Food and Agriculture Organization of the United Nations

World Health Organization

World Organisation for Animal Health

One Health Intelligence (OHI)

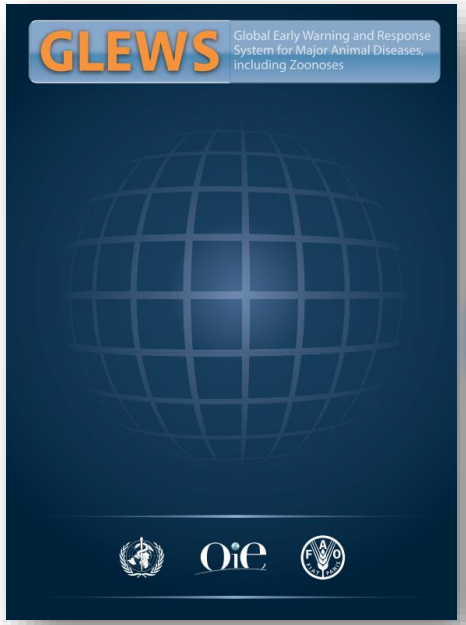
The Joint FAO-WHO-WOAH Global Early Warning System (GLEWS+) for health threats and emerging risks at the human-animal-ecosystem interface

Dr Dubravka-Dunja Selenic Minet, WHO

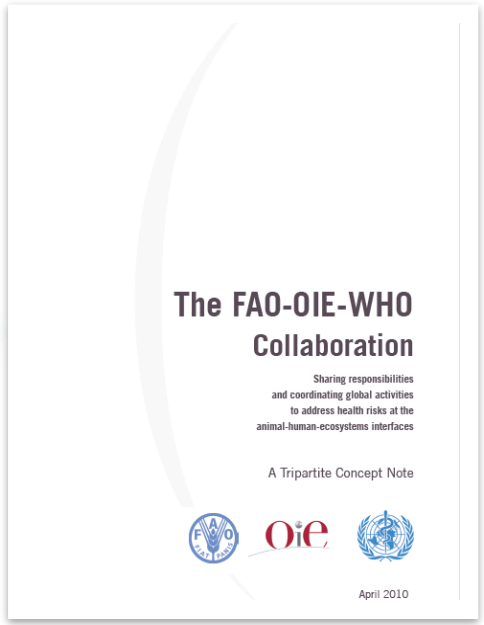
One Health Intelligence with FAO, WHO and WOAH

Tripartite FAO-WHO-WOAH collaboration in OHI

- **GLEWS,** Global Early Warning and Response System for Major Animal Diseases, including Zoonoses, to consolidate, develop, and use cooperation and efficiency to address health threats
- **Concept note** to prevent further pandemics of zoonoses and AMR through a strengthened "One Health approach“
- **GLEWS+,** Global Early Warning System for health threats and emerging risks at the human-animal-ecosystem interface



GLEWS
February 2006



Tripartite Concept Note
April 2010

GLEWS+
June 2012

OBJECTIVE OF GLEWS+

- **Enhance the detection** of health threats at the human-animal-ecosystem interface
- **Monitor disease events** to predict changes in endemic/ seasonal diseases, identify associated drivers and guide prevention
- **Conduct joint risk assessments** for rapid action on acute health events of potential international concern
- **Ensure timely coordinated risk communication:**
  - → within and across the three organizations,
  - → with Member countries, the public, and the international community.

A GLEWS+ 'event' is a health event of potential international concern affecting domestic or wild animal populations, humans or the food chain.

Global One Health Disease Intelligence under GLEWS+

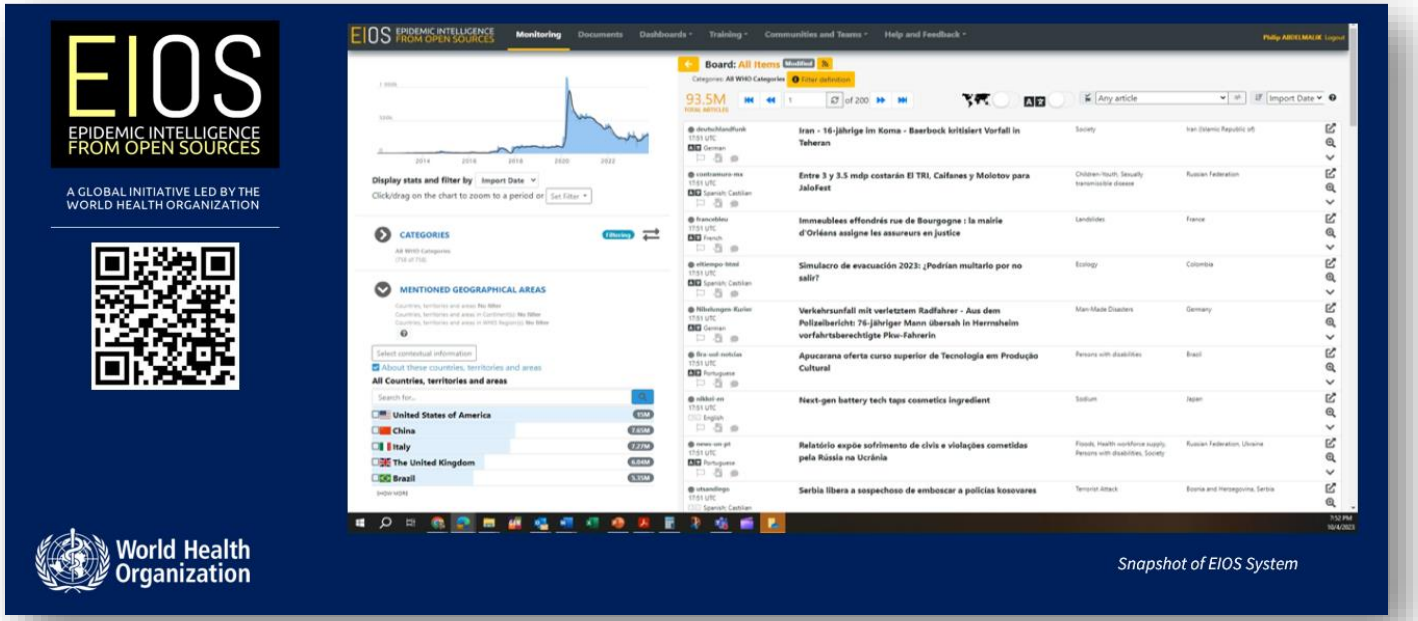
GLEWS+ The Joint FAO-OIE-WHO Global Early Warning System for health threats and emerging risks at the human-animal-ecosystems interface

GLEWS+ work

A global disease early tracking and warning system that formally links One Heath Intelligence among human and animal public health

Detection-identification of health threat

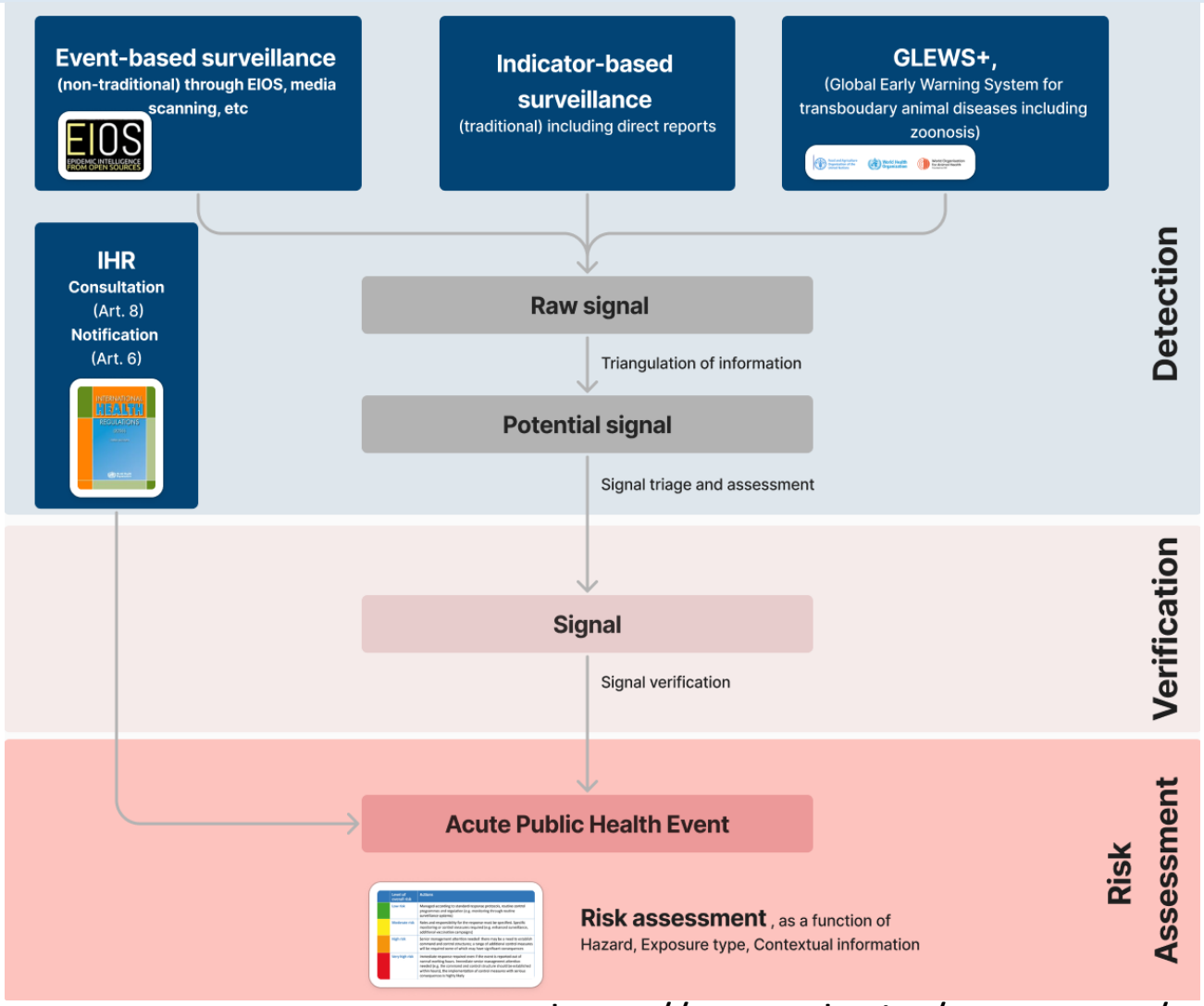
- Each organization has internal alert mechanisms to detect and verify potential health threats through their communication channels
- Daily event-based surveillance (EBS) using the EIOS initiative.

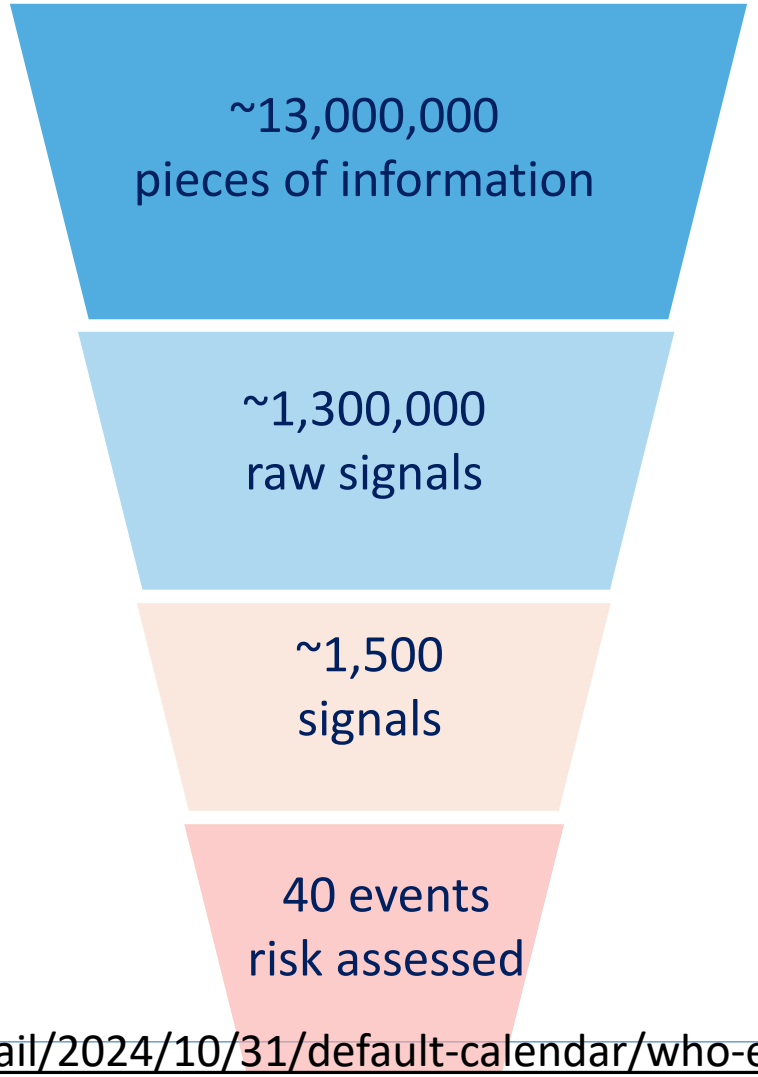


EIOS-Epidemic Intelligence from Open Source

Innovating and integrating Open-Source Public Health Intelligence thought community and technology

“GLEWS +” feeds WHO standard Public Health Intelligence practices

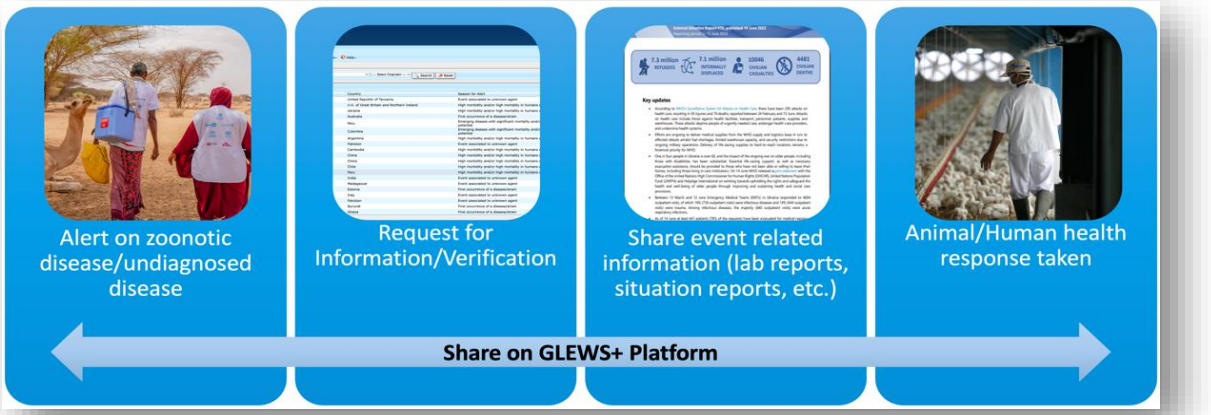




https://www.who.int/news-room/events/detail/2024/10/31/default-calendar/who-epi-win-webinar-global-public-health-intelligence-who-operational-practices

From detection to early warning: GLEWS+ key functions

- Information is shared securely through the GLEWS+ platform and remains **confidential**
- Verification requests are sent to regional/national offices for reported events
- Verified events are assessed and shared with technical teams
- Tripartite Joint Risk Assessments (JRA) are conducted



What triggers GLEWS+:

High morbidity and/or high mortality in humans and/or animals

Emerging disease with significant mortality and/or morbidity or zoonotic potential

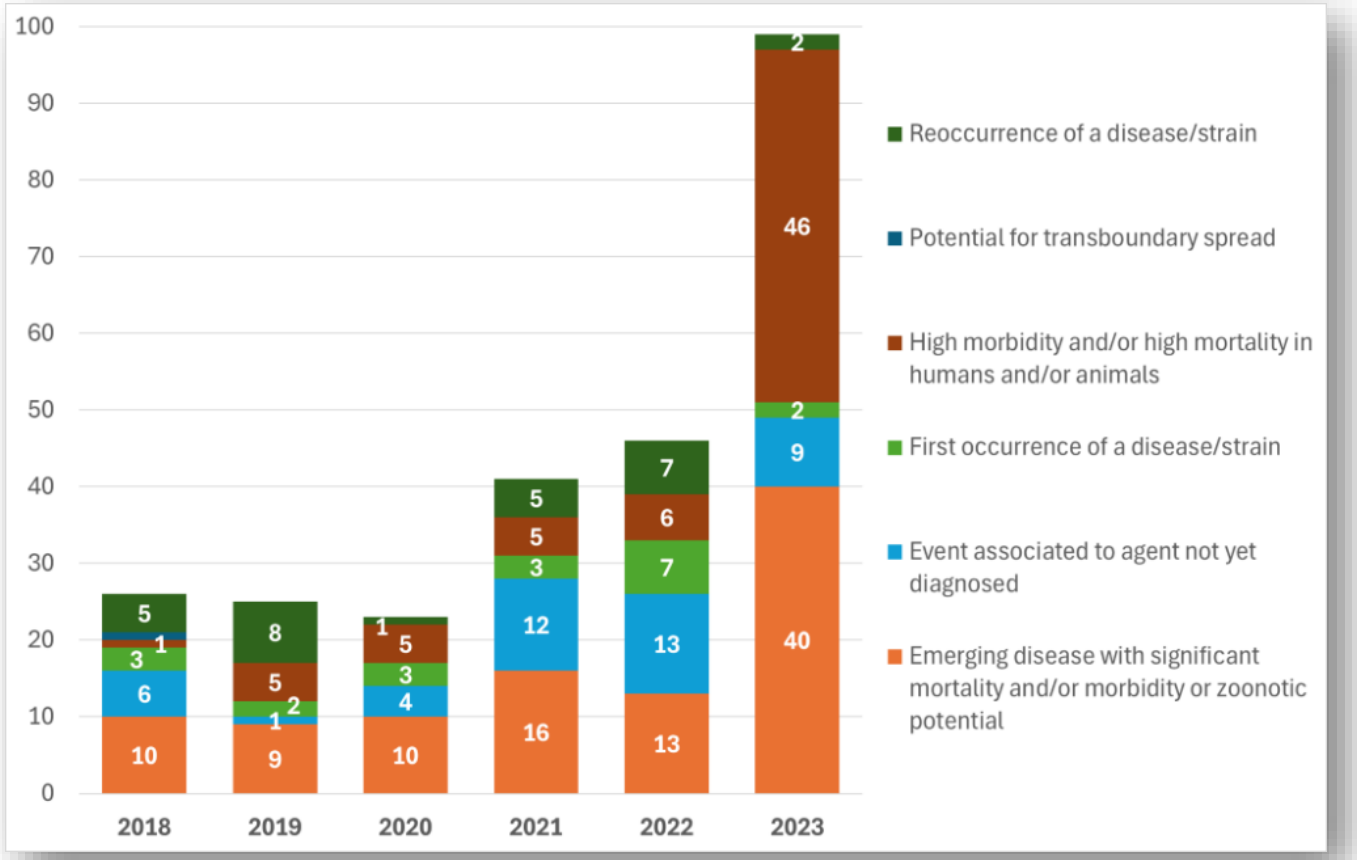
Event associated with an unknown agent

First occurrence of a disease/strain

Reoccurrence of a disease/strain

Reason for early warning 2018-2023

- Emerging diseases with high mortality/morbidity or zoonotic potential, 38%.
- High morbidity and/or high mortality in humans and/or animals, 27%.
- Event associated with the agent not yet diagnosed, 18%.
- Reoccurrence of a disease strain, 11%.
- First occurrence diseases/strain, 7%.



Distribution of disease related to different reasons on GLEWS+ platform

Priority GLEWS + zoonotic diseases

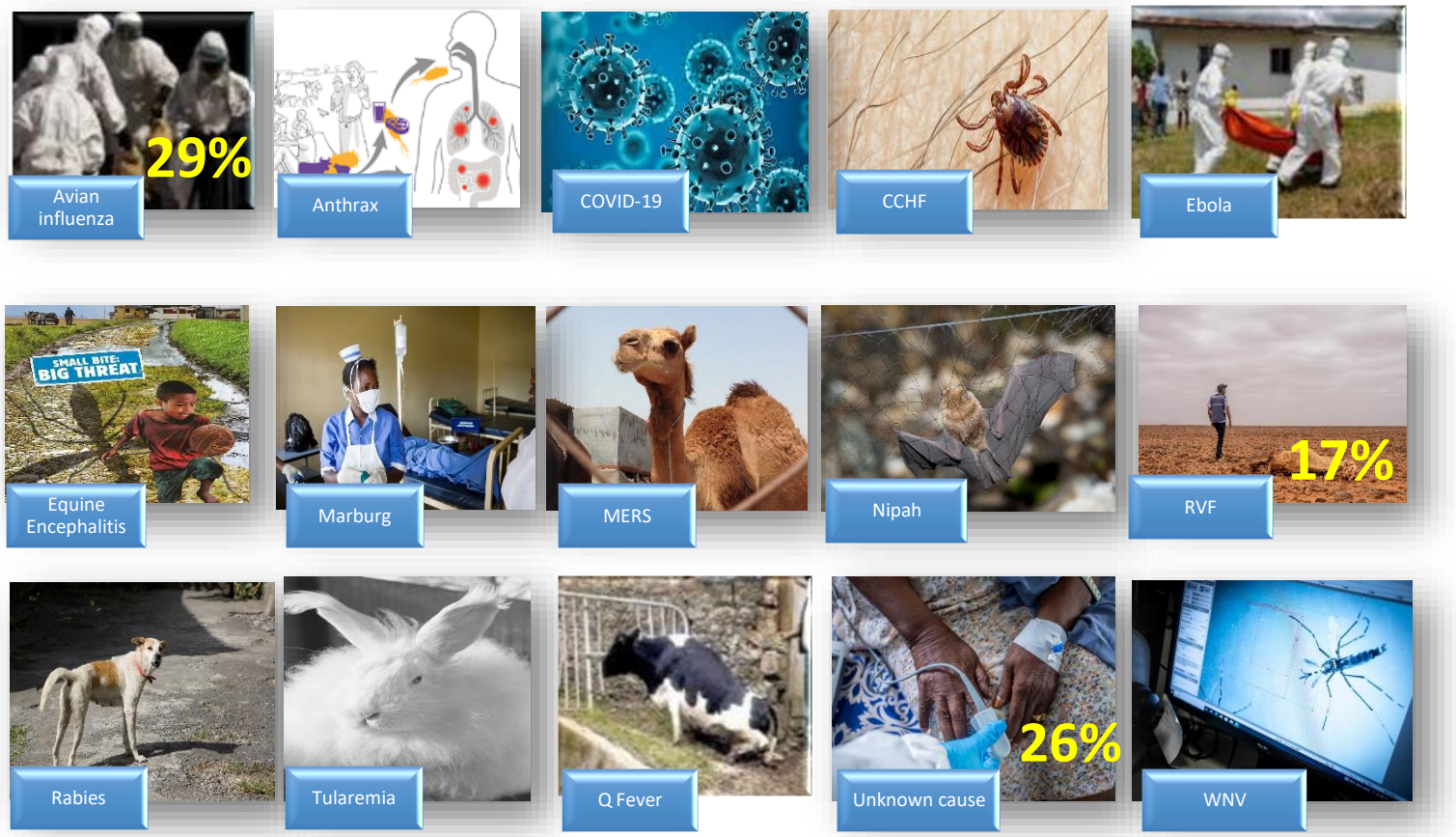
Diseases are grouped into three categories:

- **Category 1:** diseases with a high impact on animal and/or human health
- **Category 2:** diseases with a high impact on human health and a low impact on animal health
- **Category 3:** diseases with a high impact on public health in an outbreak situation

Food and Agriculture Organization of the United Nations | World Health Organization | World Organisation for Animal Health (Founded as OIE)

Bovine tuberculosis	1
Brucellosis	1
Zoonotic influenza	1
Dog mediated rabies	1
Rift Valley fever	1
Disease X	1
Anthrax	2
Crimean Congo haemorrhagic fever	2
Ebola virus disease	2
Equine encephalitis (VEE, EEE, WEE)	2
Japanese encephalitis	2
Lassa Fever	2
Leishmaniosis	2
Marburg virus disease	2
MERS-CoV	2
Nipah virus encephalitis	2
Plague	2
Q fever	2
Trypanosomiasis	2
Tularemia	2
Leptospirosis	3
Monkey pox	3
West Nile Fever	3
COVID-19	3

GLEWS+ top 15 diseases identified

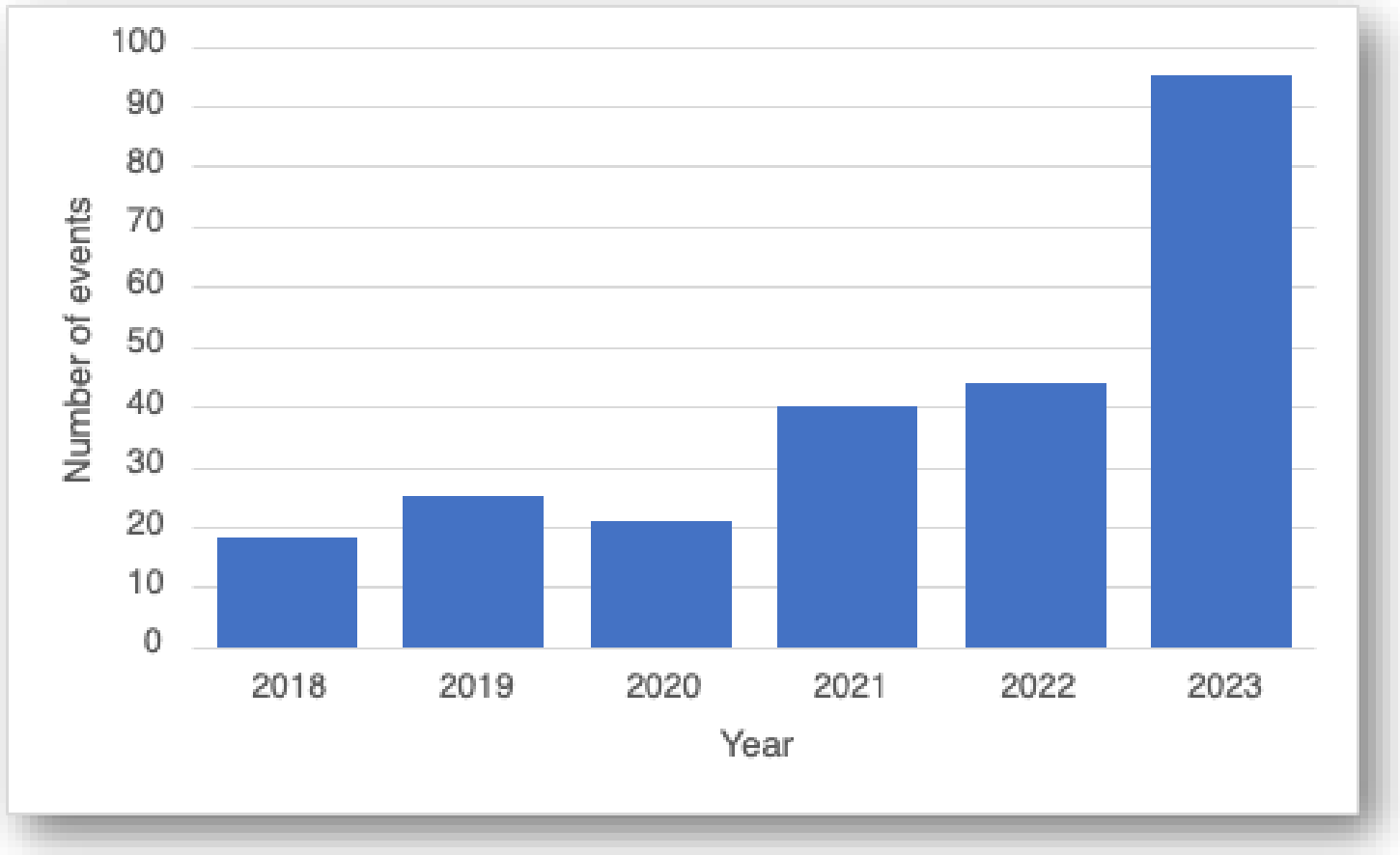


Events 2018-2023

- 243 Verification request
- 172 Confirmed events
- 71 False rumors
- Avian influenza mainly H5
- 62 events (26 %) reported as unknown etiology were later identified

WHO Photo Library

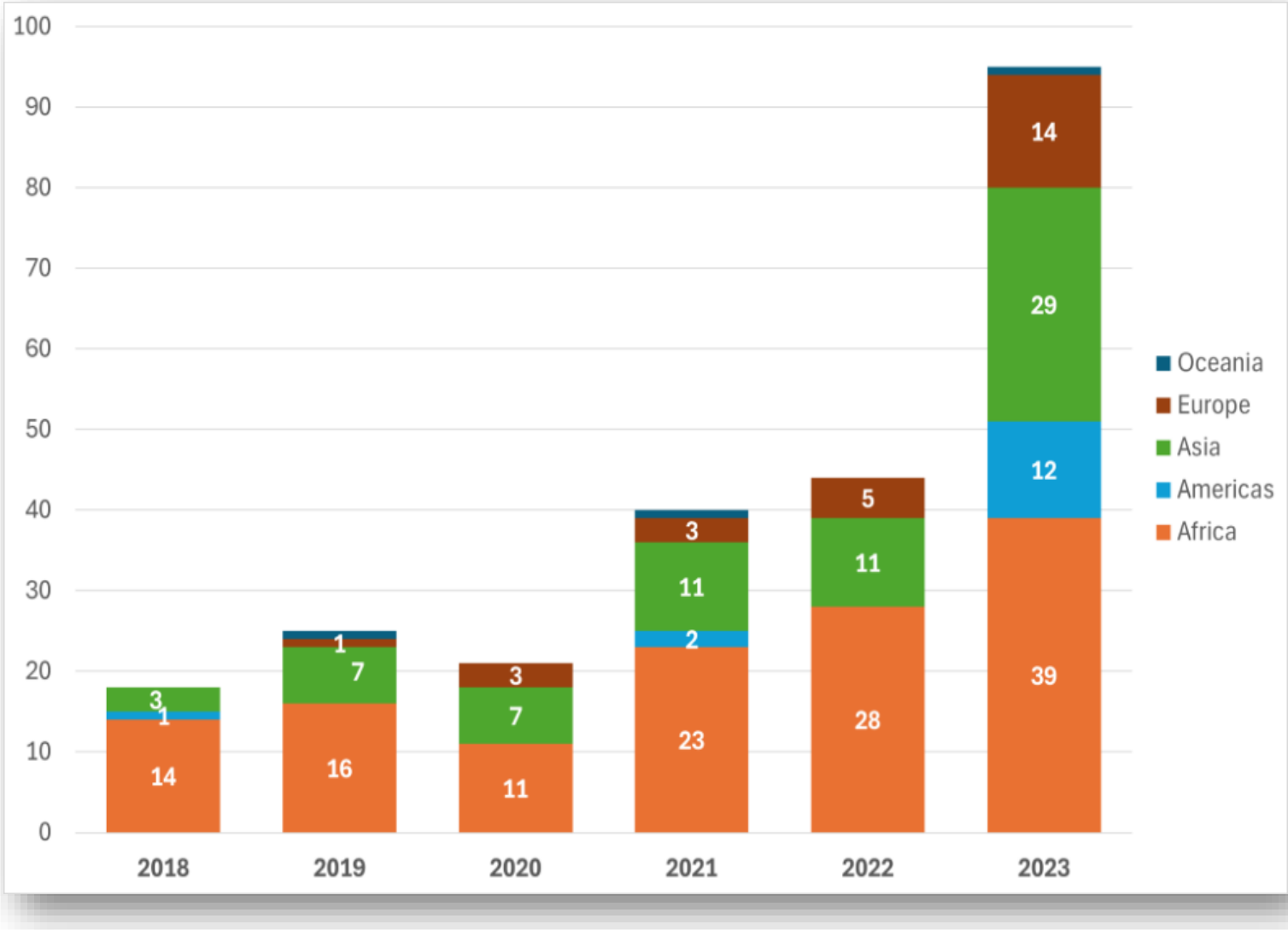
Annual trend confirmed Events



GLEWS+ recorded a significant increase in events

Regional distribution of confirmed events

- Majority, 54% of health threats in Africa
- Asia 28%
- Europe 11%
- Americas 6%
- Oceania 1%



GLEWS+ Tripartite Joint Risk Assessments (TJRA)

- Tripartite Joint Risk Assessments (TJRAs) offer a unique cross-sectoral approach for conducting comprehensive risk assessments on zoonotic events with endemic or pandemic potential

- These assessments focus on developing risk management strategies across human, animal, and environmental health sectors under the One Health framework.

- TJRAs enhance collective early warning and response capacities by integrating the alert and response mechanisms of FAO, WHO, and WOAH.

The majority are confidential, but some are public

GLEWS+ core team

Not in the photo: Fernanda Dorea-FAO

Drawings: FAO/Chiara Caproni

For more information, please contact:

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Team Lead (a.i), Risk assessment and EIS team

WHO GLEWS + Focal point

Public Health Intelligence (acute events)

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Thank you

Protecting people, animals, and the environment every day

Drawings: FAO/Chiara Caproni