WEEKLY EPIDEMIOLOGICAL REPORT

A publication of the Epidemiology Unit
Ministry of Health, Nutrition & Indigenous Medicine

231, de Saram Place, Colombo 01000, Sri Lanka
Tele: + 94 11 2695112, Fax: +94 11 2696583, E mail: epidunit@sltnet.lk
Epidemiologist: +94 11 2681548, E mail: chepid@sltnet.lk
Web: http://www.epid.gov.lk

WEEKLY EPIDEMIOLOGICAL REPORT SRI LANKA 2023

Vol. 50 No. 06 04th– 10th Feb 2023

Indicator & Event based Surveillance Part I

This is the first article of series of two articles.

Surveillance is the process of a continuous and systematic collection, analysis, interpretation and dissemination and the use of this data for action. Each country has a surveillance system in place that may vary in the types of tools used, the scope, goals and characteristics of it, as what is considered important in one country could be less important in another. Therefore, when such a system is in place, it is important to allow for system flexibility if the need arises.

A communicable disease surveillance system ideally serves 2 key functions: early warning of potential threats to public health and programme monitoring functions which may be disease-specific or multi-disease in nature. In most countries, communicable disease surveillance will consist of a routine notification system with additional special surveillance of selected diseases and sentinel site surveillance. This system is a type of passive surveillance or "activated passive" surveillance in times of epidemics/ outbreaks. Although this kind of communicable disease surveillance system is inherently useful in understanding infectious disease patterns and monitoring trends; it is inadequate to capture information in the event of new emerging infectious diseases because it is a disease-specific indicator-based surveillance. Outbreaks in the past few years such as COVID-19, SARS, EBOLA and avian influenza have demonstrated the importance of having an effective national surveillance and response system in each country, which leads us to discuss 2 different aspects of public health surveillance as explained further:

- **Indicator-based Surveillance (IBS)**
- **Event-based Surveillance (EBS)**

Table 1: Definition of IBS & EBS

**The International Health Regulations (IHR) defines an event as "a manifestation of a disease or an occurrence that creates a potential for disease".*

IBS	EBS
is the systematic, ongoing, collection, monitoring, analysis, and interpretation of structured data (indicators) produced by health facilities or well-identified other sources. Regardless of the reporting source, reporting is always based on case definitions of selected priority diseases or conditions.	is the organized collection, monitoring, assessment, and interpretation of *mainly unstructured ad hoc information* regarding potential public health hazards, which may represent an acute risk to human health and require rapid reporting and assessment. Sources of EBS can include health facilities, communities or other stakeholders reporting events* that may represent a public health hazard.
Simply, it involves reports of specific diseases from healthcare staff to public health officials. This information is standardized.	Simply, EBS looks at reports, stories, rumors and other information about health events that could be a serious risk to public health. This information is unstructured.
An example would be an increased number of laboratory-confirmed cases of influenza (beyond a predefined threshold)	*An example would be a teacher noting an unusually high number of children absent from school with similar symptoms and reporting it to a local health official.*

These 2 types of public health surveillance complement one another. Both types in-

Contents

clude collection, monitoring, assessing, and interpreting data. However, the types of data used and the situations in which we use them can be different.

To reinforce the importance of these 2 surveillance systems, the IBS and EBS systems collectively form two of the core components of the **Early Warning Alert and Response (EWAR)** system for public health hazards, working in tandem to detect potential public health events. The objective of the EWAR is to support the early detection of and rapid response to, acute public health events of any origin. EWAR is a key function of a surveillance system, particularly in low- and middle-income countries where epidemic risk is high. It encompasses 3 key components namely:

Early warning – rapid detection of signals that may indicate a potential acute public health event. Sources of early warning data can include notifications from health facilities, community members, etc., **which feed into the IBS & EBS systems.**

Alert management – the systematic process of managing all incoming information, from signal verification to risk assessment and characterization, to decide if a response is required to mitigate the public health risk. Ideally, all signals should be channeled into a common system so that they can be investigated and managed systematically.

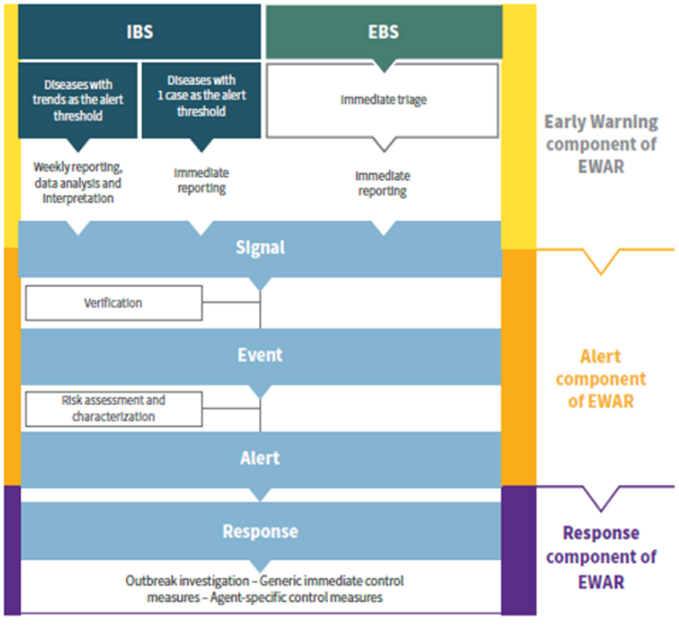
Response – public health actions triggered by the detection of an alert.

Early warning is the first component of the EWAR system. It consists of IBS and EBS that detect signals that require further investigation. IBS and EBS are complementary sources which together contribute to the early warning function of surveillance systems by detecting signals that can potentially constitute acute public health events.

Figure 1: Components of EWAR

So how is IBS different from EBS?

The table below demonstrates the characteristics of the two types.



IBS	EBS
Objectives	
Detect outbreaks, define disease trends, seasonality, burden and risk factors	Detect outbreaks
Key Features	
Provides reliable and structured information on selected priority diseases and conditions in a defined frequency	Provides real time signals for any event of public health concern, including ad-hoc information that limited to predefined priority diseases and conditions, reaching beyond healthcare-centred sources
Who is reporting?	
Defined reporting sources (health care facilities, MOHs, laboratories etc.,)	This can be restricted to defined reporting sources (e.g., health facilities or field health staff) and/or be open to anyone to report (hotlines, media)

Compiled by:
Dr Dhivya A Nathaniel
Registrar in MD Community Medicine
Epidemiology Unit
Ministry of Health

to be continued ...

Table 1: Selected notifiable diseases reported by Medical Officers of Health 28th– 03rd Feb 2023(5th Week)

RDHS	Dengue Fever		Dysentery		Encephaliti		Enteric Fever		Food Poi-		Leptospirosis		Typhus		Viral Hep-		Human		Chickenpox		Meningitis		Leishmania-		WRCD	
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	T*	C**
Colombo	247	1449	1	1	0	2	0	0	0	2	1	16	0	0	0	0	0	0	1	15	1	4	0	3	**18**	**81**
Gampaha	154	1281	0	0	0	2	0	0	0	0	1	21	0	0	1	2	0	0	4	23	1	14	0	2	**2**	**76**
Kalutara	105	481	0	1	0	0	0	0	0	2	4	44	0	0	0	1	1	1	5	26	2	14	0	0	**3**	**74**
Kandy	85	381	1	6	0	0	0	0	0	1	7	22	1	11	0	0	0	0	6	27	1	2	1	3	**36**	**100**
Matale	19	142	1	1	0	0	0	1	1	1	2	10	0	1	0	2	0	0	0	4	0	1	12	35	**26**	**100**
NuwaraEliya	3	19	1	5	0	0	0	0	1	4	1	10	3	9	0	0	0	0	6	14	0	0	0	0	**44**	**77**
Galle	58	227	0	3	0	1	0	0	0	3	5	52	1	7	0	0	0	0	8	30	0	1	0	0	**19**	**100**
Hambantota	17	96	0	0	0	0	0	0	0	0	7	27	1	10	3	7	0	0	3	19	0	2	11	53	**25**	**100**
Matara	20	173	1	3	0	0	0	0	0	3	5	38	1	6	0	1	0	0	6	17	0	2	4	13	**42**	**100**
Jaffna	63	489	0	4	0	1	1	2	0	3	0	4	16	175	0	0	0	1	1	12	0	0	0	0	**76**	**83**
Kilinochchi	7	21	0	2	0	0	0	0	0	0	1	2	0	2	0	0	0	0	0	0	0	0	0	0	**11**	**90**
Mannar	0	16	0	3	0	0	0	0	0	0	0	5	0	1	0	0	0	0	0	0	0	1	0	0	**29**	**56**
Vavuniya	0	7	0	3	0	0	0	0	0	0	0	4	1	3	0	0	0	0	0	0	0	1	0	0	**0**	**90**
Mullaitivu	1	5	2	6	0	0	0	0	0	0	1	3	0	3	0	0	0	0	1	2	0	0	0	0	**23**	**73**
Batticaloa	40	186	6	33	0	4	1	2	0	2	1	13	0	0	0	0	0	0	4	12	1	4	0	0	**28**	**99**
Ampara	1	24	0	1	0	1	0	0	0	0	1	9	0	0	0	1	0	0	0	8	1	4	0	1	**11**	**100**
Trincomalee	22	162	0	0	0	0	0	0	0	0	1	8	0	3	0	0	0	0	3	7	0	3	0	0	**17**	**100**
Kurunegala	67	387	2	4	1	3	0	0	0	0	4	36	2	3	0	2	0	0	8	54	2	16	4	56	**21**	**97**
Puttalam	190	1050	0	0	0	0	0	0	0	0	0	3	2	6	0	0	0	0	2	13	0	9	0	0	**11**	**86**
Anuradhapur	7	63	0	0	0	0	0	0	0	1	8	51	0	10	0	0	0	0	2	20	0	5	10	65	**18**	**97**
Polonnaruwa	18	93	0	1	0	2	0	0	0	0	3	22	0	2	0	2	0	0	0	5	0	7	5	51	**21**	**76**
Badulla	43	199	1	5	0	0	0	0	0	4	7	32	1	3	2	16	0	0	2	13	0	3	1	5	**38**	**100**
Monaragala	9	47	0	2	0	0	0	0	0	0	7	53	2	8	0	0	0	0	2	5	5	16	1	18	**11**	**100**
Ratnapura	49	206	2	6	1	1	0	0	0	5	22	102	0	8	0	1	0	0	1	5	5	20	7	24	**21**	**100**
Kegalle	30	257	0	0	0	0	0	0	0	0	2	24	2	3	0	1	0	0	7	29	0	6	0	1	**20**	**89**
Kalmune	60	586	0	11	0	0	0	0	0	0	2	8	0	0	0	0	0	0	0	1	0	1	0	0	**38**	**98**
SRILANKA	**131**	**8047**	**18**	**101**	**2**	**17**	**2**	**5**	**2**	**31**	**93**	**619**	**33**	**274**	**6**	**36**	**1**	**2**	**72**	**361**	**19**	**136**	**56**	**330**	**25**	**93**

Source: Weekly Returns of Communicable Diseases (esurvillance.epid.gov.lk). T=Timeliness refers to returns received on or before 03rd Feb, 2023 Total number of reporting units 358 Number of reporting units data provided for the current week: 303 C**-Completeness

Table 2: Vaccine-Preventable Diseases & AFP

28th– 03rd Feb 2023(5th Week)

Disease	No. of Cases by Province									Number of cases during current week in 2023	Number of cases during same week in 2022	Total number of cases to date in 2023	Total number of cases to date in 2022	Difference between the number of cases to date in 2023 & 2022
	W	C	S	N	E	NW	NC	U	Sab					
AFP*	00	01	00	00	01	00	00	00	00	03	01	09	07	28.5 %
Diphtheria	00	00	00	00	00	00	00	00	00	00	00	00	00	0 %
Mumps	01	02	00	01	01	00	00	00	00	05	00	14	04	250 %
Measles	00	00	00	00	00	00	00	00	00	00	02	00	03	0 %
Rubella	00	00	00	00	00	00	00	00	00	00	00	00	00	0 %
CRS**	00	00	00	00	00	00	00	00	00	00	00	00	00	0 %
Tetanus	00	00	00	00	00	00	00	00	00	00	00	01	01	0 %
Neonatal Tetanus	00	00	00	00	00	00	00	00	00	00	00	00	00	0 %
Japanese Enceph-alitis	00	00	00	00	00	00	00	00	00	00	00	00	01	0 %
Whooping Cough	00	00	00	00	00	00	00	00	00	00	00	01	00	0 %
Tuberculosis	87	25	20	10	15	09	06	08	19	199	513	792	898	- 11.8 %

Key to Table 1 & 2

Provinces: **W**: Western, **C**: Central, **S**: Southern, **N**: North, **E**: East, **NC**: North Central, **NW**: North Western, **U**: Uva, **Sab**: Sabaragamuwa.

RDHS Divisions: **CB**: Colombo, **GM**: Gampaha, **KL**: Kalutara, **KD**: Kandy, **ML**: Matale, **NE**: Nuwara Eliya, **GL**: Galle, **HB**: Hambantota, **MT**: Matara, **JF**: Jaffna, **KN**: Killinochchi, **MN**: Mannar, **VA**: Vavuniya, **MU**: Mullaitivu, **BT**: Batticaloa, **AM**: Ampara, **TR**: Trincomalee, **KM**: Kalmunai, **KR**: Kurunegala, **PU**: Puttalam, **AP**: Anuradhapura, **PO**: Polonnaruwa, **BD**: Badulla, **MO**: Moneragala, **RP**: Ratnapura, **KG**: Kegalle.

Data Sources:

Weekly Return of Communicable Diseases: Diphtheria, Measles, Tetanus, Neonatal Tetanus, Whooping Cough, Chickenpox, Meningitis, Mumps., Rubella, CRS,

Special Surveillance: AFP* (Acute Flaccid Paralysis), Japanese Encephalitis

CRS =**Congenital Rubella Syndrome

NA = Not Available

Seek medical advice if you get a fever after exposure to muddy water or soil.

It could be Leptospirosis.

Comments and contributions for publication in the WER Sri Lanka are welcome. However, the editor reserves the right to accept or reject items for publication. All correspondence should be mailed to The Editor, WER Sri Lanka, Epidemiological Unit, P.O. Box 1567, Colombo or sent by E-mail to **chepid@sltnet.lk. Prior approval should be obtained from the Epidemiology Unit before publishing data in this publication**

ON STATE SERVICE

Dr. Samitha Ginige
Actg. CHIEF EPIDEMIOLOGIST
EPIDEMIOLOGY UNIT
231, DE SARAM PLACE
COLOMBO 10