysts in Liberia, Nigeria, and Sierra Leone.

- EBS analysts use these forums to **share experiences, opportunities, best practices, challenges and improvement plans**.

US-CDC Technical Staff on Temporary Duty Assignment to Support Sierra Leone

Mentorship Session at JHPIEGO Sierra Leone

Highlight of the Mentorship Approach Piloted Between Sierra Leone and Nigeria CDC

- The Sierra Leone EBS team had a **working visit to Nigeria-CDC** in August 2022 alongside the Liberia NPHI EBS team which was facilitated by JHPIEGO

- The DG Nigeria-CDC welcomed the team and lauded the **south-south collaboration to improve EBS in the region**

Sierra Leone & Liberia Participants With Nigeria-CDC Mentors, Abuja, August 2022

Highlight of the Mentorship Approach Piloted Between Sierra Leone and Nigeria CDC

- The teams were introduced to SORMAS (Nigeria eIDSR) used for **data and information management** in surveillance, epidemiology and laboratory

- **Nigeria-CDC 7-1-7 matrix** concept for disease detection, investigation and monitoring of the efficiency of response to events was highlighted – this helped to strengthen the 7-1-7 matrix concept in Sierra Leone.

- Teams introduced to **tatafo** - an source of EIOS signals from online 'gossip'

- SItAware is the Nigeria-CDC platform for incident **management and source of signals at sub-national level** – Sierra Leone intends to adapt this

Visit to SORMAS Unit, Nigeria-CDC

Challenges in the Implementation of EBS in Sierra Leone

- Low social media presence in Sierra Leone making internet based EBS signals limited

- Inadequate resources for implementation of disease surveillance activities

- Inconsistency in availability of the toll free telephone hotline service (117-Call Centre)

- Sustainability of community based surveillance & EBS not guaranteed due to reliance on donor funds

- Some sub-national levels are not contributing to the EBS signals processed

- National EOC not adequately equipped to process and share EBS information

Recommendations - Implementation of EBS in Sierra Leone

- Capacity building on EBS should continue and also target sub-national level

- Finalize the SOP for implementation of EBS

- Further strengthen EBS data and information management

- Advocate for domestic resources for consistency in availability of the toll free telephone hotline service (117-Call Centre)

- Enhance the national EOC to be adequately equipped to process and share EBS information

Thank You for your attention

--The End--