Welcome to the April 2023 edition of the EIOS initiative newsletter! We are thrilled to announce that our initiative has taken another giant leap forward and has already welcomed nine new communities across five geographic regions since the beginning of this year! Find out more about them in the EIOS training and implementation updates provided by our EIOS focal points from all six WHO regional offices.

In the Spotlight section, we are excited to introduce the new EIOS Coordination Group 2023-2024 and hear from some of the representatives about their vision for the initiative over the coming years. In a series of firsts, the group gathered in Berlin at the end of March for the first time, the same week the WHO Pandemic Hub opened its doors to the public and hosted the fourth edition of the Complexity of Pandemics Speaker session on its own premises – also for the first time. We feature both events in our “Update from Berlin” and introduce you to the Morocco community in the “Community Close Up.”

As always, we are also eager to update you on the latest developments within the EIOS system and the Core Team. This includes news from our very own KR² initiative. If you don’t know what that is, start reading!

Our sincere greetings,
The EIOS Core Team
In the January newsletter, we reported on the conclusion of the first EIOS Coordination Group (CG) and shared reflections of some of our partnering members. In this edition, we would like to extend a warm welcome to the newly formed CG that will serve the initiative over the 2023-24 term.

At their first meeting in Berlin in March 2023, we asked our members about their vision for EIOS and their intended contribution to the initiative in the coming years:

"With our ongoing intensive efforts in integrated national disease surveillance, Singapore supports the concept of One Health Intelligence (OHI) in EIOS and envisages the system as a comprehensive and functional tool for implementing it. This includes the cross-sectoral integration of epidemic intelligence activities and joint risk assessment. As part of the CG, we are prepared to share our recommendations on relevant system developments, incorporating a greater focus on animal and environment health, enhanced collaborative spaces and bespoke solutions; we will offer our views on the benefits and challenges of One Health Intelligence, and on the resources and capacity needed to achieve it."

Vernon Lee, Singapore MOH

"I believe I bring a perspective on Epidemic Intelligence (EI) from a team which has led the work on EI for Communicable Diseases in the European Union for many years. We have a strong interest in developing communities and networks and strengthening EI tools and methodologies to protect public health. The ECDC mandate, updated as a consequence of the COVID-19 pandemic, also emphasizes our role in threat detection and the use of new methodologies, including artificial intelligence for surveillance. All this aligns with the objectives of the EIOS initiative. In the coming two years, I would like to see the initiative grow even more, in a sustainable way, with a key priority on facilitating collaboration across communities (including validation of signals) and more involvement of the EIOS community in its development and research."

Gianfranco Spiteri, ECDC

"National health agencies using EIOS appreciate its importance as a valuable surveillance system for early warning and response, and many other countries are requesting access and training. CDC will work with its Country Offices and WHO to increase the use of EIOS globally and continue to seek solutions for improving community-to-community information sharing."

Ray Arthur, CDC

"WOAH brings to the CG the specific point of view and expertise on animal health, supporting the reinforcement of the One Health vision of the CG. We have long-term experience in the evolution and use of the EIOS system. As to connection with vision and needs from the GLEWS community, we are integrating EIOS in GLEWS+ to facilitate signal detection and follow-up event management."

Jenny Hutchison, WOAH

The Coordination Group (CG) is the external governing body of the EIOS initiative. It is made up of 11 organizations and Member States holding two year-mandates and WHO which keeps a permanent seat. The CG’s primary role is to provide strategic recommendations to the EIOS Core Team and to advise on activities and priorities of the initiative on behalf of all stakeholders.

News from the EIOS Core Team

Having successfully concluded the first five years of the EIOS initiative, 2023 is all about reflection and recalibration. While continuing to pursue major EIOS system updates and providing support to ongoing expansion and engagement efforts around the globe, the EIOS Core Team (ECT) is making a concerted effort to learn from the early stages of EIOS expansion and to chart the way forward. Developing a multi-year expansion and sustainability strategy, to ensure the initiative is set up sustainably as it continues to grow and evolve, will be one of the key priorities for the team this year. The process, which builds on results of an EIOS implementation evaluation that was started in 2022, will be supported by external consultants and require close collaboration with key stakeholders in WHO regional offices and collaborating organizations.

The transition of the ECT from WHO headquarters in Geneva to the new WHO Pandemic Hub in Berlin is ongoing and expected to be completed by July 2023. In March, we said goodbye to our evaluation coordinator Carolyn Briody and in April, to our data scientist Thijs Cornelissen. We wish both of them all the best for their new endeavours and are looking forward to welcoming Stéphane Ghozzi in May, who will take over the data scientist position. The evaluation officer position is now re-posted on the WHO Career portal: we are looking for strong and diverse candidates - familiarity with the EIOS initiative is a plus!

No Global Technical Meeting in 2023

Following a prioritization exercise at the beginning of the year, taking into account the declared need to focus on reflection and sustainability, as well as ongoing recruitment efforts and changes in the team, we have taken the difficult decision to pause the Global Technical Meeting in 2023. In the face of the initiative’s growing expansion, there is a need to rethink the organization and focus of this major event. However, we are already looking forward to hosting a new and improved edition in 2024!

Global community updates

The first quarter of 2023 has been a busy one for our EIOS focal points in the WHO regional offices. Thanks to their unflagging support, by the end of March, we welcomed a total of nine new Member States from across five regions. We are delighted to welcome Angola, Bangladesh, Chad, Cuba, Georgia, Guyana, the Kingdom of Saudi Arabia, Thailand, Ukraine, as well as the Gulf CDC on board the EIOS ship! On the following three pages, our EIOS focal points provide updates from their regions and zoom in on some of the training and other EIOS-related activities that have kept them busy over the first months of the year. We are particularly proud of the growing collaboration among EIOS trainers as part of the Global EIOS Trainers Team (GETT):

For more details on training activities, please visit the new [Training page on the EIOS website](#) or contact us via eios@who.int.

Our popular webinar series, in which communities share their experience with EIOS, continues in 2023. In February, representatives of the [Ministries of Health in Lebanon and Singapore](#) kick-started this year’s series in front of more than 250 participants from over 60 countries. Guanhao Chan, senior Public Health Officer at the Singapore MoH, introduced their approach and experience with incorporating the EIOS system into early warning capabilities across the Singapore One Health enterprise. Dr. Nada Ghosn, Head of the Epidemiological Surveillance Program at the Lebanon MoH, provided an overview of how her team was able to detect events and alerts, leading to concrete follow up preparedness and response activities. Recordings of all webinars are accessible to EIOS system user via the Training tab on the EIOS portal.

**ECT members present the initiative to an interested audience at the first Open House of the WHO Pandemic Hub in Berlin on 21 March 2023. Photo: © WHO/Thomas Rafalzyk.**
AFRO: Onboarding Angola as first lusophone country in region

The WHO Regional Office for Africa (AFRO) embarked on expansion of EIOS implementation to lusophone Member States, starting with the onboarding of Angola from 7-9 March 2023. A total of 20 professionals were trained on the use of the EIOS system. Besides representatives of the Direcção Nacional de Saúde Publica (the national public health authority), this also included representatives from the animal health and environmental sectors of the government, as well as three WHO staff working in emergency preparedness and response and health communications.

For this first lusophone training on the African continent, additional Portuguese-speaking EIOS trainers were needed to support Regional Office trainers in facilitating the workshop. Drawing on the Global EIOS Training Team (GETT), a growing network of EIOS trainers across the globe and across organizations, three additional trainers were able to assist the workshop remotely. Besides support from the ECT Training Coordinator, Debora Marcolino Silva from the Pan American Health Organization, and Ingrid Hammermeister Nezu from WHO headquarters, both native Portuguese-speakers, were able to provide remote facilitation of the training all the way from Brazil.

EURO: Using EIOS to monitor Türkiye earthquake

On 6 February 2023, a series of earthquakes (max M7.8) and major aftershocks, occurred in several provinces in Southern Türkiye, making it the most powerful earthquake recorded in the country since 1939, causing significant damage, injuries and loss of life. The need for enhanced event-based surveillance (EBS) and contextual information on the earthquake and its implications on the health of people in the affected provinces in Türkiye, including North-West Syria, was flagged under the Incident Management (IM) system activated at the WHO Regional Office for Europe (EURO).

The EBS team in EURO started activating the EIOS system immediately on 7 February. Like with other health emergencies, it was critical to define the scope of search by aligning it with the expected key health risks and threats, either current or future, over the upcoming months, as outlined in the Public Health Situation Analysis (PHSA). However, given the resonance the earthquake has had worldwide, the amount of ‘noise’ was overwhelming at first. The system’s flexibility, however, allowed for refining the search strategy through an iterative process, thus ultimately yielding key critical information. The results of daily monitoring have been summarized in an updatable line list shared internally with relevant IM colleagues to facilitate timely decision-making and appropriate response.

Notwithstanding the team’s continued EBS work for other health emergencies in the region, EIOS expansion plans for 2023 and beyond are taking shape! Two new communities, Ukraine and Georgia, completed the EIOS system training in December 2022 and March 2023 respectively and are currently elaborating options to make the best use of the EIOS system in their countries. The die is cast and many more communities are looking forward to joining the EIOS initiative in the coming years, also thanks to the relentless energy of colleagues across the regions, WHO HQ and other partners.

EIOS system training in Georgia. Photo: © WHO/EURO.
PAHO/WHO: Welcoming Cuba and Guyana

In order to strengthen epidemiological surveillance and given the importance of event-based surveillance (EBS) to rapidly detect and assess public health risks, the PAHO/WHO welcomed its 10th and 11th EIOS communities in the WHO Region of the Americas during the first quarter of 2023: Cuba and Guyana. For each country, PAHO/WHO with the support of the respective country offices organized a multi-day face-to-face training in-country, with participants engaging in hands-on activities for EIOS.

The EIOS training in Cuba was held between 23-26 January 2023 with nine participants from the Cuba Ministry of Public Health (MINSAP, per its acronym in Spanish) and two participants from the Cuba PAHO/WHO Country Office (P/WCO).

In Guyana, the EIOS training was held between 28 February and 2 March in the capital Georgetown. Several agencies were represented, including the Ministry of Health, the Civil Defence Commission (Guyana CDC), the Food and Agriculture Organization (FAO), the Guyana P/WCO, and each of the Guyana health regions, with approximately 30 participants in attendance.

Furthermore, during the first quarter of 2023, the PAHO Regional Office also began hosting weekly Q&A sessions in Spanish as a forum to further engage with EIOS communities and provide an opportunity for users to ask questions about the system.

EMRO: Introducing EIOS in KSA

On 30 January 2023, a three-day EIOS training workshop was held in Riyadh, in the Kingdom of Saudi Arabia (KSA). The training was organized by the WHO Regional Office for the Eastern Mediterranean (EMRO) and marked the 14th workshop to take place in the region. KSA followed Member States that were onboarded as part of the first and second phases of EIOS expansion in 2019 and 2021-2022, respectively.

The workshop was designed for public health, health promotion, and media officers from the Ministry of Health Public Health Directorate. The primary focus was on providing the 23 participants with a comprehensive understanding of the fundamental concepts of surveillance, Early Warning Alert and Response (EWAR) and the use of the EIOS system in media scanning for early event detection.

At the end of the workshop, a comprehensive evaluation was conducted. The feedback from the participants was overwhelmingly positive, and participants provided a number of recommendations for system improvements increasing the user experience and facilitating operations. To ensure the successful integration and utilization of the EIOS system at national level, a follow-up plan was put in place, including the provision of support and technical assistance to the participants and monitoring the progress of EIOS integration into the national health system.
Training on the use of the EIOS system was delivered to nine staff members of the Philippines’ Department of Health on 18 January 2023, at the WHO Country Office in Manila. The staff trained are from the Epidemiology Bureau Event-Based Surveillance and Response and the International Health Regulation (IHR) units. The face-to-face training was a follow on to prior onboarding sessions in October and November 2023. Since then, the team has reported a positive experience with using the EIOS system for detecting signals and plan including additional colleagues as part of the Philippines community.

A condensed 2-day EIOS system training was held at the Ministry of Health (MoH) in Jakarta, Indonesia, from 20-21 March 2023. The primary goals of this training were to build upon the initial EIOS training conducted in Indonesia in October 2022 and to extend the training to public health professionals outside the Public Health Emergency Operations (PHEOC) team within the Indonesian MoH.

Committed to a One Health approach and principles of collaborative surveillance, the 30 new participants represented various departments within the MoH, as well as other relevant stakeholders including the Port Health Authority, the Acute Respiratory Infection Working Group, the Directorate of Animal Health, the Indonesian Association of Epidemiologists, the Directorate of Health Surveillance and Quarantine, the Malaria Working Group, the Directorate of Prevention and Control of Non-communicable Diseases, the Indonesia FETP Secretariat, and the Ministry of Environment and Forestry. The training was run by six facilitators from the PHEOC team, who had been trained on EIOS in 2022 and been using the system in their regular work since then, and supported by two trainers from the WHO Regional Office for South-East Asia (SEARO).

To ensure the subregional level in Indonesia will benefit from the use of the EIOS system as much as possible, a refresher training course for the group is foreseen to compensate for the reduced training time. In addition, proper planning and integration into existing workflows will be crucial before proceeding with EIOS implementation at the subnational level. Given that provinces have their own distinct media sources, the WHO Country Office in Indonesia will facilitate source updates for provinces where EIOS expansion is anticipated.

A lot has happened since we last provided an update on the Knowledge Representation and Reasoning initiative, better known as KR², in this newsletter. Initiated by the EIOS Core Team (ECT) in 2021, KR² aims to connect different datasets around the world to help answer complex public health questions and generate actionable insights. By establishing and growing a global network of data, information, insights and knowledge from different systems and datasets, it aims to develop systems and capabilities for the early discovery and assessment of public health threats using advanced analytic methods.

One project that is driven by KR² is the development of knowledge graph-powered anomaly detection for COVID-19 and other infectious respiratory diseases. To develop a proof of concept, the ECT collaborates with partners from the Fraunhofer Institute for Algorithms and Scientific Computing (SCAI), the Fraunhofer Institute for Digital Medicine (MEVIS), Causality Biomodels India, and Neo4j AB Sweden.

Between January and March 2023, the group organized three so called “datathons” to physically work together on solving practical problems, such as the exploration and connection of data sources into a Web of data. During these three-day workshops in Bonn and Geneva, the group managed to design first-ever public health ontologies, an application of data science tools and techniques, and an interactive web application for visual analysis. The proof of concept will be ready by the end of May, followed by the first KR² webinar in early June 2023. Keep an eye out for the announcement or contact the ECT for any questions or updates.
WHAT'S NEW in EIOS?

EIOS SYSTEM UPDATES

Within the scope of the upcoming new version release for the EIOS system, there are a couple of ongoing development efforts on two major system components.

A new translation component was developed and deployed for internal system testing earlier this year. This new component will enable translators and reviewers to translate system screens and forms with the aid of machine-translation. While the initial languages will include Portuguese, French, and Arabic, additional languages can be added in the future.

Additionally, new user-management functionality is currently in development. This component will incorporate a variety of previously requested enhancements with regards to managing communities, teams, and users. It will also assist with expanding collaboration and sharing capabilities across boards and communities, by providing users with more robust sharing options.

CATEGORY CORNER

Since the beginning of the year, we have added 78 new categories to the EIOS system. The ECT continues to actively support event-based surveillance of ongoing acute emergencies and in Q1 provided categories for the monitoring of acute kidney injuries and deaths among children linked to diethylene glycol–contaminated medicines.

We continue to develop categories to further strengthen the system’s capacity for One Health and all-hazards monitoring and extended the scope of monitoring to include equine and aquatic animal diseases. We provided new categories for monitoring natural disasters including hurricanes, typhoons and tsunamis as well as man-made disasters such as boat capsize events and fire incidents. Environmental categories targeting disease vectors were also added for Hyalomma and Ixodes ticks.

In addition, we provided categories across all communities for monitoring alkhurma hemorrhagic fever, scarlet fever, anaplasmosis, asthma, conjunctivitis, headache and haemolytic uraemic syndrome.

We always strive to provide categories that cover various languages and dialects and provide articles relevant to users with limited noise. By the end of March 2023, we added additional translations to more than 30 categories within the EIOS system. In addition, we refined 10 category definitions for priority diseases resulting in improved performance and decreased noise.

If a category you are interested in does not exist yet or you think an existing one could use some refinement to better support your monitoring objective, please use the feedback from on the EIOS portal to let us know or contact us via the EIOS mailbox (eios@who.int).

NEW SOURCE EDITOR

Managing sources is about to get easier and more efficient. Together with our colleagues from the Joint Research Centre (JRC), we are currently testing a new channel directory editor. This is a joint collaboration between systems like the Europe Media Monitor (EMM), MEDISYS and EIOS to join forces and reduce efforts by using a single synchronized source management tool pooling resources and allowing for sharing knowledge and experience. New features expected in the near future include performance monitoring and access levels that would allow selected users to suggest new sources or edits directly into the system.
HOW MANY DIFFERENT ENTITIES ARE REPRESENTED IN YOUR COMMUNITY?
One, the Ministry of Health (MoH).

WHAT DO YOU USE EIOS FOR?
The EIOS system is mainly used by the Epidemiology and Disease Control Directorate of the MoH to detect signals related to various public health events. These events include respiratory illnesses, viral hemorrhagic fever, fever and rash, food and water-borne diseases, travel-related diseases, and zoonosis. The signals detected through the EIOS system are verified, assessed, and responded to following a Standard Operating Procedure (SOP) developed for this purpose.

In addition, the use of the EIOS system has been expanded to the regional level to enhance the detection of public health risks in the regions. The regional network will soon receive advanced training on EIOS to ensure maximum utilization of the system.

WHAT DO YOU LIKE BEST ABOUT EIOS?
The best thing about the EIOS system is its ability to scan and monitor a wide range of diseases and events from one single location. The system collects data from various aggregators, including ProMED, Healthmap, Flutracker, and other official and unofficial open electronic sources. This helps to provide the most accurate picture of any given health event.

Our esteemed speakers from the UK Health Security Agency, the Fiji Ministry of Health and Medical Services, as well as the Korea Disease Control and Prevention Agency, each shared their unique perspectives on what being "data prepared" means in their respective country’s context.

If you have not been able to attend, you can watch the event recording here. For more information, visit the Speaker Series website.

Would you like to know more about the Hub, be part of the next Innovation Forum session, or just generally stay up to date with the latest developments and events? Subscribe to the Hub newsletter, visit our website https://www.pandemichub.who.int or contact us at pandemichub@who.int.