ONE HEALTH AND CORE COMPETENCIES

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Setting the scene
Health is a complete state of physical, mental and social well-being, and not merely the absence of disease or infirmity

(World Health Organization)

ONE HEALTH VISION

A trans-disciplinary collaborative approach to improving the health of humans, animals and the environment, endorsed by FAO, OIE and WHO
ONE HEALTH

Integrates all factors affecting health
Human and veterinary medicine
Epidemiology
Politics
Research
Ecology
Social sciences
Economics
One Health can be applied at all levels

- International and Regional
- National Provincial District Community
- Academic and Professional Institutions
- Community

Diagram shows flows connecting these levels.
......and across multiple sectors

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

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

- **Agricultural, Animal production, Veterinary medicine sector**
  - individuals and institutions of 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 zoonosis

Physicians
Veterinarians
Nurses
Ecologists
Zoologists
Entomologists

Sociologists
Economists
Anthropologists
Pathologists
Microbiologists
Epidemiologists
Politicians!

Many other “ologists”!!
Integration of human and animal health – is this what we are aiming for?!
Examples of One Health Issues
(all are complex problems or ‘wicked problems’)

- Zoonotic disease response and control; pathogen surveillance and monitoring
- Food safety farm to fork
- Public health – animal human interface, pollution, farming, cross-species interactions, animal products trade
- Wildlife health – human encroachment and interaction, bush meat, ecosystem understanding and approach
- Antimicrobial resistance – overuse in animals, incorrect usage, spread of resistant bacteria from animals to humans
- Disaster preparedness – rescue and emergency services, disease risks, interactions between animals and people
Investigation and control of zoonotic diseases is impossible without a transdisciplinary approach involving human, animal, environmental and other scientific disciplines.
What is Trans-disciplinary?

Multi-disciplinary

Several disciplines working together to address a common challenge, but independently within their own disciplines.

Inter-disciplinary

Integration of ideas from more than one discipline e.g. an interdisciplinary course.

Cross-disciplinary

Coordinated effort involving two or more disciplines.

Trans-disciplinary

Transcends boundaries of traditional disciplines, collaborative sharing of ideas, more holistic approach.
An integrative process whereby scholars and practitioners from both academic disciplines and non-academic fields work jointly to develop and use novel conceptual and methodological approaches that synthesize and extend discipline-specific perspectives, theories, methods, and translational strategies to yield innovative solutions to particular scientific and societal problems.

From Core Competencies to Outbreak Response – establishment of **SEAOHUN**, the South East Asia One Health University Network
One Health Vision

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

One Health approach

....encourages the collaborative efforts of multiple disciplines working locally, nationally, and globally, to attain optimal health for people, animals, and our environment
Optimizing the One Health Approach is important…….

• To ensure that each One Health professional is well-trained for their roles and appropriately equipped

• To ensure that professions have the skills to work collaboratively with each other and with governments, the private sector and communities

• To work together to develop and restructure Health systems to benefit from One Health
One Health and the EPT program  
EPT1 – 2009-2014

The goal of RESPOND, part of USAID’s Emerging Pandemic Threats (EPT1) program, was to improve the capacity of countries in high risk areas to respond to outbreaks of emerging zoonotic diseases that pose a serious threat to human health using a One Health approach.

RESPOND was a consortium which included two US universities, Tufts University and the University of Minnesota, the Training Resources Group, DAI and Ecology and Environment.
RESPOND’s SE Asia programs

Two main regional programs were implemented to support the goal

*(Pre-service)*

University networking and capacity building
(SEAOHUN – South East Asia One Health University Network)

*(In-service)*

Government in-service capacity building
(working with FETPs and other field epidemiology programs)
Transition from EPT1 to EPT2 (2014-2019)

RESPOND became “One Health workforce”

...with the aim of building on the partnerships forged through the One Health University Networks (OHUNs) to address the workforce needs of national ministries and the private sector, and to strengthen the operational capacities of the university networks to make them sustainable entities
Why was a One Health University Network established?
Goal of EPT2 One Health Workforce

To employ the strengths of universities to prepare the OH workforce in the competencies and skills for preventing, controlling, detecting and responding to zoonotic diseases and............
.... to embed the philosophy of One Health and the One Health approach in future outbreak response and disease investigation leaders - it is vital to establish the spirit of multiple disciplines working together early in their careers........

~ university students like yourselves!
Deans’ Meeting – December 2011!

Indonesia

Malaysia

Vietnam

Thailand
South East Asia One Health University Network

SEAOHUN

Launch of network name
SEAOHUN Founding 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
A Logo Competition created an outstanding logo

Colors:
Colors variation is representing the diversity of SE Asia region, and the diversity among health sectors

Colors is elaborated to make the logo looks bright, cheerful, and energetic

Created by Mr. Zulfadhil Nasution, University of Indonesia
SEAOHUN Inaugural Vision and Mission

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

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
Subsequent establishment of National One Health Networks

- **SEAHOHUN**
  - **VOHUN**
    - Vietnam
    - (Hanoi School of Public Health)
  - **THOHUN**
    - Thailand
    - (Mahidol University, Faculty of Tropical Medicine)
  - **INDOHUN**
    - Indonesia
    - (University of Indonesia, Faculty of Public Health)
  - **MyOHUN**
    - Malaysia
    - (Universiti Putra Malaysia, Faculty of Veterinary Medicine)
Malaysia – 22 Faculties from 17 Universities; 2 Government Ministries and 3 Government Departments

Universiti Malaysia Kelantan
• Faculty of Veterinary Medicine

Universiti Malaya
• Faculty of Medicine

International Medical University
• School of Medicine

Universiti Putra Malaysia
• Faculty of Veterinary Medicine
• Faculty of Medicine and Health Sciences

UTAR
• Faculty of Medicine & Health Sciences

International Islamic University Malaysia
• School of Medicine

Management Science University
• Faculty of Health and Life Sciences

Islamic Science University Malaysia
• Faculty of Medicine and Health Sciences

University Sains Malaysia
• School of Biological Sciences
• Faculty of Medicine
• School of Health Sciences

Universiti Kebangsaan Malaysia
• Faculty of Health Sciences
• Faculty of Medicine
• Faculty of Social Science and Humanities

Penang Medical College
• Faculty of Medicine

Universiti Malaysia Terengganu
• School of Fundamental Science

Mara Technology University
• Faculty of Medicine

Cyberjaya University College of Medical Sciences
• Faculty of Medicine

Universiti Sultan Zainal Abidin
• Faculty of Medicine and Health Science

University Malaysia Sabah
• School of Medicine

Malaysia Government Ministries and Organizations
• Ministry of Health
• Ministry of Environment
• Department of Veterinary Services
• Institute of Medical Research
• Department of Wildlife and National Parks
Overview of SEAOHUN activities

- The initial focus for SEAOHUN was on platform activities to embed the One Health philosophy –

  ✷ Development of nationally and regionally-relevant OH Core Competencies
  ✷ Development of content for a generic One Health course
In order to work together effectively, it is essential that future professionals adopting the One Health approach have a common platform – a set of Core Competencies – enabling them to interact easily and to ‘speak the same language’.
What are Competencies?

- Knowledge, skills, and behaviours that can be measured, whether for a worker or for a learner; **Core Competencies** are essential for the success of an organisation (e.g. an academic or government institution).

- For this project, competencies were identified locally using a participatory approach, based on institutional and national needs.
Terminology

- **Core Competency**: a measurable knowledge, skill, or behavior that every member of a One Health team must have.

- **Competency Domain**: a set of competencies that are grouped together in a logical category.

- **Technical competencies** – epidemiology, microbiology, diagnostics, all the -ologies, and many more skills and knowledge in different disciplines. N.B. while these are very important they are different to CC skills.
Example

- **Skill/Behavior**: good communicator
- **Competency**: ability to create an effective message
- **Measurement**: ability of the target audience to correctly restate the message in their own words
- **Competency Domain**: Communication
What are One Health Core Competencies and why are they important?

These are Competencies that are essential for an effective One Health approach.

They are specifically related to outbreak response, disease investigation, surveillance and control.

OH Competencies that are held in common across the SEAOHUN region were designated as “OH Core Competencies”
How can they be used by Universities?

• **Core Competencies:** can be used in a specific course (syllabus) to derive learning objectives and methods to achieve them.

• **Competency Domains:** can be used in program, curriculum, and course planning, design, and development to identify areas of focus.

• Typically in curriculum development or curriculum mapping, developers work with domains in order to address large areas of conceptual design as opposed to working with specific competencies.
Seven Competency Categories (Domains) were identified (for which skills can be identified and measured)

Based on consensus involving teams of professionals from member universities in each of the four SEAOHUN countries
<table>
<thead>
<tr>
<th>OHCC Regional Domains by Country July 2012 Workshop Results</th>
<th>SEAOHUN Regional Domains October 2012</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Malaysia</strong></td>
<td><strong>Indonesia</strong></td>
</tr>
<tr>
<td>Management</td>
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</tr>
<tr>
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<tr>
<td>Leadership and Professionalism</td>
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</tr>
<tr>
<td>Collaboration and Partnership</td>
<td>Collaboration</td>
</tr>
<tr>
<td>Ethics</td>
<td>Values and Ethics</td>
</tr>
<tr>
<td>Systems Thinking</td>
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## SEAOHUN Regional OHCC Domains and Definitions

<table>
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<tr>
<th>Domain</th>
<th>Definition</th>
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<tbody>
<tr>
<td><strong>Management</strong></td>
<td>The ability to plan, implement, monitor, and evaluate One Health programs in order to maximize effectiveness of One Health action and desired outcomes</td>
</tr>
<tr>
<td><strong>Culture and Beliefs</strong></td>
<td>The ability to understand analyze, and appreciate social, religious, and historical diversity across different cultures with individuals and societies</td>
</tr>
<tr>
<td><strong>Leadership</strong></td>
<td>The ability to initiate a shared trans-disciplinary vision and to motivate and inspire teams across sectors to organize, manage, and foster OH action</td>
</tr>
<tr>
<td><strong>Values and Ethics</strong></td>
<td>The ability to identify and respond to OH issues at multiple levels with integrity, honesty, trust, fairness, accountability, adaptability in diverse contexts</td>
</tr>
<tr>
<td><strong>Collaboration and Partnership</strong></td>
<td>The ability to foster and sustain effective collaboration across disciplines with OH teams, individuals, stakeholders, communities in the advancement of OH actions</td>
</tr>
<tr>
<td><strong>Communication and Informatics</strong></td>
<td>The ability to effectively acquire, process, synthesize, share, and exchange information across sectors and disciplines in order to establish, enhance, and promote One Health actions</td>
</tr>
<tr>
<td><strong>Systems Thinking</strong></td>
<td>The ability to analyze how various elements influence and interact with one another within a global perspective that results from the dynamic interdependencies among human, animal, environmental, and ecological systems</td>
</tr>
</tbody>
</table>
Examples of possible competencies aligned to the CC Categories (note that many overlaps will occur)

**Leadership** – strategy development, development of clear scopes of work and roles and responsibilities, ability to be a team leader and a team member, conflict resolution, ability to achieve compromise, problem-solving skills, governance

**Collaboration** – ability to work across sectors and disciplines, understanding of systems and needs, opportunities and challenges; ability to interact with others and to find common ground; relationship building, networking skills
Specific SEAOHUN OH Core Competencies were identified within Domains

<table>
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<tr>
<th>Domain</th>
<th>Specific Competencies for Integration</th>
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<tr>
<td>Management</td>
<td>Categorize problems according to priority, and formulate goals and objectives</td>
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<tr>
<td>Culture and Beliefs</td>
<td>Generate trust among the community within an OH program</td>
</tr>
<tr>
<td>Leadership</td>
<td>Evaluate project implementation, team performance, outcomes, and impacts for continuous improvement</td>
</tr>
<tr>
<td>Values and Ethics</td>
<td>Actively support other team members, and show a willingness to share skills, knowledge, expertise, and time</td>
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<tr>
<td>Collaboration and Partnership</td>
<td>Formulate strategies to harmonize collaboration and partnership across disciplines</td>
</tr>
<tr>
<td>Communication and Informatics</td>
<td>Apply various communication media approaches</td>
</tr>
<tr>
<td>Systems Thinking</td>
<td>Ability to think ‘outside the square’ and to identify the many factors associated with a disease occurrence</td>
</tr>
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</table>
What can the OHCC be used for?

The Core Competencies are being developed by universities, working with stakeholders from government and other sectors, to map and identify current gaps in curricula, to discuss opportunities to fill those gaps and to develop acceptable strategies to produce the future OH leaders in our communities—individuals with the skills to effectively and efficiently work together to protect human, animal, and environmental health—“a new graduate species”!
After identifying competencies, they can be used to identify Learning Objectives

1. What is a learning objective?

2. A learning objective states what a learner is expected to know, understand and be able to do, as a result of the process of learning.

3. A learning objective must be measurable and focused on a OH
   - K = Knowledge
   - S = Skill
   - B = Behavior
## Specific SEAOHUN OH Core Competency Learning Objectives

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<tr>
<td>Management</td>
<td>Categorize problems according to priority, and Formulate goals and objectives <strong>LO:</strong> work as a team to prioritize work and formulate goals to respond to weekly in-class assignments</td>
</tr>
<tr>
<td>Culture and Beliefs</td>
<td>Generate trust among the community within an OH program <strong>LO:</strong> act in an ethical and honest manner that respects others on your team</td>
</tr>
<tr>
<td>Leadership</td>
<td>Evaluate project implementation, team performance, outcomes, and impacts for continuous improvement <strong>LO:</strong> create a process to assess performance, outcomes, and impacts for yourself and team members</td>
</tr>
<tr>
<td>Values and Ethics</td>
<td>Actively support other team members, and show a willingness to share skills, knowledge, expertise, and time <strong>LO:</strong> offer positive suggestions and seek a “team” solution to problems and barriers that arise</td>
</tr>
<tr>
<td>Collaboration and Partnership</td>
<td>Formulate strategies to harmonize collaboration and partnership across disciplines <strong>LO:</strong> take responsibility to ensure that everyone on the team has a voice in creating the strategy for responding to the weekly in-class assignments</td>
</tr>
<tr>
<td>Communication and Informatics</td>
<td>Apply various communication media approaches <strong>LO:</strong> contribute to the design of powerpoint, video, photographic and other media approaches to team presentations that address weekly group assignments</td>
</tr>
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</table>
The next step was to use the competencies to develop a set of regionally-relevant OH training modules.
It initially started off with the name ‘Short Course’ – but it just kept getting longer!!
Workshops were held in each country to demonstrate the module material and innovative teaching techniques and to discuss ways to use the modules to create courses.
Using the “Marshmallow Challenge” to illustrate the need for teamwork and leadership
A range of different activities were covered in the program.
The 15 modules were a mix of technical and core competencies.
How to Develop a One Health Course to Meet Your Needs

Step One: Know your One Health competencies
Step Two: Review your curriculum and identify competency gaps
Or if you are designing a new course or a short-course, identify which competencies you want to include
Step Three: Use the One Health Course materials to fill the gaps
Know Your OH Domains

- Communication
- Eco System
- Health
- Leadership
- Disease Management
- Culture
- Policy
- Behavior Development
- Systems Thinking
- Management
- Collaboration
- Management
- Disease Management
- Development
Conclusions

1. A highly successful and collaborative network of related OH faculties has been established in South East Asia.

1. Network members from multiple disciplines have worked closely together to define the required competencies for One Health professionals and to develop training materials to be used for revising courses and developing new ones – both for pre-service and in-service training.

1. Universities have initiated dialogue with government on the makeup of the future OH workforce and this will be built upon and strengthened during EPT2.
The Chair’s First Handover – from Indonesia to Malaysia in December 2013
The Final Word From SEAOHUN!!
OUR WORLD......

OUR HEALTH...!