It’s the final countdown: less than one month to go to the 2022 EIOS Global Technical Meeting, the key annual event for the EIOS community! This year’s meeting will take place in Luxor, Egypt, commonly dubbed as “the world’s greatest open-air museum.” What better setting to discuss “The dawn of a new era in Public Health Intelligence”?

While the EIOS team and colleagues at the WHO Pandemic Hub are busy getting everything ready for the conference in late November, there is an ongoing flurry of activity across the global EIOS community. Since our last edition, we successfully hosted the second ever EIOS Training of Trainers workshop (ToT), which had an immediate impact on training activities and cross-organizational collaboration!

In our section “Updates from Berlin” we showcase some of the many recent events organized by the new WHO Hub for Pandemic and Epidemic Intelligence, and feature one of our oldest communities, FAO, in our Community Close Up. And, of course, we’ll update you on what’s new within the EIOS system and the Core Team. Spoiler alert: we just turned five!

Enjoy your reading,
The EIOS Core Team
The well-awaited 2022 EIOS Training of Trainers (ToT) workshop was hosted from 19 to 23 September in Berlin, Germany. The primary objective of the ToT workshop was to teach participants how to successfully deliver EIOS system training, aiming to ensure that EIOS trainers are well equipped to deliver consistent, high-quality training to Member States and others adopting the EIOS system.

With 30 professionals from 20 different organizations joining the workshop, the 2022 ToT provided an opportunity for continued growth and collaboration amongst participants. Workshop participants were experts from all three levels of WHO (headquarters, regional and country offices), as well as representatives from external organizations and Member States with extensive EIOS experience.

Upon start of the workshop, highlights included the opening ceremony led by WHO Assistant Director-General and Head of the WHO Pandemic Hub in Berlin, Dr. Chikwe Ihekweazu. Noteworthy presentations were given by Dr. Phillip Abdelmalik, Head of the WHO Intelligence Innovation and Integration unit, about the WHO Pandemic Hub and the EIOS Initiative more broadly; by Dr. Gaya Gamhewage, the WHO Director for Prevention of and Response to Sexual Misconduct, on values, nondiscrimination and prevention of sexual abuse and harassment for trainers, as well as by workshop participants themselves. Participant presentations focused on their experiences within their organizations in the areas of public health intelligence (PHI), EIOS system implementation, and EIOS trainings.

Along with advanced instruction on practical EIOS system application, the workshop also included training sessions on adult learning and delivering technical content, as well as “lessons learned” from experienced facilitators. Throughout the 5-day workshop, participants had ample opportunity for discussions with peers from their regions, focusing on ways to utilize, coordinate, and implement EIOS expansion within and across their respective organizations.

Another exciting and unique session well received by all included a mini-walking tour of Berlin, where participants gave short presentations to their colleagues in front of iconic Berlin landmarks!

The 2022 ToT workshop encouraged participants to engage in the EIOS training program while providing the resources needed to overcome the most common obstacles faced in the technical training environment. Many colleagues remarked on the positive comradery and support felt throughout the workshop as a member of the EIOS training community. Moreover, the 2022 EIOS ToT workshop reception took place in the newly inaugurated terrace of the WHO Pandemic Hub!

As ambassadors for EIOS and the collaborative PHI approach the initiative stands for, participants will continue to deliver EIOS training activities worldwide, further highlighting the importance of the ToT workshop, as a strong network of trainers remains key to the continued global expansion of the EIOS initiative.

We congratulate this cohort of newly graduated EIOS Trainers and are excited to see their work across the globe supporting the EIOS community. After the success of the 2022 EIOS ToT workshop, we have already started planning more training workshops and webinars to look forward to in 2023.

For a closer look at some session highlights and our participants in action, please access the 2022 EIOS ToT workshop video here!

Brande Brown, WHO consultant and the EIOS training team

For more impressions from the TOT visit our picture gallery on page 4.
News from the EIOS Core Team: EIOS turns 5!

And just like this, without much fanfare, the EIOS initiative turned five. If EIOS was a human, it would now be a raging toddler who has been potty trained, gets dressed by itself and is just about ready to start school.

Looking back to 2017 when the initiative was formalized and WHO entrusted with its leadership, the EIOS initiative has come a long way. What had started with a group of 12 organizations and networks (members of the current Coordination Group) has since expanded to become a truly global collaborative, working together to continuously improve and strengthen public health intelligence. By the end of October 2022, just five years after the initiative was officially launched, 45 Member States, 18 organizations and networks, as well as diverse researchers and working groups had joined the EIOS initiative, totalling more than 3,600 registered users on the EIOS system.

This growth and diversification of the Community of Practice behind EIOS requires constant adaptation and evolution of the EIOS system as well as ongoing engagement, training and capacity building. The recent EIOS Training of Trainers (ToT), as highlighted in the Spotlight article, was a fantastic opportunity not only to learn with and from the new trainers but also to connect, build new networks, and empower new EIOS ambassadors. We can see the impact of the ToT already with a significant increase in the number of trainings, as well as joint trainings and activities across the participating organizations.

As the EIOS initiative, the EIOS system and the global Community of Practice continue to mature and expand, the ECT recently welcomed five new consultants to support existing team members with the ever-growing demands. Olga Lugovskaya and Stefany Ildefonso joined the team in September to support the areas of Engagement and Training respectively. To support with “surge capacity” for the major events, e.g. the ToT in Berlin and the 2022 GTM in Luxor, Egypt, Brandle Brown and Heidi Ghanem have been brought on board for the short term. Jason Seva has been recruited as Project Manager to support processes and governance related to the EIOS system. Finally, Elena-Monica Dragan and Feyikemi Adeboye have joined as the new Business Analysts.

Third EIOS Community Webinar

On 26 October 2022, we organized the third edition of the EIOS Community Webinar series with experts Mirko Bruni from the Food and Agriculture Organization (FAO) and Ingrid Nezu, from WHO’s Acute Events Epidemiology team, who presented their experience with conducting public health intelligence (PHI) activities and using the EIOS system for their work. With over 200 participants from nearly 60 countries, this session was a great success. If you have missed it, you can access the recording here (Passcode: EIOS2022!).

The EIOS Community Webinar series is an opportunity for EIOS system users and communities to share experiences and to learn from each other. If you would like to present your work in this forum, please contact the EIOS Core Team (eios@who.int).

EIOS at the Paris Peace Forum

In other news, we are extremely excited about the selection of EIOS as one of the projects to be showcased at this year’s Paris Peace Forum to be held from 11-12 November 2022 in Paris. The event is an opportunity for world leaders and heads of international organizations, as well as leaders from civil society, the private sector, and thousands of individuals from around the globe, to gather, share ideas and build new forms of collective action. EIOS is one of the initiatives showcased within the theme “Managing the fallout of the multicrisis on populations”. Read more about EIOS in the 2022 Paris Peace Forum (https://parispeaceforum.org/en/projects/epidemic-intelligence-from-open-sources/?utm_source=substack&utm_medium=email).
The third Gulf country, Bahrain, joins the EIOS community!

EIOS expansion continues in the Eastern Mediterranean (EM) region. In late September, the initiative welcomed the Bahrain Ministry of Health as the newest member of the EIOS community from the EM region. After Oman and Qatar, Bahrain is the third Gulf country to join the EIOS initiative.

In Bahrain, a two-day workshop was organized together with the WHO country office to address event-based surveillance and the use of the EIOS system in strengthening this effort. Health professionals, communications specialists, and health promotion officers from the Bahrain Ministry of Health and WHO country office participated in the training. The agenda of the workshop included live training sessions, case studies, polls, and self-study activities. The latter was supported through practical exercises and user guides, allowing trainees to practice and reinforce concepts introduced during the sessions. On the second day of the workshop, the participants were able to set up boards and apply different filters to serve monitoring their specific events including zoonotic, vaccine-preventable, communicable, and vector-borne diseases, and for border surveillance with other Gulf countries and/or other countries involved with trade activities with Bahrain.

Heidi Ghanem, WHO Consultant

EIOS Training in Nepal

In October, the ECT had the pleasure to support colleagues from the WHO Regional Office for Southeast Asia (SEARO) to facilitate a 3-day EIOS training in Kathmandu, Nepal. From 12 to 14 October 2022, more than 20 participants from the Nepal Ministry of Health and Population, the Ministry of Agriculture, the Health Directorates from three of the provinces and the WHO Nepal country office joined together to learn further about Public Health Intelligence (PHI), the EIOS initiative and the EIOS system.

The active engagement in the training highlighted the interest of Nepalese health authorities in strengthening PHI activities in the country, which is prone to a range of emergencies, including both infectious diseases as well as natural disasters. Health authorities in the region have highlighted the need for strengthening their surveillance systems to rapidly capture information on events that may pose a potential risk to public health. Nepal was the first Member State in the SEA region to join EIOS, Indonesia and Bangladesh will be following in its footsteps in the coming month.

Heidi Ghanem, WHO Consultant

Azerbaijan and Poland join EIOS

October 2022 has been an extremely busy month for the EIOS focal points from the Regional Office for Europe (EURO)! As part of their regional EIOS expansion plan, the EURO team conducted two back-to-back 3-days long, face-to-face EIOS trainings in Azerbaijan and Poland, in close collaboration with the respective WHO country offices.

Both trainings were planned for a diverse audience, ranging from health authorities (Ministry of Health, Public Health Institutes, National Insurance Company, National IHR Focal Points, Chief Sanitary Inspectorate etc.) to Points of Entry, State Fire Department, Emergencies Service and Crisis Management Centre. Participants could put to practice the lessons learnt from routine use of EIOS for ongoing emergencies relevant for the region (COVID-19, monkeypox, Ukraine response) or from selected mass gathering events (FIFA 2018, UEFA 2020) by coming up with a surveillance objective for their own teams, setting up the system for their purpose, designing Standard Operating Procedures and planning consequent public health required actions. As an exciting start, both Poland and Azerbaijan will be participating in the upcoming EIOS Global Technical Meeting in November.

Hernández-García L., Abdulhady S., Ciobanu S., WHO EURO

For more impressions from our trainings, visit our picture gallery on the next page!
EIOS Training of Trainers, Berlin, Germany
19-23 September 2022
Photos: Alfonso Moral/WHO

EIOS Training
Kathmandu, Nepal
12-14 October 2022
Photo: Nepal WHO Country Office

Baku, Azerbaijan, 18-20 October 2022
Photo: WHO EURO

Warsaw, Poland, 25-27 October 2022
Photo: WHO EURO

EIOS Trainings the AFRICAN Region
Photos: Provided by WHO AFRO

Mali, 17-19 August 2022

Kenya, 18-20 October 2022

Tanzania, 5-7 September 2022

Zambia, 18-20 October 2022

Togo, 4-6 October 2022
The objectives of the workshop were to train participants on the use of intelligence search engines and tools for signal detection, engage in practical demonstrations of these tools including the Epidemic Intelligence from Open Sources (EIOS) system, and determine next steps for Member States for continued collaboration following the workshop.

Participants represented different technical profiles, including infectious disease surveillance/event-based surveillance, health emergencies, and communications. During the workshop, the concepts related to early warning and response, epidemic intelligence, event-based surveillance were introduced to provide a common foundation of knowledge. An overview of different types of epidemic intelligence tools was presented and discussed, with an in-depth focus on EIOS, including hands-on practical activities using the system. The importance of developing a workplan or standard operating procedures for conducting event-based surveillance was discussed, and participants had the opportunity to contribute to new or existing frameworks from the respective Member States for further implementation as well as for broader collaboration within the Region.

Krista Swanson PAHO/WHO

Group photo of participants at the workshop on the Use of Epidemic Intelligence Tools for Signal Detection in Panama, October 2022. Photo: PAHO

Opportunity for peer-to-peer learning

Given this shared background, and as the countries expand their EBS work, it offered the chance to facilitate peer-to-peer learning. The first opportunity for networking came in June 2022 during my EBS technical assistance visit to SL MoHS. The visit focused on different elements of EBS including workflows, reporting templates, and a refresher workshop on core EBS concepts and EIOS system.

During the second week of the visit, I was joined in Freetown by Halima Muhammad, EBS Analyst in the Surveillance and Epidemiology Department at NCDC. Halima shared lessons learned from NCDC including how the agency uses the EIOS system and from the implementation of the 7-1-7 timeliness milestones.

On the last day of the visit, Halima led a Sierra Leone-Nigeria EBS collaboration day, which included presentations and conversations around best practices in conducting EBS in West Africa.

A two-way exchange

Following the success of this visit, NCDC invited EBS analysts from Sierra Leone and Liberia to Abuja, Nigeria, in August to continue the exchange. Over the course of five days, the visiting analysts received an overview of EBS at Nigeria CDC and learned about how NCDC utilizes different systems in its EBS work including EIOS, the Tatafo signal scanning system, the SITAware event management system, and the Surveillance Outbreak and Response Management and Analysis System (SORMAS). They also participated in the Daily Public Health Intelligence Meeting and discussed challenges and lessons learned from NCDC’s EBS development.

At the end of the visit to Abuja, the participants agreed to stay connected on a weekly regional call with other EBS staff to give updates on signals detected and share information.

Larry Hinkle IV, CDC

Group photo: NPHE/MoHS visit to Abuja, Nigeria in August. Photo: NCDC.

ENSF partners with the United States Centers for Disease Control and Prevention (US CDC) and the CDC Foundation in a Resolve to Save Lives funded project that focuses on enhancing event-based surveillance (EBS) capacity building in the African region.

All three agencies have partnered with the United States Centers for Disease Control and Prevention (US CDC) and the CDC Foundation in a Resolve to Save Lives funded project that focuses on enhancing event-based surveillance (EBS) capacity building in the African region.

Workshop on the Use of Epidemic Intelligence Tools for Signal Detection in Region of the Americas

In the Region of the Americas, PAHO/WHO provides support to Member States in strengthening surveillance for health risks and hazards. As evidenced in particular by the COVID-19 pandemic and the current monkeypox epidemic, a robust foundation of epidemic intelligence including event-based surveillance is critical for rapidly detecting public health threats with the objective of early warning and response and saving lives as the ultimate goal. In this respect, PAHO/WHO hosted the Workshop on the Use of Epidemic Intelligence Tools for Signal Detection in the Region of the Americas, in Panama City, Panama, over two sessions between 19-21 October 2022 for 7 Spanish-dominant countries, and between 24-26 October 2022 for 6 English-dominant countries. Furthermore, after more than 2.5 years since the start of the COVID-19 pandemic, this was a welcomed opportunity to meet in-person to collaborate on this relevant topic for the Region.

The objectives of the workshop were to train participants on the use of intelligence search engines and tools for signal detection, engage in practical demonstrations of these tools including the Epidemic Intelligence from Open Sources (EIOS) system, and determine next steps for Member States’ strengthening event-based surveillance and establish coordination processes for continued collaboration following the workshop.

Participants represented different technical profiles, including infectious disease surveillance/event-based surveillance, health emergencies, and communications. During the workshop, the concepts related to early warning and response, epidemic intelligence, event-based surveillance were introduced to provide a common foundation of knowledge. An overview of different types of epidemic intelligence tools was presented and discussed, with an in-depth focus on EIOS, including hands-on practical activities using the system. The importance of developing a workplan or standard operating procedures for conducting event-based surveillance was discussed, and participants had the opportunity to contribute to new or existing frameworks from the respective Member States for further implementation as well as for broader collaboration within the Region.

Krista Swanson PAHO/WHO

Group photo of participants at the workshop on the Use of Epidemic Intelligence Tools for Signal Detection in Panama, October 2022. Photo: PAHO

Collaboration

Enhancing Surveillance Networks Through Mentorship in West Africa

As more countries join the EIOS initiative and start using the EIOS system, it increases opportunities for enhanced collaboration between countries, and for building learning networks and exchanging lessons. Recent activities conducted between the Nigeria Centre for Disease Control (NCDC), the Sierra Leone Ministry of Health and Sanitation (SL MoHS), and the National Public Health Institute of Liberia (NPHIL) show the potential for this collaboration.

All three agencies have partnered with the United States Centers for Disease Control and Prevention (US CDC) and the CDC Foundation in a Resolve to Save Lives funded project that focuses on enhancing event-based surveillance (EBS) capacity building in the African region.

EBS technical assistance visit to SL MoHS in Freetown. In the middle, Larry Hinkle (CDC) and Halima Muhammed (NCDC), joined by Sierra Leonian colleagues Sylvester Yondah and Ibrahim Senki. Photo: Larry Hinkle.

A two-way exchange

Following the success of this visit, NCDC invited EBS analysts from Sierra Leone and Liberia to Abuja, Nigeria, in August to continue the exchange. Over the course of five days, the visiting analysts received an overview of EBS at Nigeria CDC and learned about how NCDC utilizes different systems in its EBS work including EIOS, the Tatafo signal scanning system, the SITAware event management system, and the Surveillance Outbreak and Response Management and Analysis System (SORMAS). They also participated in the Daily Public Health Intelligence Meeting and discussed challenges and lessons learned from NCDC’s EBS development.

At the end of the visit to Abuja, the participants agreed to stay connected on a weekly regional call with other EBS staff to give updates on signals detected and share information.

Larry Hinkle IV, CDC

Group photo: NPHE/MoHS visit to Abuja, Nigeria in August. Photo: NCDC.
WHAT’S NEW in EIOS?

EIOS system updates

In the last couple of months a lot of work has been invested by our colleagues at the Joint Research Centre of the European Commission (JRC) to improve the underlying technology of the EIOS system, preparing it for the next larger upgrades.

The changes deployed to the production system which are visible to the user, included the possibility to export data in CSV and EXCEL format, improvements on the user interface, and several bug fixes.

The main work “behind the scenes,” which is still ongoing, includes the change and upgrade of software components, development of additional tools and the re-architecture of the underlying technology of the user portal as well as the processing chain for the automated analysis of incoming information.

These changes are necessary to prepare the EIOS system for several enhancements ahead including the:

• release of a brand-new multi lingual user interface enhancing the user experience and introduction of additional functionalities for board management and new monitoring
• availability of an application supporting translations of the user interface into more languages
• the availability of a more fine grained roles and permissions model facilitating user management and administrative tasks
• introduction of a modular approach for the processing chain enabling a more seamless integration of new analysis modules as well as automated scaling depending on the load on the system.

Further strengthening the system on One Health aspects, the European Food Safety Authority (EFSA), the Centre for Agriculture and Science International (CABI), JRC and WHO are working together on the introduction of plant health diseases in EIOS. This new thematic area will enrich the information available on plant health for all communities on the EIOS system.

CATEGORY CORNER

In Q3, we have added a total of 42 new categories to the EIOS system. The EIOS Core Team (ECT) continues to actively support event-based surveillance of mass gathering events and acute emergencies including the G20 Bali Summit and FIFA World Cup 2022 (both starting in November 2022), the war in Ukraine and the outbreak of Monkeypox. As well as providing advice on board setup this also involved the creation of numerous new categories to support monitoring of vulnerable population groups such as people with comorbidities, people who inject drugs, sex workers, pregnant women and healthcare workers.

We always strive to develop new categories for emerging diseases in a timely manner and in the last quarter longa henipavirus and tomato flu were added to the system. We continue to develop categories to further strengthen the system’s sensitivity for One Health, all hazards monitoring including emerging diseases in wildlife. We have provided new categories for monitoring natural disasters including heatwaves, volcanic eruptions and harmful algal blooms as well as environmental categories targeting disease vectors including Aedes, Culex and Anopheles mosquitoes.

We provided additional categories across all communities for monitoring of H3N8, mesoamerican nephropathy, intensive care units, long-term care facilities, sepsis, bovine spongiform encephalopathy, paragonimiasis, paragonimus, paragonimus westermani, henipavirus, flavivirus, naegleriasis, naegleria fowleri, parvovirus, borrelia, human parainfluenza virus, ehrlichiosis, fasciola, fascioliasis, circovirus, pasteurellosis and pasteurella.

Over the past quarter, we added additional keyword translations for around 70 categories within the EIOS system including new languages such as Thai. In addition, we worked to refine several category definitions for priority diseases resulting in decreased noise and improved functionality.

Finally, the ECT is very pleased to inform you that a full list of available categories in the EIOS system will be shared with each new category update to ensure you are kept well informed about the latest changes.
Pandemic and Epidemic Intelligence Innovation Forum

On 17 October 2022, the WHO Pandemic Hub hosted the first in-person session of the Innovation Forum. Colleagues from different organizations met in Berlin and exchanged experiences and ideas during an exciting 2-hour workshop. This session was part of a group of formative discussions that will help structure a global exercise led by the WHO Pandemic Hub to establish priorities for research about pandemic and epidemic intelligence.

Would you like to take part in the next Innovation Forum virtual sessions? Contact us at pandemichub@who.int indicating your full name and affiliation. We look forward to seeing you!

All WHS sessions can be watched [here](https://www.pandemichub.who.int).

---

**Speaker Series: Complexity of Pandemics**

The second session of the quarterly, hybrid series Complexity of Pandemics of the WHO Pandemic Hub, which is co-hosted with Charité University Hospital, took place on 22 September at the Spiefeld Digital Hub in Berlin.

The goal of the series is to jointly explore the complex multidisciplinary landscape of preventing, predicting, preparing for, and responding to epidemics and pandemics. The session was titled Complexity of Pandemics N°2 - Exploring Insights from the Social Sciences for Collaborative Intelligence.

Watch the recording of the second speaker series event [here](https://www.pandemichub.who.int).

---

**REGISTER TODAY**

**COMPLEXITY of PANDEMICS N°3**

Leveraging Innovative Technologies for Enhanced Collaboration
27 November 2022, 6:00 pm to 7:30 pm (Egypt Standard Time)

**REGISTER HERE**

For online participation and access to the Q&A platform.

---

**COMMUNITY CLOSE-UP:**

Food and Agriculture Organization of the United Nations (FAO)

**Name of Community:** FAO

**Active on EIOS since:** 2017

**Number of members:** 50

**WHAT DO YOU USE EIOS FOR?**

The Global Early Warning Systems (GLEWS) team within FAO’s Animal Health Department (NSAH), uses the EIOS system to detect signals that are then analysed and validated in the Disease Intelligence daily routine. Our mission is to provide member countries with early warnings, and contribute to the global effort of preventing, detecting, containing, eliminating, and responding to animal and public health risks attributable to zoonosis and transboundary animal diseases. Our goal is to minimize their impact on food security and people’s livelihoods and to promote progress towards achieving the sustainable development goals.

The GLEWS team regularly uses the EIOS system to monitor targeted diseases. Once signals are detected and retrieved, they are distributed three times a week through a consolidated list. A team of experts then analyses the available data to initiate appropriate actions where necessary.

The intelligence derived from the EIOS system is used in a variety of applications and in the production of several outputs such as:

- **Internal Alerts**
- **Weekly Animal Health Threats Updates**
- **Monthly Updates on Avian influenza with zoonotic potential and MERS**
- **Quarterly updates on Avian influenza for East and Southeast Asia**
- **Risk assessments and other publications.**

**WHAT DO YOU LIKE BEST ABOUT EIOS?**

One of the main advantages of the EIOS system is the prompt access to the latest news on targeted issues, the variety of sources, as well the access to media in foreign languages, and the linkage to social media, such as Facebook and Twitter.

Moreover, the possibility to filter through the detected results in a variety of ways allows to refine the search to the closest topics of interest. This saves time and allows to navigate through noise much more efficiently.

Mirko Bruni, FAO

---

**World Health Summit 2022**

October was full of events and activities for the WHO Pandemic Hub, including support of G7 meetings on pandemic preparedness and the World Health Summit (WHS), the international strategic forum for global health held annually in Berlin. This year, it took place from 16-18 October and the Hub was responsible for organizing and hosting two sessions:

- **Outsmarting Pandemics: Collaborative Surveillance and National Public Health Institutes (NPHIs)** (16 October)
- **Game Changer: Architecture for NPHIs** (17 October)

Collaborative Surveillance and
Outsmarting Pandemics: Pandemics of the WHO Pandemic Hub, which is co-hosted with Charité University Hospital, took place on 22 September at the Spiefeld Digital Hub in Berlin.

The goal of the series is to jointly explore the complex multidisciplinary landscape of preventing, predicting, preparing for, and responding to epidemics and pandemics. The session was titled Complexity of Pandemics N°2 - Exploring Insights from the Social Sciences for Collaborative Intelligence.

Watch the recording of the second speaker series event [here](https://www.pandemichub.who.int).

---

Would you like to know more about the Hub and stay up to date with the latest developments and events? Subscribe to the Hub newsletter, visit our website [https://www.pandemichub.who.int](https://www.pandemichub.who.int) or contact us at pandemichub@who.int.