ONE HEALTH

Prof. drh. Wiku Adisasmito, MSc., Ph.D.
Outline

- Emerging Infectious Diseases
- What is One Health?
- One Health Concepts in PH
- International Bodies Committed to One Health
- One Health: Government Networks
- One Health: University Networks
- The Actions
EMERGING INFECTIOUS DISEASES

EID Challenges

- Rabies
- Avian Influenza
- Brucellosis
- Anthrax and Hog Cholera

- Dengue
- Chikungunya
- Malaria
- Filariasis

- Schistosomiasis
- Leptospirosis
- Tuberculosis
- Plague

- Brucellosis
- Salmonellosis
- Cysticercosis
- Toxoplasmosis
Transmission of HPAI H5N1 in SE-Asia

adapted from V. Martin, FAO-AGA

Human-Animal-Environment Interface

Key risk factors for important EIDs
WHAT IS ONE HEALTH..?
One Health Vision..........

........a multidisciplinary collaborative approach to improving the health of humans, animals and the environment, endorsed by FAO, OIE and WHO.......

One Health approach.......  

........encourages the collaborative efforts of multiple disciplines working locally, nationally, and globally, applying their expertise to attain optimal health for people, animals, and the environment

In particular when addressing prevention, surveillance, and response to zoonotic disease outbreaks (e.g. HPAI, Rabies, Anthrax)
One Health Emerging Zoonotic Diseases (EZD) Science: Integrating Disciplinary and Sectoral Knowledge

Bruce Wilcox, 2011, Integrative Health Research & Education EID
SECTORS CONTRIBUTING TO ONE HEALTH

human health sector
- physicians
- public health professionals
- government and nongovernmental organizations focused on health education

Health related disciplines in the environmental sector
- environmental scientists
- biology, ecology, zoology,
- medical entomology, wildlife biology

Agricultural, Animal production, Veterinary medicine sector
- private and public-sector veterinarians
- village and community animal health workers
- animal producers, food systems
Some disciplines who might work together in response to an outbreak of a new zoonotic disease

Global Health
- Human Health
- Animal Health
- Environmental Health

- Physicians
- Veterinarians
- Nurses
- Ecologists
- Zoologists
- Entomologists
- Sociologists
- Economists
- Anthropologists
- Pathologists
- Microbiologists
- Epidemiologists
- Politicians!

Many other “ologists”!!
ONE HEALTH CONCEPTS

IN PUBLIC HEALTH
Public Health Problems

Infectious Diseases
- AI
- Dengue
- Malaria
- others

Non Infectious Disease
- Malnutrition
- Degenerative Diseases
- Disorders
- Obesity
- others
Management of disease control

- Consultative committee
- Suitable command structure
- National and local animal disease control centre
- Arrangement of outbreak (human health and veterinary services)

Source: Preparing for Highly Pathogenic Avian Influenza - V. Martin, A. Forman, J. Lubroth
Animal Production and Health Division FAO, Rome, Italy
ONE HEALTH

Environmental Health
Epidemiology
Health Policy
Behavior
Biostatistics
Occupational Health

EIDs
(or other disease)

INTERCONNECTED

PUBLIC HEALTH

Human
Animal
Environment
One Health can be applied at all levels

International and Regional

National Provincial District Community

Academic and Professional Institutions

Community District Provincial National

International and Regional
Whose responsibility?

Paederus riparius
INTERNATIONAL BODIES COMMITTED TO ONE HEALTH
The World Health Organization (WHO) is the directing and coordinating authority on international health within the United Nations’ system. WHO experts produce health guidelines and standards, and help countries to address public health issues. WHO also supports and promotes health research. Through WHO, governments can jointly tackle global health problems and improve people’s well-being.

In the 21st century, health is a shared responsibility, involving equitable access to essential care and collective defence against transnational threats.
Goal

Advance global solidarity on surveillance by illuminating challenges, solutions and promoting policies that lead to actions and a way forward to build a world united against infectious disease.

Objectives

• Introduce the overarching theme of infectious disease surveillance from a national, regional and global perspective
• Build global solidarity around effective actions to promote cross sectoral and cross border surveillance
• Present concrete examples of knowledge, policies and innovation and action that can be taken based upon successes at the national, regional and global level
• Identify and define policies that promote cross sectoral and cross border work
FAO's mandate

Achieving food security for all is at the heart of FAO's efforts - to make sure people have regular access to enough high-quality food to lead active, healthy lives.

FAO's mandate is to raise levels of nutrition, improve agricultural productivity, better the lives of rural populations and contribute to the growth of the world economy.

Objectives

1. Provide a better understanding to biologists, ecologists, and natural resource managers on how they can contribute to One Health efforts focused on infectious diseases.

2. Provide a better understanding to medics and veterinarians on how biodiversity conservation and ecosystem services ensure human health & contribute to One Health.

3. Develop a statement that can be included in the definition of One Health, reflecting the interests and perspectives of biologists, ecologists, and natural resource managers.
The need to fight animal diseases at global level led to the creation of the Office International des Epizooties through the international Agreement signed on January 25th 1924. In May 2003 the Office became the World Organisation for Animal Health but kept its historical acronym OIE.

The OIE is the intergovernmental organisation responsible for improving animal health worldwide.

It is recognised as a reference organisation by the World Trade Organization (WTO) and in 2013 had a total of 178 Member Countries. The OIE maintains permanent relations with 45 other international and regional organisations and has Regional and sub-regional Offices on every continent.
How does the organization function?

The day-to-day operation of the OIE is managed at the Headquarters situated in Paris and placed under the responsibility of a Director General elected by the World Assembly of Delegates. The Headquarters implements the resolutions passed by the International Committee and developed with the support of Commissions elected by the Delegates:

- Council
- Regional Commissions
- Specialist Technical Commissions

The OIE's financial resources are derived principally from compulsory annual contributions backed up by voluntary contributions from Member Countries.
Objectives

Transparency
- Ensure transparency in the global animal disease situation

Scientific information
- Collect, analyse and disseminate veterinary scientific information

International solidarity
- Encourage international solidarity in the control of animal diseases

Sanitary safety
- Safeguard world trade by publishing health standards for international trade in animals and animal products

Promotion of veterinary services
- Improve the legal framework and resources of national Veterinary Services

Food safety and animal welfare
- To provide a better guarantee of food of animal origin and to promote animal welfare through a science-based approach
ONE HEALTH: GOVERNMENT NETWORKS
Connecting Organizations for Regional Disease Surveillance (CORDS)

http://www.cordsnetwork.org/
CORDS Members

**EAIDS** – East African Integrated Disease Surveillance Network

**SEEHN** – Southeastern Europe Health Network

**SACIDS** – Southern Africa Center for Infectious Disease Surveillance

**MECIDS** – Middle east Consortium on Infectious Disease Surveillance

**MBDS** – Mekong Basin Disease Surveillance Network

**APEIR** – Asia Partnership on Emerging Infectious Disease Research

**CORDS Members**
Strategic Objectives

1. **Improving capacity**: CORDS facilitates the sharing between networks of case studies, technical expertise, data, best practices and resources to help networks develop new skills and to build operational partnerships between regions.

2. **Advancing the “One Health” initiative**: CORDS seeks to modernize disease surveillance by improving the coordination between the sectors of animal, human, and environmental health at the national, regional, and international levels.

3. **Promoting innovation**: CORDS serves as a venue for networks to share their innovative ideas and approaches in disease surveillance. It also offers an organized platform for the co-development of new technologies and innovations within and between regions.

4. **Creation of sustainable networks**: CORDS works to strengthen international disease surveillance networks and to facilitate the creation of new networks in high-risk areas (epidemiological).
The Partner Organizations

- The World Bank: Working for a World Free of Poverty
- Rockefeller Foundation: Innovation for the Next 100 Years
- USAID: From the American People
- Bill & Melinda Gates Foundation
ONE HEALTH: UNIVERSITY NETWORKS
South East Asia One Health University Network

SEAOHUN Members:
- VOHUN
- INDOHUN
- THOHUN
- MYOHUN
SEAOHUN Core Universities

- Hanoi School of Public Health
- Hanoi Medical University
- Hanoi University of Agriculture
- Chiang Mai University
- Mahidol University
- Universiti Kebangsaan Malaysia
- Universiti Putra Malaysia
- Institut Pertanian Bogor
- Universitas Indonesia
- Universitas Gadjah Mada

4 countries/10 universities/14 faculties
Vision
A South East Asia One Health University Network fostering sustainable trans-disciplinary capacity building to respond to emerging and re-emerging infectious and zoonotic diseases

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
SEAOHUN Objectives

1. To promote and advance the One Health approach for control of emerging and re-emerging infectious and zoonotic diseases (EZDs)
2. To improve the competencies of One Health professionals
3. To build a One Health evidence base through research activity
4. To build cadres of trained professionals to be One Health current and future leaders
THE ACTIONS
Preventing and Controlling Zoonotic Disease

- Improving farm and market health management through Bio-security and Bio-sanitation
- Vaccination of humans and animals
- Regulation of importation and movement of exotic animals
- Control of feral/stray populations
- Regulation of bush meat trade
- Testing and culling infected wildlife
- Educating people on wildlife and possible disease transmission
Public Actions

- Start with experience of both rural and urban communities: listen, absorb, respond
- Bring livestock, food security and nutrition into all policies related to poverty and equity, climate change, value chains and risk management
- Focus on resilience in face of risks to health and livelihoods at Interfaces between species, cultures, livelihood groups, ethnicities, geographical areas, sectors of government, professional groups and nations
- Engage the Whole of Society in work on risk management
- Nurture practitioner networks that span interfaces