Each January we take the opportunity to look back at the past year, summarize its milestones, and celebrate our joint achievements. 2022 was a special year for us as we marked five years of the EIOS initiative. As proud parents of our growing toddler, in this edition we will give you an overview of how the initiative has grown and evolved since its inception in 2017. Over the course of the year, we will share some reflections from the EIOS leadership, as well as community members and collaborators around this five-year milestone, starting in this very issue.

Last year was filled with exciting community events – many of them finally resuming as physical encounters after more than three years! This includes the Training of Trainers, the Global Technical Meeting, as well as the last meeting of the first EIOS Coordination Group. All of these events provided invaluable opportunities for the community to directly connect and interact around the topic of Public Health Intelligence, and to working towards our joint global vision. 2022 was also the first full year of the WHO Pandemic Hub, which EIOS forms an integral part of. With the ongoing operationalization of the Hub and the continued expansion and evolution of the EIOS initiative, we are excited for 2023 and look forward to further building on our past achievements. Thank you all for being a part of it!

With sincere greetings,
The EIOS Core Team
5 Years of EIOS: MILESTONES

Expansion of the EIOS Initiative
August 2019 – December 2022

- 12 communities
- 300 EIOS users
- 70+ communities
- 4000 EIOS users

Global expansion to Member States started with the first Training of Trainers in August 2019. With it, the Global EIOS Support Team (GEST) was born and EIOS trainings started. NIGERIA, EGYPT and BRAZIL were the first countries to be trained in October 2019.

Categories

Since the launch of EIOS, continuous work has been done on improving and adding new categories based on community needs and evolving situations. More than 400 categories have been created over time, many more categories improved and language coverage extended to enhance the categorization of content in the system.

In total, there are now more than 600 categories available to communities!

Technology

- In 2017 the EIOS system went live: developed by the Joint Research Centre (JRC), it fused earlier systems HDRAS and EAR
- Since then, there have been continuous enhancements through an agile development approach – guided by user feedback
- In 2019, the EIOS system migrated to the Microsoft Azure cloud
- Multiple environments: Testing and development, Production, User Acceptance Testing, R&D
- More than 1,000,000 lines of code
- Numerous collaborations, incl. with AWS, Adappt, Hongkong University, Argusoft
- Major re-work of underlying architecture ongoing -> Scalability Modularity

Sources

Over the years, additional sources have been added to broaden the type of sources feeding into the EIOS system and to improve the representativeness and content coverage.

- In total, the EIOS system contains information from over 20,000 sources
- In the last 5 years > 8000 sources have been added
- The introduction of social media (Facebook & Twitter) has greatly improved early information detection, as evident during the COVID-19 pandemic with information, including on Public Health measures, being communicated increasingly by national authorities.

Evaluations

- Evaluations were conducted to assess the implementation of the EIOS initiative in different communities for user-centered prioritization
- Assessments of different social media platforms were performed for their added-value to public health intelligence activities
- Numerous EIOS communities were advised on the best way to evaluate their public health intelligence activities

EIOS Training

Expansion and adoption is not possible without the required capacity building and training materials. Since 2019, a strong community and a multitude of materials have been developed and constantly refined to support EIOS implementation:

- EIOS Training of Trainers workshops (2019, 2022) and training package
- Community of EIOS Trainers with over 40 professionals
- 3-day EIOS system Training Package (for in-person and remote trainings)
- EIOS refresher trainings, case studies and self-practise materials
- Online Introduction to EIOS Training Course in English and Portuguese
- Webinars
- EIOS Training Website

REFLECTIONS EIOS CORE TEAM

“The growth of the EIOS initiative over the past 5 years has demonstrated that a global community can coalesce around a common goal for improved public health intelligence to better protect our communities from all types of public health hazards and threats.”

Carolyn Briody
Evaluation Coordinator

“I joined the EIOS Core Team in the middle of the pandemic, in May 2020. It is amazing to see how much we were able to accomplish and expand since then, considering a very challenging situation in terms of funding and staffing. I ascribe this to the commitment and dedication within the team.”

Thijs Cornelissen
Data Scientist

“I could not be happier about the community we have built around the EIOS initiative over these past five years. Working with so many committed people from all over the world and seeing the initiative grow and evolve has been extremely gratifying. Every single community encounter, virtual or physical, has been characterized by a special cooperative spirit and I felt privileged to be a part of it. The opportunities and challenges we face today are very different from when we started but I am confident we have built a solid foundation to reap these opportunities and tackle these challenges together going forward.”

Yasmin Rabiyan
Engagement Coordinator

“It is inspiring to be part of the EIOS initiative and contributing to the transformation of the way Public Health Intelligence is performed in Member States all around the globe”

Raquel Medialdea
Training Coordinator
The immense growth of the EIOS community in 2022 was supported by a record number of EIOS system trainings and refreshers, particularly in the last months of the year, following the five-day EIOS Training of Trainers (ToT) workshop in Berlin, Germany, in September (video).

The ToT deserves to be highlighted for a few reasons: it was our first in-person event since the pandemic and it was our first event in Berlin since the opening of the new WHO Hub for Pandemic and Epidemic Intelligence. The immediate impact of the ToT demonstrated the importance of conducting this type of event to provide support to EIOS trainers and ensure the quality of trainings delivered as the expansion of EIOS continues.

To further strengthen the community of practice and provide a space to exchange best practices and lessons learned, the EIOS community webinar series were launched in 2022. In this special edition of the webinars, public health intelligence experts from EIOS communities present their work using the EIOS system. Between February and December, the team organized 6 webinars of which 3 were community-focused and 3 were led by the EIOS Core Team to showcase new features in the EIOS system. On average, more than 200 users from over 60 countries participated in these webinars.

Since February 2022, the online self-learning course “Introduction to Epidemic Intelligence from Open Sources” was made available in English to everyone with an active EIOS account. This course can be followed at the participant’s pace and is an opportunity to complement the workshops. Nearly 650 professionals have already completed the course. In September 2022, the course was also made available in Portuguese. Aiming to make this course more accessible to the wide EIOS community, the course will be available in more additional languages in 2023. Stay tuned!

For more details on training activities, please visit the new training page on the EIOS website.
List of communities on the EIOS system (as of December 2022)

Organizations, networks & groups*

- Africa CDC (Africa Centres for Disease Control and Prevention)
- Assistance Coordination Unit
- AU-EU (Africa CDC and ECDC collaboration)
- ECDC (European Centre for Disease Prevention and Control)
- ECHO (European Civil Protection and Humanitarian Aid Operations)
- FAO (Food and Agriculture Organization of the United Nations)
- GHSI (Global Health Security Initiative)
- GLEWS (Global Early Warning System)
- GOARN (Global Outbreak Alert and Response Network)
- IFRC (International Federation of Red Cross and Red Crescent Societies)
- IYCF (Infant and Young Child Feeding)
- MPHO Safety (Medical Products from Human Origins)
- MSF (Médecins Sans Frontières)
- Plant Health
- Public Health Measures
- Research
- UNICEF (United Nations International Children’s Emergency Fund)
- UNODC (United Nations Office on Drugs and Crime)
- Vaccine Safety Net
- WHO (World Health Organization)
- WOAH (World Organisation for Animal Health)

Member States

- Afghanistan
- Albania
- Armenia
- Australia
- Austria
- Bangladesh
- Belgium
- Benin
- Bhutan
- Bolivia
- Brazil
- Bulgaria
- Burkina Faso
- Burundi
- Cambodia
- Cameroon
- Canada
- Cape Verde
- Central African Republic
- Chad
- Chile
- China
- Colombia
- Comoros
- Congo (Kinshasa)
- Congo (Brazzaville)
- Costa Rica
- Côte d’Ivoire
- Croatia
- Cuba
- Cyprus
- Czechia
- Denmark
- Djibouti
- Dominica
- Ecuador
- Egypt
- El Salvador
- Equatorial Guinea
- Estonia
- Eswatini
- Ethiopia
- European Union
- Finland
- France
- French Polynesia
- Gabon
- Gambia
- Georgia
- Germany
- Ghana
- Greece
- Grenada
- Guatemala
- Guinea
- Guinea-Bissau
- Guyana
- Haiti
- Honduras
- Hungary
- Iceland
- India
- Indonesia
- Iran (Islamic Republic of)
- Ireland
- Israel
- Jamaica
- Japan
- Jordan
- Kazakhstan
- Kenya
- Kiribati
- Korea, Republic of
- Kuwait
- Kyrgyzstan
- Laos
- Latvia
- Lebanon
- Malaysia
- Malawi
- Maldives
- Malta
- Mauritania
- Mauritius
- Mexico
- Micronesia (Federated States of)
- Moldova, Republic of
- Monaco
- Mongolia
- Montenegro
- Morocco
- Mozambique
- Namibia
- Nepal
- Netherlands
- New Zealand
- Nicaragua
- Niger
- Nigeria
- Niue
- Norway
- Oman
- Pakistan
- Palau
- Panama
- Papua New Guinea
- Paraguay
- Peru
- Philippines
- Poland
- Portugal
- Qatar
- Romania
- Russian Federation
- Rwanda
- Saint Kitts and Nevis
- Saint Lucia
- Saint Vincent and the Grenadines
-Samoa
- San Marino
- Sao Tome and Principe
- Saudi Arabia
- Senegal
- Serbia
- Singapore
- Slovakia
- Slovenia
- Solomon Islands
- Somalia
- South Africa
- South Sudan
- Spain
- Sri Lanka
- Sudan
- Suriname
- Sweden
- Switzerland
- Syria
- Tajikistan
- Thailand
- Timor-Leste
- Togo
- Tonga
- Trinidad and Tobago
- Tunisia
- Turkey
- Turkmenistan
- Tuvalu
- Tanzania
- Ukraine
- United Arab Emirates
- United Kingdom
- United States of America
- Uruguay
- Uzbekistan
- Vanuatu
- Venezuela, Bolivarian Republic of
- Vietnam
- Virgin Islands (U.S.)
- Yemen
- Zambia
- Zimbabwe

* This list does not include communities that do not pertain to PHI surveillance, such as Test, Training, EIOS Trainers, etc.; Communities that joined in 2022 are marked in blue.

**EIOS System & Technology**

**Revised User Interface layout**
- Article row and article information panel
- Board communications and comment section
- Re-work of underlying technology started in 2022
- Enabling enhanced scalability and modularity
- Precondition for redesign of the EIOS user interface

**Enhanced exporting capabilities:** export articles in Excel & CSV formats
- Mentioned person, organisation and other entities are automatically detected and can be used in board definitions
**Categories**

Language coverage was extended for nearly **170 categories**.

Four **new languages** were added to the system for selected priority disease categories.

Around **35 category definitions** were refined for priority diseases resulting in better performance, including reduced noise.

**Sources**

Source management and identification of additional sources is important for the availability of crucial and relevant information for public health intelligence.

Over **3,700 sources** have been added in 2022 based on user needs. The maintenance of existing sources and addition of new sources is an ongoing process.
EIOS Past, Present & Future

It seems like it was only yesterday when we embarked on this incredible journey that is the EIOS initiative. But it has, astonishingly, been five years. From the humble beginnings of a small team at WHO headquarters to a growing support network spread across all six WHO Regions; from eight founding organisations to several thousand individuals spanning over 70 Member States, regional networks and global organisations, the success of the initiative is a reflection of the passion, commitment and shared vision of its members and collaborators – you and us. Together, we have created new technology, delivered training and built capacity to strengthen public health intelligence at the subnational, national, and global levels. Also, together, we experienced many significant events that will forever be etched in our memories and recorded in the annals of history: on the lighter side, for example, corny hosting, baby shark and the Eye of Horus; on the somber side, the war in Ukraine, monkeypox and the “virus that shut down the world.”

It was the impact of this same virus and the consequent sobering reviews and introspection that led to the creation of a new division within the WHO Health Emergencies Programme, housing the WHO Hub for Pandemic and Epidemic Intelligence. As an initiative focused specifically on “Epidemic Intelligence” and hosted within a team focused on intelligence innovation and integration, it makes sense that the EIOS initiative – and our team – have been re-situated within the Pandemic Hub. Over the past year, we have worked hard to maintain and expand our various activities (I won’t bore you with our achievements here but welcome you to connect with me so I can bore you directly with the details) while also supporting the operationalization of the Hub. We are excited – not just about our new neighbourhood or the opportunities this presents for EIOS – but also about the visibility this has given to intelligence activities and their importance. The potential and impacts are incredible and we invite you to partner with us, to imagine them with us, and to create the future of public health intelligence with us.

We are thankful for the past five years, for the lessons we have learned, the growth we have experienced, the bonds we have made – and witnessed – and the community that we have become. And we look forward with excitement and eager anticipation to the next five years and what we all, together, will make of them as we work towards zero impact from health threats.

On behalf of the whole EIOS Core Team, Philip AbdelMalik, Unit Head

2023 EIOS PRIORITIES

• Continue expansion of EIOS in line with an updated Expansion and Sustainability strategy for the EIOS initiative
• Continue constant improvements to the EIOS system, including the release of a new user interface (multi language, enhanced board and collaborations functionalities) and additional analysis capabilities
• Keep strengthening and engaging with the EIOS community through events, webinars, our newsletters and other regular communications
• Conduct analyses and report results for social media evaluation and EIOS implementation evaluation
• Continue providing guidance to EIOS communities on evaluations
• Develop Public Health Intelligence Competency Framework
• Establish EIOS clinics to provide additional support to EIOS system users
• Translate the EIOS Online Training into additional languages
• Broaden social media coverage

Much more to come: stay tuned!
The 2022 EIOS Global Technical Meeting (GTM), the fourth major conference of the EIOS initiative, was a special event in many ways: not only was it the first face-to-face meeting of the EIOS community since most public health measures due to the COVID-19 pandemic were lifted, it also coincided with the initiative's 5th anniversary and the end of mandate of the first ever EIOS Coordination Group (more on page 8). The conference was held over three days during 27-29 November 2022 in Luxor, Egypt, and was co-hosted with the WHO Regional Office for the Eastern Mediterranean (EMRO).

Under the slogan “The dawn of a new era for Public Health Intelligence (PHI)”, the focus of this year’s conference was on the shifting PHI landscape and the renewed emphasis on trust, transparency and technology as new actors and ways of working emerged from the COVID era.

More than 180 participants, including PHI specialists, as well as other experts from sectors such as technology, academia and philanthropy, from more than 60 countries united in Luxor to share experiences, build alliances, and explore topics around PHI.

This year’s programme was organized along seven topics: PHI decision-making, Trust, Citizen Engagement, Mandated authorities, Connecting information in a connected world, Working together for stronger public health intelligence, and EIOS implementation.

The 2022 EIOS GTM also hosted the third session of the WHO Pandemic Hub Speaker Series “Complexity of Pandemics” titled Leveraging Innovative Technologies.

More information about the 2022 EIOS GTM, including the full agenda, presentations, and official GTM video are available on the EIOS website.


Questions and Answers session with the EIOS Core Team (above) and GTM group picture (below). Photos: Alfonso Moral/WHO.
SPOTLIGHT 2/2: VOICES FROM THE GTM

“It’s been a fascinating event. I think coming back to a physical event with all the colleagues in the room, really has been inspiring, listening to them, sharing their experiences. Also, the themes that were chosen around trust and about decision making seem to really resonate with the colleagues that have come. I think the reflections of the colleagues on the panels were really insightful in what they have learned from this experience through the pandemic.”

Chikwe Ihekweazu
World Health Organization

“This meeting was like learning a lot of things that are really happening with the presentations from other countries, learning how others are using EIOS. We’ve really taken [on board] a lot that we need to do in our own country to ensure that EIOS works well for us. We’ve seen that actually with the One Health approach that we already have in Zambia, it’ll be very interesting to ensure that EIOS helps us to bring the data from the animal health, environmental health, and human health together. Because there is a lot of data, but it is in silos.”

Precious Chisale Kalubula
World Health Organization (Zambia)

“We have heard about the electronic system EIOS and how it’s integrated, which makes life easier. EIOS is a program that’s there to help me as public health consultant in detecting early outbreaks or other health events. We have been trained on the EIOS system and we are on the way of implementing it. We have seen the experience here of other countries who had implemented it, like Lebanon.”

Afaf Merza Mohamed
Ministry of Health (Bahrain)

“To screen the online news, you need to have some engine, easy to be used, to select the articles and to share them. The implementation of EIOS has contributed to make it easy for the event-based surveillance. It’s a new experience for me to be at the GTM. I know some faces and I am discovering new faces. So it’s the opportunity to know more people working in EBS and with EIOS.”

Nada Ghosn
Ministry of Public Health (Lebanon)

“Epidemic Intelligence has been a new thing, which is not too common in our country because we don’t use internet based information too much. Coming to the GTM was an eye-opener to see how we, as a country, can go back and be able to help in the area of building trust, and engaging the community.”

Sylvester Yondah
Ministry of Health and Sanitation Sierra Leone/Jhpiego

All photos: Alfonso Moral/WHO.
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. The CG acts according to legally endorsed Terms of Reference. The first CG was set up in 2019 and concluded its first (extended) mandate in 2022. Following the 2022 EIOS GTM, the outgoing CG got together in Luxor, Egypt, for a face-to-face meeting to jointly reflect upon the Initiative’s progress, as well as to draw lessons learned from this first term.

We would like to express our sincere gratitude to the representatives of this first ever CG for their support and commitment to the EIOS initiative over the years. While some members will continue for a second term, others will continue their close engagement with EIOS in other ways. An extra “Thank you” to the parting members from the United Kingdom Health Security Agency (UKHSA), the Public Health Agency of Canada (PHAC), the National Institute of Infectious Diseases of Japan, the Ministry of Health of Mexico, the Joint Research Centre of the European Commission (JRC) and the Global Outbreak Response and Alert Network (GOARN). We have gathered reflections of some of their representatives below and are looking forward to continuing the great collaboration that has been established with all the agencies from the very start of the EIOS initiative.

“Canada, represented by the Global Public Health Intelligence Network (GPHIN), has a long history in event-based surveillance and has been an active member of the CG since the inception of the EIOS initiative. Our involvement in the CG allowed the sharing of our experiences to improve and shape EIOS over time and the collaboration with other EIOS members to build its reach and effectiveness. GPHIN contributes to the initiative by providing data feeds to the EIOS system, sharing our multi-language taxonomy and participating in evaluation projects and train the trainer events. We are pleased to see the significant expansion of this initiative and we hope to continue to collaborate closely in the near future”.

Florence Tanguay representing PHAC

“We have been honored to work with the ECT since the very beginning of the EIOS initiative and seeing the progress that the project has achieved during the last four years and the rapidly increasing of the number of unique users, the features of the system and the areas applied into public health intelligence. COVID-19 has been teaching us a lot of lessons and the faster-than-ever changing world beyond is bringing more and more challenges within the scope of public health for us to manage. We will continue to cooperate closely with the ECT and make concrete contributions in public health intelligence through improved application and training engagement, community of practice and trust building, and by leveraging GOARN expertise in EIOS. We wish a very productive and innovative progress of EIOS in 2023!”

Qun He representing GOARN

Following their successful nominations (refer to the October 2022 newsletter for more information about the selection process), representatives from the European Commission (EC), the Nigeria Centre for Disease Control (Nigeria CDC), the Ministries of Health in Brazil, Iraq, and Singapore, as well as the Robert Koch Institute (RKI) will start their mandate as new CG members. They will join representatives from the Africa Centres for Disease Control and Prevention (Africa CDC), the Centers for Disease Control and Prevention (CDC), the Food and Agricultural Organization of the United Nations (FAO), the European Centre for Disease Prevention and Control (ECDC), the World Organisation for Animal Health (WOAH) and the World Health Organization (WHO), who will continue their mandates for a second term.

We warmly welcome the new EIOS Coordination Group and are looking forward to working with them on further shaping the future of the EIOS initiative!