

## Workshop on the use of epidemic intelligence tools for signal detection

### Region of the Americas

#### Concept Note

##### Event-based Surveillance

The emergence of epidemics and pandemics, the international movement of people and the universalization of commercial transactions have a great influence on the emergence of diverse health crises, and the monitoring of epidemiological behavior is a major challenge for public health surveillance systems. To anticipate the detection of these critical situations, including for COVID-19, unverified information (rumors) has been used to support current health surveillance systems and their control activities.

Nowadays, websites and social networks provide a huge source of timely and diversified health information, which is made available or shared by their users. Consequently, there is growing interest in monitoring disease outbreaks by using this information to support potential decision-making processes.

The development of platforms for Internet-based surveillance actually began in 1997 with the creation of the Global Public Health Intelligence Network (GPHIN), which emerged from a collaboration between WHO and the government of Canada. Twelve years later, a second platform, the EAR (or Early Warning and Information platform), was developed and supported by members of the Global Health Security Initiative. A few years later, in 2013, WHO and the European Commission launched the Hazard Detection and Risk Assessment System (HDRAS).

However, it has been recognized that, although several different systems existed, there was no supersystem that could bring together the knowledge of these expert systems and expedite detection. In response to this need, WHO and the Joint Investigation Committee of the European Commission collaborated on the development of EIOS.

The Epidemic Intelligence from Open Sources (EIOS) initiative is a unique collaboration between various public health stakeholders around the globe. It brings together new and existing initiatives, networks and systems to create a unified all-hazards, One Health approach to early detection, verification, assessment and communication of public health threats using publicly available information.

The EIOS system, which is part of the EIOS initiative, is a fit-for-purpose web-based system designed to augment and accelerate global public health intelligence (PHI) activities, built on a long-standing collaboration between WHO and the Joint Research Centre (JRC) of the European Commission. The system collates hundreds of thousands of articles from a broad range of sources, including traditional online media and specific social media sources, government and official web sites, news aggregators, blogs and expert groups, and collaborating initiatives. It runs these sources through a series of text mining and analytical modules to sort and categorize articles by topics, country, language, source and contextual indices.

The EIOS system regularly checks for new information, which is downloaded and automatically processed and published through the secure EIOS user interface within a few minutes, accessible

only to authorized individuals within the EIOS community. This leads to a continuous flow of new articles in the EIOS system, which registered users can interact with in various ways – both individually, as well as collaboratively with others. Within the system, each collaborating organization has its own space and can securely share information within and across organizations.

At the core of EIOS is enhancing communication and rapid **informal information sharing** for potential public health threats, and bridging gaps across disciplines, countries, and continents. Furthermore, the implementation of EIOS allows for a collaborative environment and encourages providing feedback on the system’s functionalities and shaping future developments, including identifying and participating in opportunities for innovation, collaboration and research.

It is important to note that while EIOS provides a platform to facilitate the PHI function, including communication and transparency across actors and institutions engaged in PHI, **it does not replace established formal reporting channels such as those put in place under the International Health Regulations (IHRs)** and through which all WHO Member States are obliged to formally report health threats that meet certain criteria. Rather, the EIOS system enables access to a vast range of publicly available information to facilitate timely detection, identification and verification, of events that may pose a threat to public health, complement contextual analysis and assessment and facilitate communication across the global network of experts.

Joining EIOS means becoming part of an active global community of professionals dedicated to the prevention and mitigation of the impact of health threats on lives around the world. There are no direct financial costs involved, and Member States can automatically get access to the EIOS system after training.

As it is web-based, the use of the system does not require any specific software other than a functional internet browser and stable internet connection. System training and support are coordinated through WHO and a global network of trainers and can be delivered in different ways depending on needs and circumstances. For more information, please visit <https://www.who.int/initiatives/eios>.

### **EIOS in the WHO Region of the Americas**

In the WHO Region of the Americas, EIOS System has been implemented in 8 Member States since 2019 and to date: Argentina, Brazil, Dominica, Ecuador, Guatemala, Haiti, Paraguay, and Saint Lucia. PAHO/WHO provides support to Member States in reinforcing surveillance of health risks and threats. Given the importance of public health intelligence in rapidly detecting public health threats, such as for COVID-19, and a need for improved tools and processes for implementing event-based surveillance (EBS) in the Region, the expansion of EIOS system into additional Member States will aid in supporting these efforts. For more information, please visit <https://www.paho.org/en/topics/epidemic-intelligence>.

## Objective of the workshop

PAHO/WHO proposes to host a workshop for Member States of the Region of the Americas to be held in Panama.

The objectives of the training are:

- 1) Train participants on the use of intelligence search engines and tools for signal detection;
- 2) Engage in practical demonstrations of these tools including the EIOS system;
- 3) Determine next steps for Member States' strengthening event-based surveillance and establish coordination processes for continued collaboration following the workshop

## Dates/Location

Two training sessions will be organized, respectively: (1) between 19-21 October 2022 for Spanish-dominant countries, and (2) between 24-26 October 2022 for English-dominant countries. Both workshops will be held in Panama City, Panama.

## Participants

Two participants from each of the following countries' Ministries of Health (MoH) are invited to attend the workshop:

- **English-dominant:** Antigua and Barbuda, Bahamas, Barbados, Belize, Dominica, Grenada, Saint Lucia, Saint Kitts and Nevis, Saint Vincent and the Grenadines, Suriname, and Trinidad and Tobago

The participants' technical profiles should align with at least one of the following areas: infectious disease surveillance/event-based surveillance, health emergencies, media monitoring/communications. These participants could serve as trainers of the system in their respective institutions.

Participants are not required to be familiar with event-based surveillance; however, this would be an asset.

## Methodology of the workshop

The workshop will be delivered in a participatory, dynamic manner, including the following methods: lecture, directed discussion, case-based learning, and problem-based and project-based learning. An evaluation at the end of the training session will be administered to participants to request feedback on the materials and methodology.

## **Expected Results and Outcomes**

The following results and outcomes from the workshop are expected to be accomplished:

- 1) Participants will be able to apply different tools and intelligent search engines to detect signals.
- 2) Participants will understand and become familiar with the EIOS system and the features of the system.
- 3) Participants will be able to apply functions of the EIOS system for practical applications in their work.
- 4) Participants will have a template for developing standard operating procedures (SOPs) for EBS implementation in their organizations and be expected to finalize these following the workshop.

## **Location:**

Hotel RIU, Panama City, Panama

Sixth floor, Salón

## Final Agenda

Day 1: 24 October 2022

Time	Activity	Speaker/Facilitator(s)
8:30 – 9:00am	Workshop Registration	
9:00 – 10:00am	Welcome remarks Introductions and Ice Breaker Training goals and summary of schedule	Dr. Melva Cruz, Director General of the Panama Ministry of Health Dr. Ana Rivière- Cinnamond, Panama PAHO/WHO Representative Dr. Liz Parra, PAHO/WHO Emergency Health Advisor for Central America
10:00 – 10:20am	Early Warning and Response (EWAR) with a focus on Event-Based Surveillance (EBS): Part I	Krista Swanson, PAHO/WHO
10:20 – 10:35am	Break	
10:35 – 11:25am	EWAR and EBS implementation including within the context of the IHR (2005): Part II	Krista Swanson, PAHO/WHO
11:25 – 12:00pm	Group Work: current EBS activities	Krista Swanson, PAHO/WHO
12:00 – 1:00pm	Lunch	
1:00 – 2:00pm	EBS activity: sharing experiences	Krista Swanson, PAHO/WHO
2:00 – 2:45pm	Introduction to the tools and demonstration	Krista Swanson, PAHO/WHO
2:45 – 3:00pm	Break	
3:00 – 4:15pm	Introduction to EIOS and demo of system	Debora Marcolino, PAHO/WHO
4:15 – 5:00pm	EIOS access, review, and Q&A	Krista Swanson, PAHO/WHO Debora Marcolino, PAHO/WHO Dr. Katia Uchimura, PAHO/WHO

## Day 2: 25 October 2022

Time	Activity	Speaker/Facilitator(s)
9:00 – 9:30am	Check-in and Wrap-up from Day 1 Schedule review	Krista Swanson, PAHO/WHO Dr. Katia Uchimura, PAHO/WHO
9:30 – 10:10am	EIOS for Natural Hazards	Gabriela Boitrago, PAHO/WHO
10:10 – 10:30am	Break	
10:30 – 12:00pm	Hands on Demo Practical activities	Krista Swanson, PAHO/WHO Debora Marcolino, PAHO/WHO Dr. Katia Uchimura, PAHO/WHO
12:00 – 1:00pm	Lunch	
1:00 – 3:00pm	Small Groups: Creating boards based on scenario	Krista Swanson, PAHO/WHO Debora Marcolino, PAHO/WHO Dr. Katia Uchimura, PAHO/WHO
3:15 – 3:30pm	Break	
3:30 – 4:45pm	Small Group: Creating boards	Krista Swanson, PAHO/WHO Debora Marcolino, PAHO/WHO Dr. Katia Uchimura, PAHO/WHO
4:45 – 5:00pm	Review and Q&A	Krista Swanson, PAHO/WHO Debora Marcolino, PAHO/WHO Dr. Katia Uchimura, PAHO/WHO

**Day 3: 26 October 2022**

Time	Activity	
9:00 – 9:15am	Activity: Check-in and Wrap-up from Day 2 Schedule review	Krista Swanson, PAHO/WHO Dr. Katia Uchimura, PAHO/WHO
9:15 – 10:15am	Use of EBS / EIOS in the Region Activity: Elaborating SOPs	Krista Swanson, PAHO/WHO Dr. Katia Uchimura, PAHO/WHO
10:15 – 10:30am	<b>Break</b>	
10:30 – 12:00pm	Activity: Elaborating SOPs	Krista Swanson, PAHO/WHO Dr. Katia Uchimura, PAHO/WHO
12:00 – 12:30pm	Discussion and Q&A Adjourn workshop	Dr. Melva Cruz, Director General of the Panama Ministry of Health  Dr. Ana Rivière- Cinnamond, Panama PAHO/WHO Representative  Dr. Liz Parra, PAHO/WHO Emergency Health Advisor for Central America