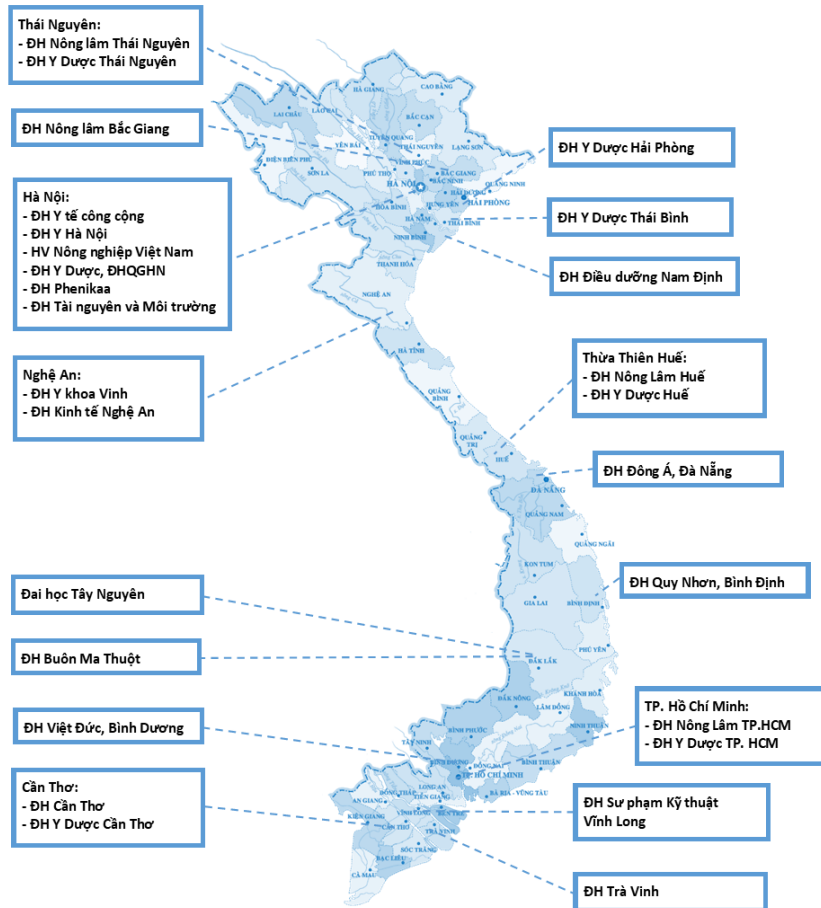


## Vietnam One Health University Network (VOHUN)



# The Role of One Health Workforce Development in Global Health Security: An Example in Vietnam

Hokkaido, 13 September 2023

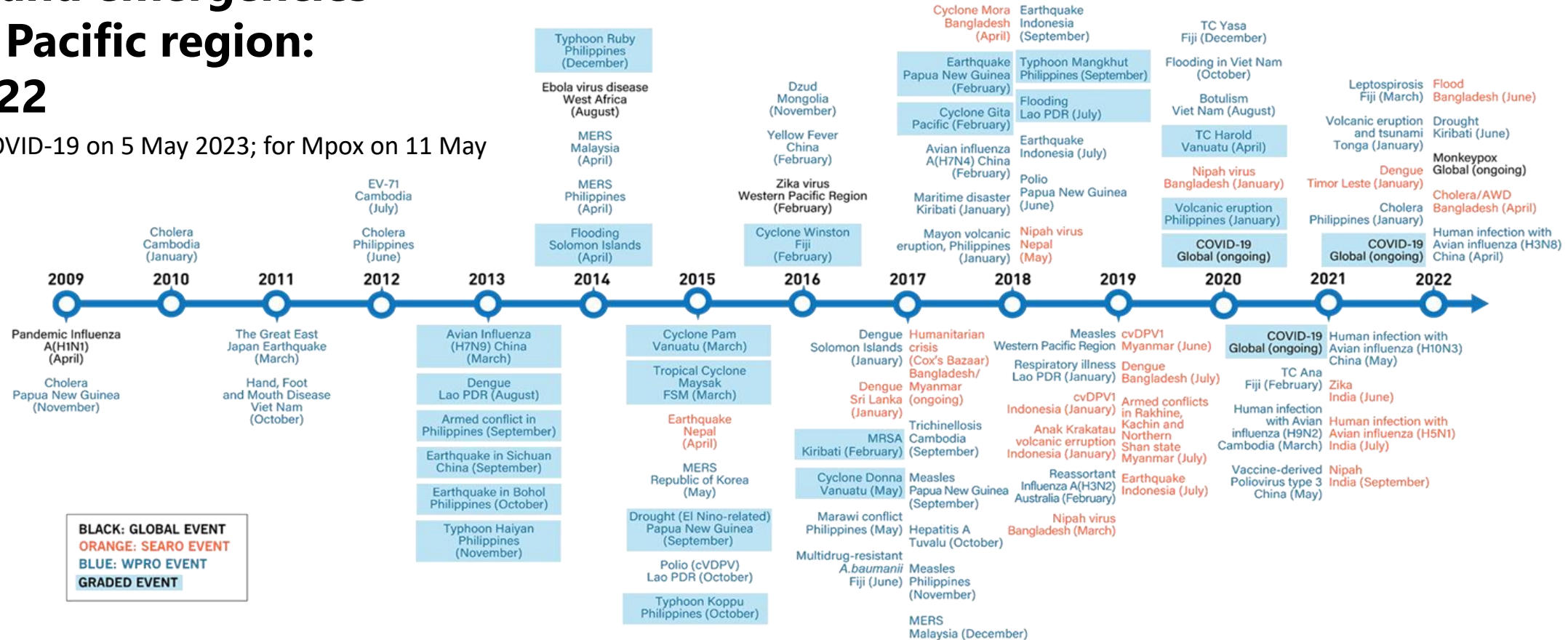
Pham Duc Phuc, MD., PhD.  
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Phone: +84 904049969

# Health security

- **Health security** is a concept that encompasses activities and measures across sovereign boundaries that mitigates public health incidents to ensure the health of populations.
- **Global health security** is the existence of strong and resilient public health systems that can prevent, detect, and respond to infectious disease threats, wherever they occur in the world.

# Outbreaks and emergencies in the Asia Pacific region: 2009 to 2022

\* PHEIC ended for COVID-19 on 5 May 2023; for Mpox on 11 May



ID related events: **60%**

Global events: **5\***

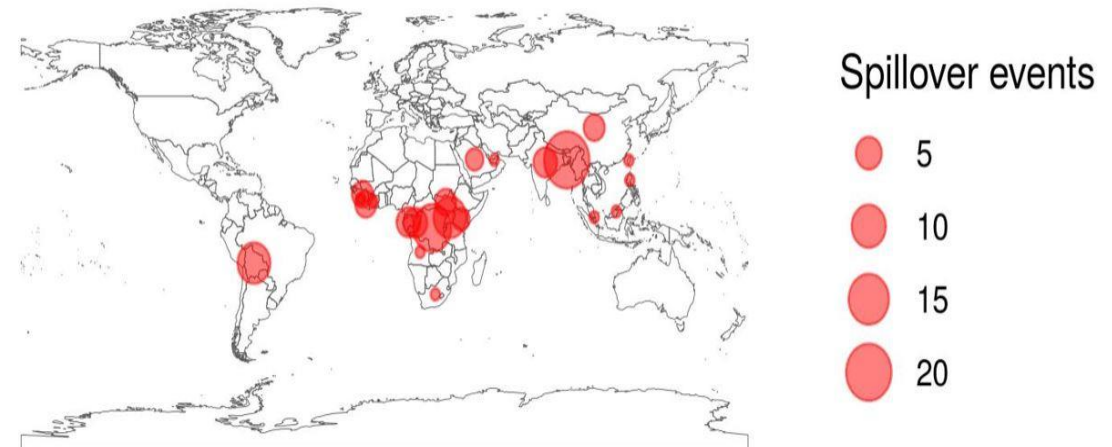
Pandemics: **2**



# Anticipating the next pandemic: **Where?**

- Emergence is random - but we know it will occur
- Emerging infectious diseases (EIDs) are a significant and growing threat to global health, global economy and global security.
- Analyses of their trends suggest that their frequency, severity and economic impact are increasing.
- Majority of EIDs (and almost all recent pandemics) originate in animals, mostly wildlife, and changing environments.
- The mechanisms underlying this process are likely complex, and poorly understood.
- Modelling and mapping used to predict EID emergence.
- South-East Asia identified as potential '**hotspot**'
- New pandemic could begin anywhere where there is close interaction of people and either domesticated or wild animals.

## Geographic distribution of 88 reported spillover events since 1960



Source: Metabiota, Human Epidemic Database, 2021 IN Smitham and Glasman CDG 2021

# Health security in national context

- Emerging & Re-emerging Infectious diseases:  
**Viruses**, Bacteria, Parasites, Protozoan, Fungal, etc.
- Food Safety
- Antimicrobial Resistance
- Chemical, radiation incidents/ events
- Natural hazards: Draughts; Typhoon and foods, climate changes, etc.



One botulinum poisoning patient dies after BAT  
antidote arrives

May 25, 2023 - 14:59

Despite doctors' efforts, the man suffered from multi-organ failure and died on Wednesday night.

Đã trao thưởng đột xuất cho tập  
ả nhân có thành tích xuất sắc  
cứu, chữa bệnh nhân và đột tử  
1.6 giờ nằm 70 năm không thành



# How to ensure national preparedness and response capacity?

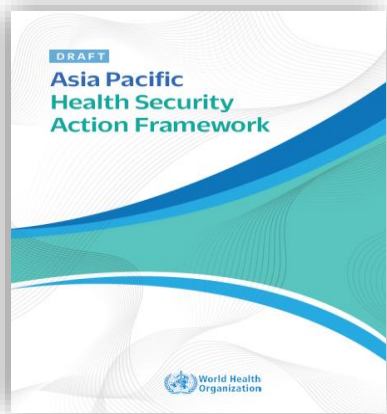


# Building a collective vision for health security in 2030

Built upon the Asia Pacific Strategy for Emerging Diseases and Public Health Emergencies (APSED) which has guided Member States in implementing IHR(2005) since 2006.

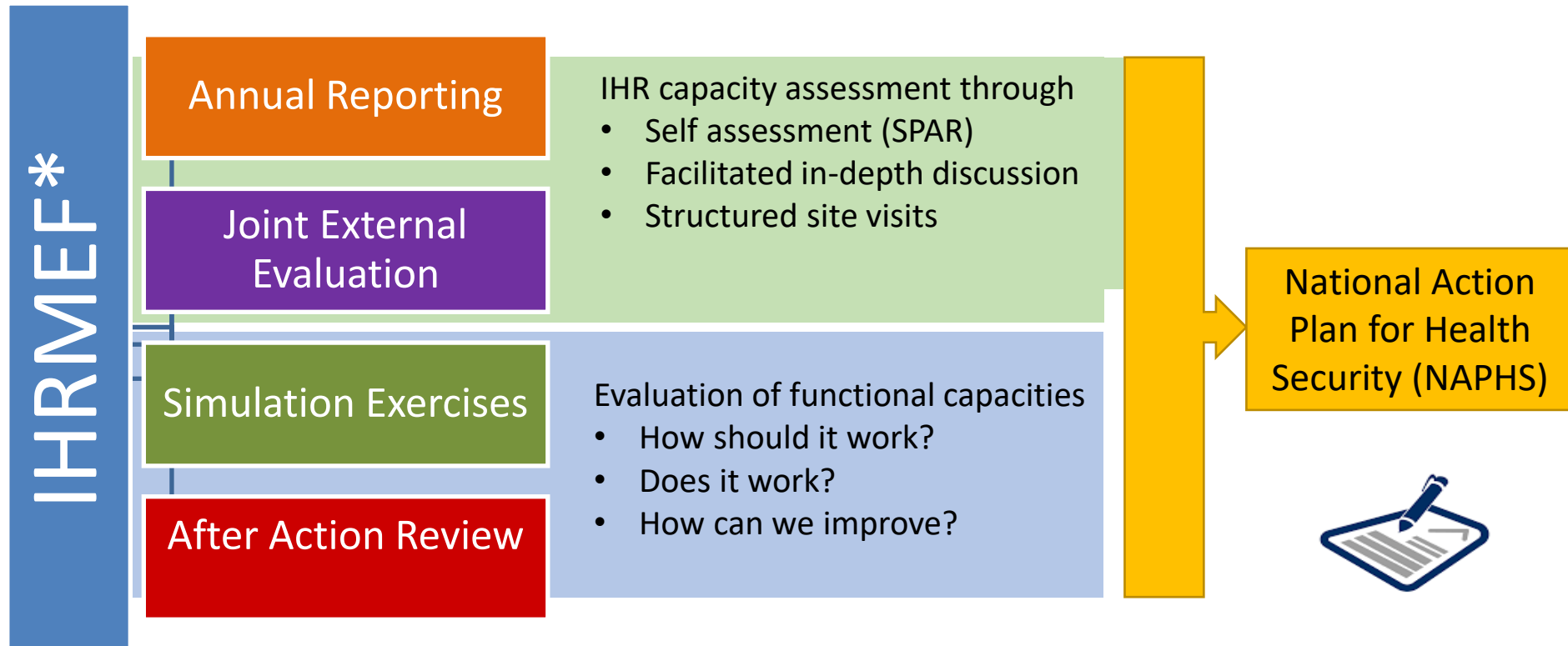


Using COVID-19 lessons, our history, and prior experiences to shape the next health security action framework for the Asia Pacific and prepare for the next pandemic



# *Is Viet Nam ready for responding to public health emergencies?*

## **IHR Monitoring & Evaluation Framework (MEF)**



IHR MEF = IHR monitoring and Evaluation Framework



# What is One Health?

The collaborative efforts of multiple disciplines working locally, nationally and globally to attain optimal health for people, animal, our environment

(FAO, OIE, WHO, UNEP)

**Humans + Animals + Ecosystems**

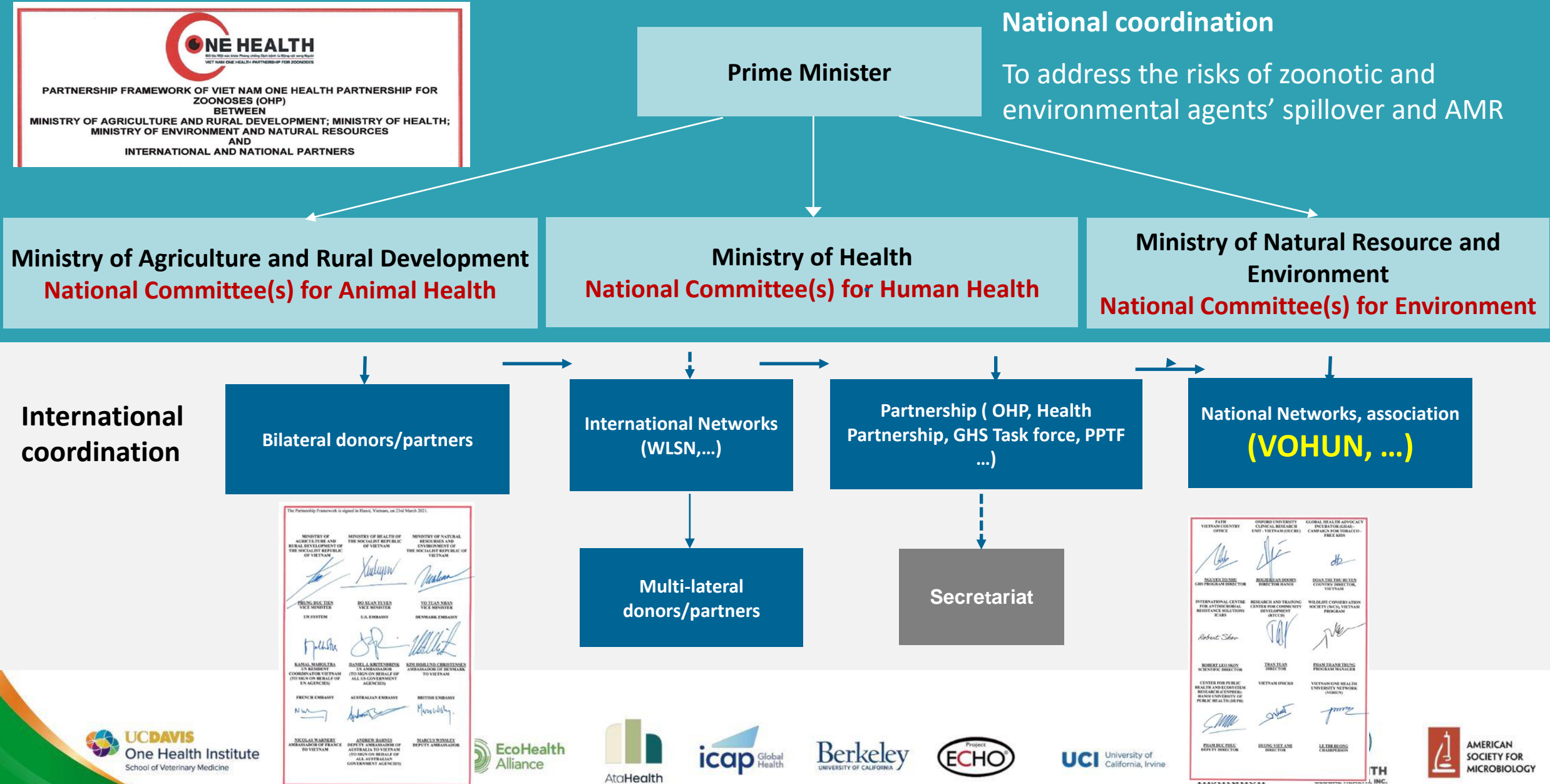
Professionals working together:

- Interdisciplinary (interactive)
- Multidisciplinary (additive)
- Transdisciplinary (holistic)

To create **BETTER** outcomes!



# Vietnam One Health coordination mechanisms – One Health Partnership, 2021-2025



# One Health workforce development



- Each One Health professional is well-trained for their roles, mandated and appropriately equipped
- Professions have improved skills to work collaboratively with each other
- Health systems benefit from One Health efficiencies

Is it role of the Vietnam One Health University Network (VOHUN)?





## Vietnam One Health University Network - VOHUN (2011 to date)

**VOHUN** is the leading One Health network in Vietnam, dedicated to the mission of driving transformational change for the continuous improvement of the health and well-being of humans, animals, and the environment through One Health principles and approaches to research, training, and community service.

**Vision** Fostering sustainable transdisciplinary capacity-building to respond to emerging and re-emerging infectious and other health issues.

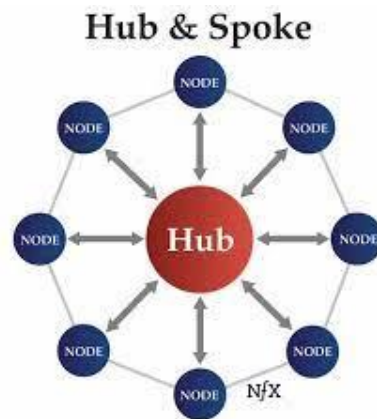
**Mission** To leverage the training, education, and research capacities of the university network to build the skills, knowledge, and attitude base for One Health leaders.



## Power of the Network

For over a decade, VOHUN has used a national **hub-and-spoke model** to train and **empower One Health leaders across Vietnam**.

VOHUN has connected **27 universities across Vietnam** in the fields of medicine, public health, nursing, veterinary science, animal science, environment, and food technology to promote **collaborative One Health approaches** through workforce development, education, and training opportunities, research.



## Objectives



Develop and implement One Health academic programs and curricula



Foster interdisciplinary research and collaboration



Promote One Health principles in policy and practice



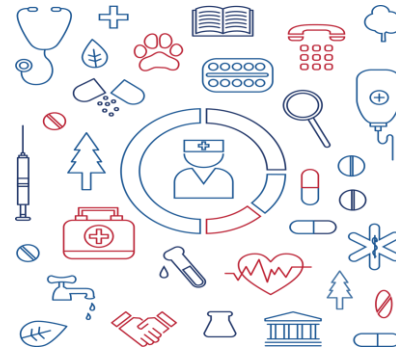
Build sustainable One Health networks and partnerships



# One Health Training Contents

## OH core competencies

1. Collaboration, Partnership
2. Communication, Informatics
3. Culture, Beliefs
4. Values, Ethics
5. Leadership
6. Management
7. Systems Thinking
8. Policy, Advocacy, Regulation



## OH technical

1. One Health Concepts & Knowledge
2. Fundamentals of Infectious Disease
3. Infectious Disease Management
4. Epidemiology
5. Risk Analysis
6. Public Health
7. Ecosystem Health
8. Behavior Development
9. One Health Economics
10. Zoonotic diseases
11. Wildlife diseases
12. Environment & livestock waste management
13. Antimicrobial resistance
14. BioRisk Management
15. Animal welfare

# Apply learner-centered activities when teaching One Health

Case Studies

Experiments

Field observations and experiences

Games

Group projects

Peer teaching

Photo essays and videos

Problem-based learning exercises

Role plays and simulations

Self-assessments





# One Health Field-Based & One Health Student Club's Activities

**One Health Field-based training for** collaboration, training and research on OH:

- Engagement between universities and government agencies at the community
- Interface between lecturers, professionals, students.
- Engagement with community members



**One Health Student Club activities**

- Study tour & Observation
- Game show
- Competition
- Communication
- Seminars





# One Health Biorisk Management Training Program (BRM), 2017-2023



# Our Impact



27  
Member  
Universities



33  
Faculty



310  
Lecturers Trained in One  
Health Topics



35  
One Health Modules  
Developed



1,006  
Participants in  
One Health  
Student Clubs



2,254  
Human Health and  
Animal Health  
Professionals Trained  
in One Health Topics



19  
One Health  
Student Clubs  
Established



62,500  
Students Trained in  
One Health Topics



14  
One Health Field  
Sites Established

## 1. VOHUN alumni network through Zalo apps:

- Lecturers: 150
- Students: 650
- Current Staff: 120

## 2. VOHUN & Partners network through Zalo apps:

- OHP: 140
- OH BRM: 210

# VOHUN contributed to Global Health Security (1)

No	GHS programing prioritize (10 JEE technical areas)	VOHUN contributions
1	AMR	<ul style="list-style-type: none"> <li>- Promote awareness of &amp; effective communication through OH student clubs</li> </ul>
2	Zoonotic diseases: Surveillance & Response	<ul style="list-style-type: none"> <li>- Establish a coordinated mechanism at the provincial level &amp; community collaborators group.</li> </ul>
3	Biosafety & Biosecurity	<ul style="list-style-type: none"> <li>- Train biosafety and biosecurity knowledge and competencies for Lab staff: ISO 35001, IFBA, Risk Assessment, Shipping &amp; Waste Management.</li> <li>- Trials Improved Practices (TIPs) on biosafety at the wildlife farms.</li> </ul>
4	National Laboratory System	<ul style="list-style-type: none"> <li>- Establish National One Health Laboratory Technical Working Group (human &amp; animal sectors)</li> </ul>
5	Human resources	<ul style="list-style-type: none"> <li>- One Health Pre-service &amp; In-service training programs (OH module)</li> <li>- Training activities to promote One Health concepts and build capacity in infectious disease prevention and control.</li> <li>- Outbreak investigation, Joint risk assessment, Data analysis.</li> </ul>



# VOHUN contributed to Global Health Security (2)

No	GHS programing prioritize (10 JEE technical areas)	VOHUN contributions
6	Risk communication & community engagement	<ul style="list-style-type: none"> <li>- Develop IEC materials on biosafety and risk communication to prevent wildlife zoonotic pathogens transmission</li> <li>- Implement risk communication on COVID-19 at the communities</li> </ul>
7	Health emergency management	<ul style="list-style-type: none"> <li>- Establish Student Outbreak Response Team (SORT) to support government agencies in outbreak investigation.</li> </ul>
8	Infection Prevention & Control	<ul style="list-style-type: none"> <li>- Improve BioRisk Management knowledge and competencies for current Lab staff: ISO 35001, IFBA, Risk Assessment, Shipping &amp; Waste Management.</li> </ul>
9	Points of entry & border health	<ul style="list-style-type: none"> <li>- Train joint risk assessment for existing professionals</li> </ul>
10	Surveillance	<ul style="list-style-type: none"> <li>- Applying One Health Systems Mapping Analysis Resource Toolkit (OH-SMART) to make a plan for prevention &amp; control zoonoses, AMR, FS, etc.</li> </ul>

# Funding & Technical Partners, 2012-2027

## Education & Training

- **OHW-NG (USAID/UMN/UCD/SEAOHUN)**
- **BRM (DTRA/SNL)**
- **APCOVE (DFAT/Sydney University)**
- **MOHIP (USDA/Michigan State University)**
- **Animal welfare (Humane Society International)**

## Research

- **STOP Spillover (USAID/Tuft University)**
- **I-CRECT (ICARS/JPIAMR)**
- **OHI FS (CGIAR/ILRI)**
- **ICT4Health (MAFRA/ILRI)**
- **COHERES (DFAT/Melbourne University)**

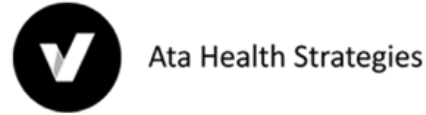
## Communication & Advocacy

- **RCCE (WHO, FAO)**
- **AHV4Health (Canada/Veterinarian Without Borders)**
- **AMU & AMR (MSD)**
- **AMU & AMR (Pfizer)**
- **Rabies vaccine (Boehringer Ingelheim)**

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Food and Rural Affairs



HUMANE SOCIETY  
INTERNATIONAL



VIETNAMESE - GERMAN CENTER  
FOR MEDICAL RESEARCH



Karolinska  
Institutet

