

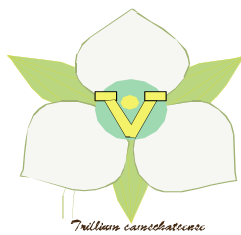
Doctoral Program for World-leading Innovative & Smart Education (WISE program)

Program for One Health Frontier Graduate School of Excellence

北海道大学卓越大学院プログラム “One Healthフロンティア卓越大学院”

One Health Ally Course

Motohiro Horiuchi, Dean
Faculty of Veterinary Medicine,
Hokkaido University, Japan



HOKKAIDO UNIVERSITY
WISE Program for
One Health Frontier
Graduate School of Excellence

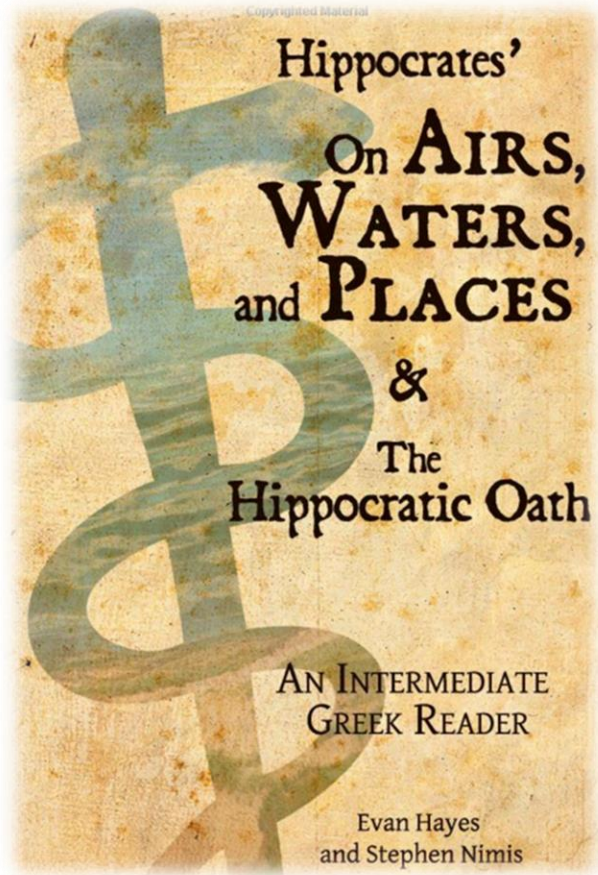
Concept of One Health

One Health is NOT a new concept, but it has become more important in recent years. This is because many factors have changed interactions between people, animals, and our environment.

One Health is an approach to ensure the well being of people, animals and the environment through collaborative problem solving — locally, nationally, and globally (UC Davis).

One Health is defined as a collaborative, multisectoral, and transdisciplinary approach — working at the local, regional, national, and global levels — with the goal of achieving optimal health outcomes recognizing the interconnection between people, animals, plants, and their shared environment (CDC).

***The term “One Health” is fairly new,
the concept has long been recognized.***



The presentation falls roughly into two halves, the first detailing ***various environmental factors that contribute to specific diseases***

Link Between Human and Animal Health ***“Zoonosis and One Medicine”***

Rudolf Virchow



Rudolf Virchow (1858)
***Father of
modern pathology***

The origin of the ***One Medicine concept*** has been linked to the 19th century German physician and pathologist, Rudolf Virchow, whose discoveries on *Trichinella spiralis* in pork led to valuable public health measures.

Virchow coined the term “zoonosis” and proclaimed that there should be ***no dividing line between human and animal medicine.***

The Relation of Animals to Man
“Comparative pathology”

William Osler

Canadian physician and pathologist Sir William Osler at McGill College and veterinary students at the Montreal Veterinary College in the 1870s.

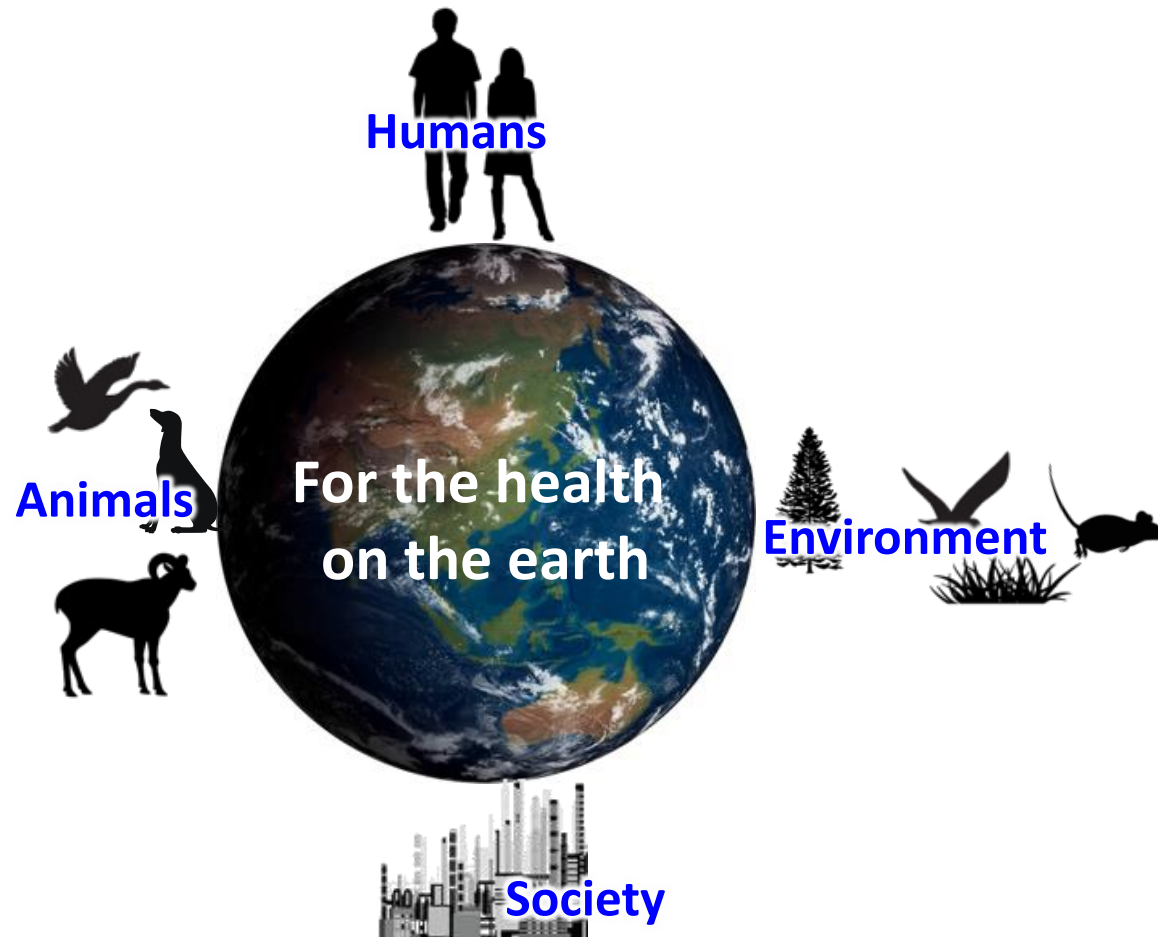
Osler published on the relation of animals to man and promoted **comparative pathology** and the One Medicine Concept.



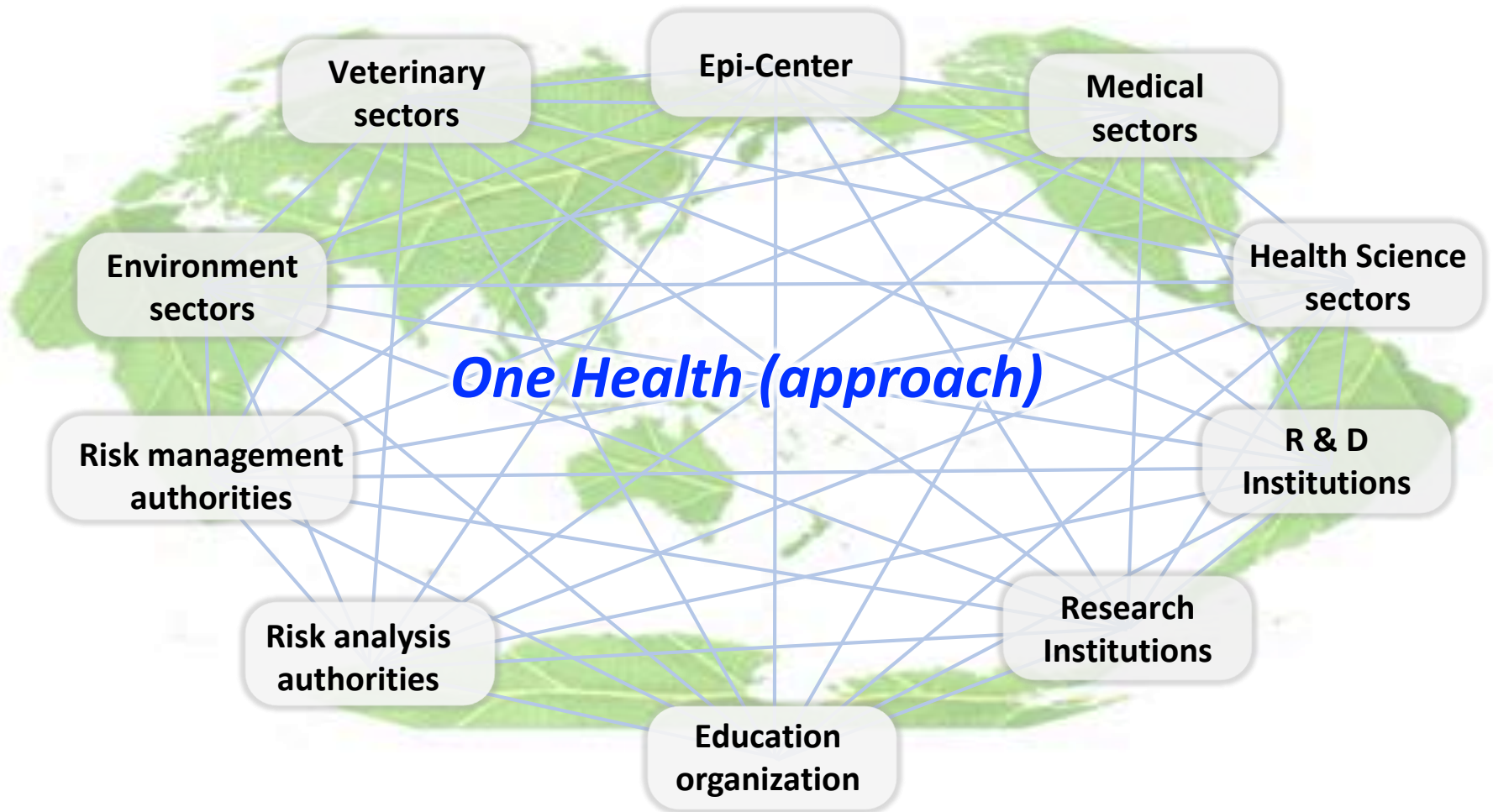
**Father of
Veterinary Pathology**

One Health: Sound living environment to the next generation!

健全な生活環境を次世代に！



One Health approach
trans-sectoral collaboration for
the health of humans, animals, and environment



**Firm specialty
in respective field
(need experience)**

One Health



People who protect
human, animal, and
environmental health,
and other partners



**Collaboration
communication for
tackling and solving health problems
(need experience)**



To achieve the best
health outcomes for
people, animals, plants,
and our environment

Concept of One Health

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Prominent grand for research and graduate education

21 Century Center of Excellence Program (MEXT)

“Program of Excellence for Zoonosis Control (2003-2007)”

By Grad. Sch. Vet Med, Grad Sch. Med,

***Research Center for
Zoonosis Control (2005-)***



Global Center of Excellence Program (MEXT)

“Establishment of International Collaboration Centers for Zoonosis Control (2008-2012)”

By Grad. Sch. Vet Med, RCZC, Grad Sch. Med, Inst. Genetic

Zoonosis Control Expert Program (2009-)

Program for Leading Graduate Schools (MEXT)

“Fostering Global Leaders in Veterinary Science Contributing to One Health(2011-2018)”

By Grad. Sch. Vet Med, RCZC, Grad Sch. Med, Inst. Genetic

Graduate School of Veterinary Medicine



Graduate school of Infectious Disease



***Reorganize two
graduate schools
(2018-)***

World-leading Innovative & Smart Education (WISE program)

「卓越大学院プログラム」は、各大学が自身の強みを核に、これまでの大学院改革の成果を生かし、国内外の大学・研究機関・民間企業等と組織的な連携を行いつつ、世界最高水準の教育力・研究力を結集した5年一貫の博士課程学位プログラムを構築することで、あらゆるセクターを牽引する卓越した博士人材を育成するとともに、人材育成・交流及び新たな共同研究の創出が持続的に展開される卓越した拠点を形成する取組を推進する事業です(From MEXT)

Based on strong points

- ***Infectious diseases, chemical hazards, animal sciences, university with medical and veterinary school and environmental science***

Utilize outcomes of graduate school reformation

- ***Achievement of Leading Program***

Promote functional collaboration and cooperation with universities, institutions, and company domestically and internationally to provide a qualified, world-class-rank graduate school program

- ***Outstanding international network with reliable counterparts established by 21COE, GCOE, LP, and other programs***

***Organize the highest educational institutions
to foster highly qualified PhD who can lead various sectors internationally
to innovate and create novel social values***

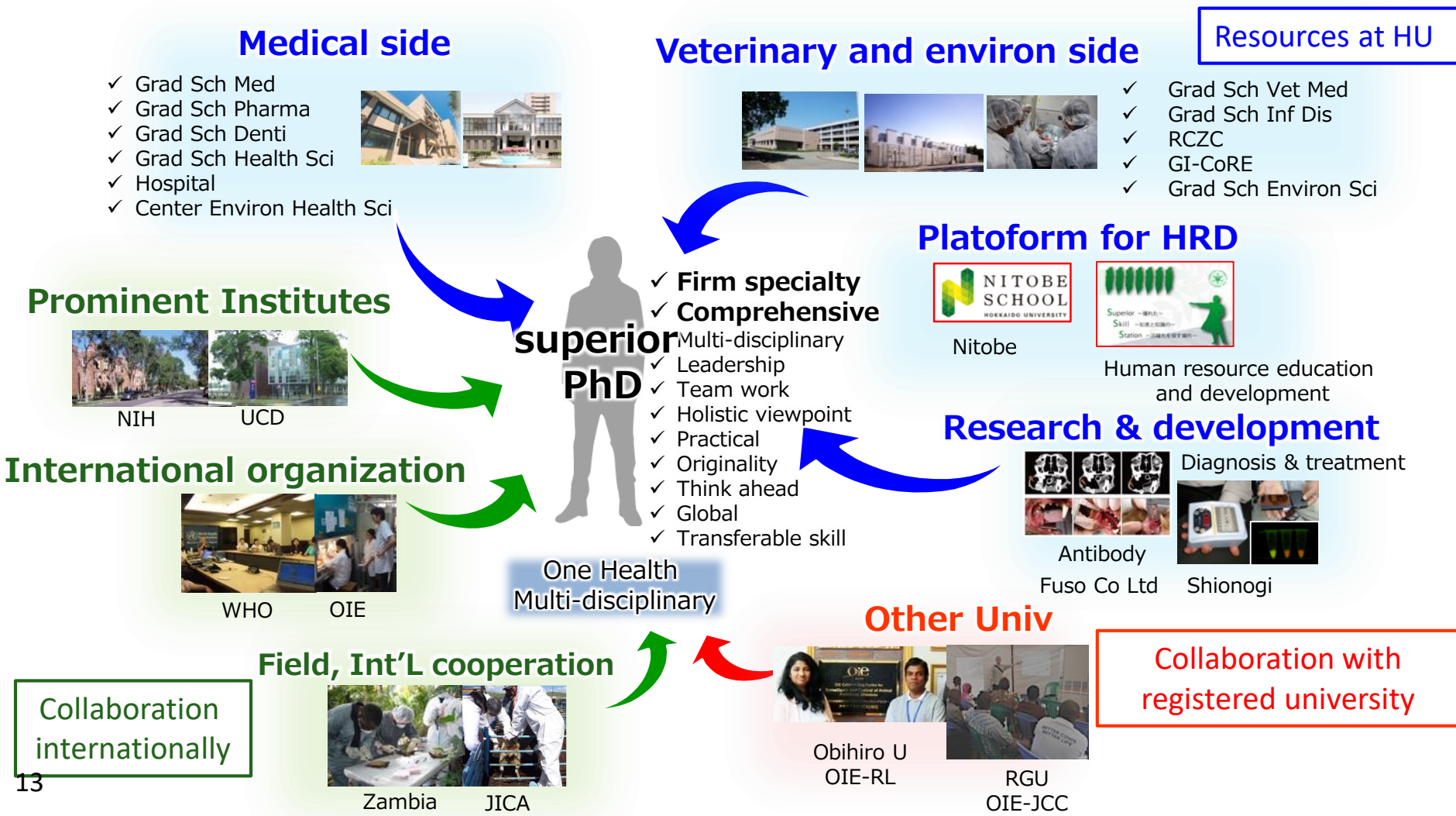
One Health Frontier Graduate School of Excellence

本プログラムが御旗に掲げる“One Health”の実現には、医学、獣医学、環境科学などの学問領域、および発生現場、医療、研究開発、教育およびリスク管理などに関わる機関が協働する“One Health approach”が必要です。本プログラムでは、感染症・化学物質・動物科学に関する教育研究リソースを活用し、先端的な研究を推進します。信頼できるカウンターパートを有するグローバルネットワークを活用した国際共同・調査研究、WHO、JICAなどの国際行政・協力機関との連携、企業との連携による開発研究など、One Healthに関連する多くの経験を大学院生に積ませることを通じて、疾病制御・予防の理念を明確にもち、バランス感覚に優れた国際性と俯瞰力を備え、One Healthに係る諸問題を解決できる専門家を育成します。

To ensure the critical concept of this program “One Health”, *multi-disciplinary collaboration such as medicine, veterinary medicine, and environmental science*, and *trans-sectoral cooperation with human and animal health sectors, education, research and development institutions, and risk management authorities*, in other words, “*One Health Approach*”, is essential. In this program, we promote advanced researches using excellent research and human resources and outstanding experiences on infectious diseases, chemical hazard, and animal and life sciences for contributing One Health. Additionally, *PhD course students will gain a variety of experiences* of international collaborative research with reliable counterparts, cooperative activity with international organization such as WHO, OIE, and JICA, and/or development research in collaboration with public institution and company. This program aims at fostering professional/expert *(prominent PhD) who will be able to tackle and resolve problems related to One Health*, with a definite idea for disease control and prevention, a holistic viewpoint, a well-balanced international sense, and a comprehensive competence for decision-making and problem-solving.

One Health Frontier Graduate School of Excellence

Multi-sectoral and multidisciplinary collaboration are required for ensuring One Health



Where superior PhD are needed 育成する人材の輩出先

Disease control and prevention at Epicenter 発生現場での疾病制御・予防



One Health Approach



Government,
Cooperation agency
国内外行政機関
国際協力機関



WHO, OIE, JICA,
MAFF, MHLW,
NPO, NGO



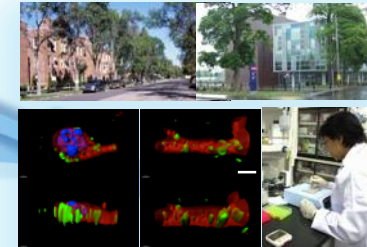
- ✓ Int'L frame work for disease control
- ✓ 疾病制御の国際的枠組み構築
- ✓ Avoiding social damages and improvement of production
- ✓ 社会経済的損失の回避、生産性の向上

Superior
PhD

- ✓ Firm specialty
- ✓ Comprehensiveness
- ✓ Multi-disciplinary
- ✓ Leadership
- ✓ Team work
- ✓ Holistic viewpoint
- ✓ Practical
- ✓ Originality
- ✓ Think ahead
- ✓ Global
- ✓ Transferable skill

Int'L human resource network
is supreme property
人材ネットワーク
は至高の財産

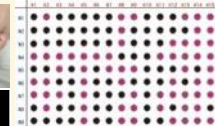
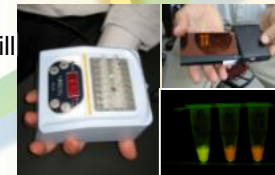
Academia 教育研究機関



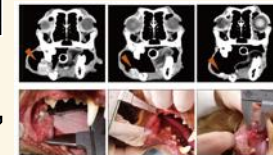
Prominent
research
Institute,
Universities

- ✓ Researches and human resource development for disease control,
- ✓ 疾病制御に資する基盤研究・教育と人材育成
- ✓ 医学・獣医学の連携による新規価値の創出
- ✓ Innovation

R & D 研究開発機関

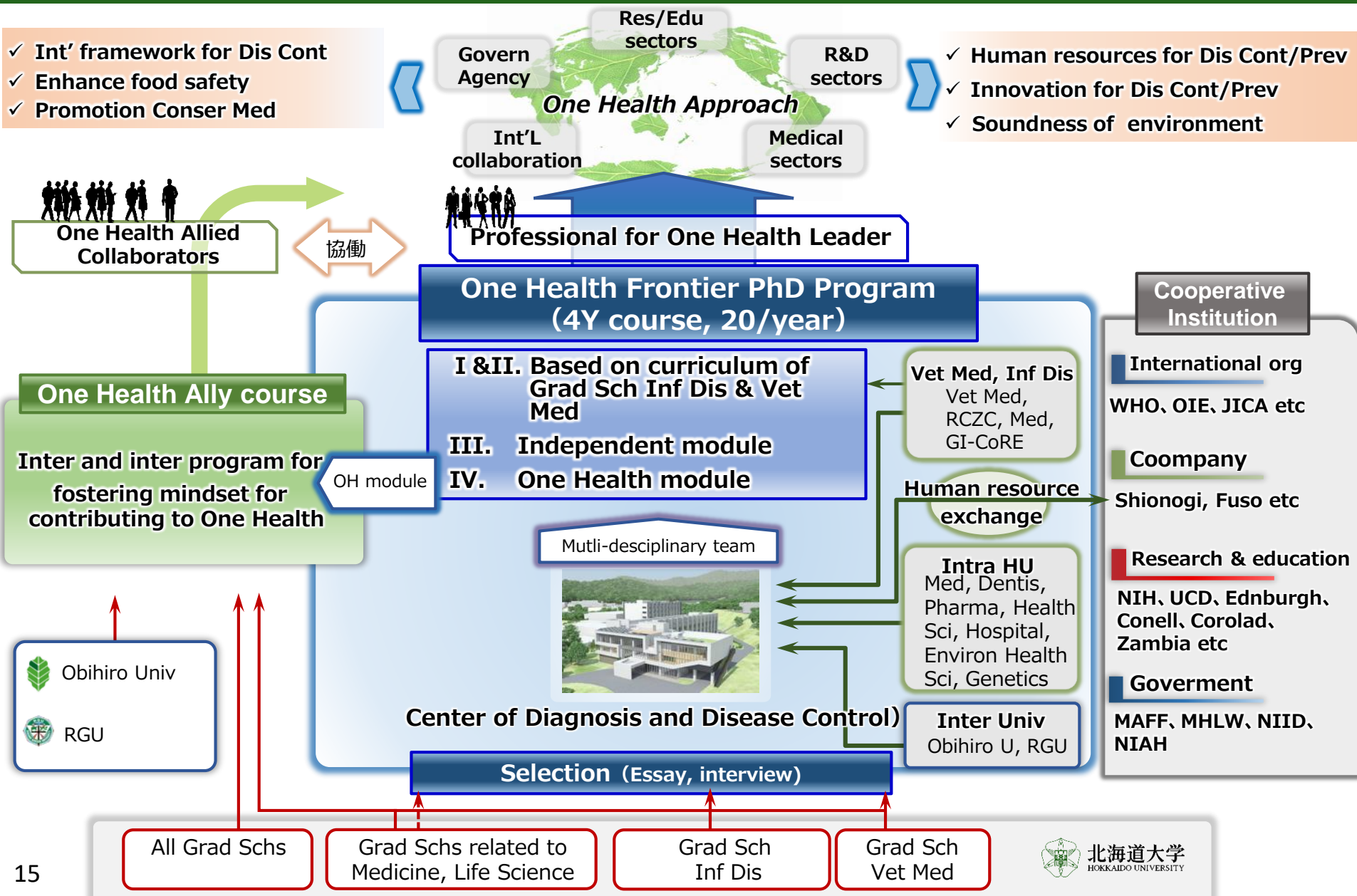


Pharmaceutical
company,
Vaccine maker,
Bio Venture etc



- ✓ Development of vaccine, diagnostic, treatment
- ✓ 新規ワクチン、診断・治療法、検査法の開発
- ✓ Early warning and response system
- ✓ 異常の早期検知システムの構築

One Health Frontier Graduate School of Excellence



One Health Ally Course

Soundness of life and environment for next generation

Fostering mindset for collaboration for One Health globally



Cooperation with HRD at HU

One Health Ally Course

4.OH on site training

3.OH collaborative training

2.OH transferable skill training

1.OH seminar

Rakuno Gakuen Univ

Obihiro Univ

北海道大学
HOKKAIDO UNIVERSITY
HU

Practical training overseas

4. Practical training overseas Experience on One Health Approach



Inv heavy metal contam (Ethiopia)



Surveil filo virus (Zambia)

Practical training for cooperation

3. Improvement of cooperation skill



Manage Avian flu (FAO Viet man)



Rumor surveil EID (WHO Phillipine)

Transferable skill training

2. Improvement of transferable skills



Workshop for problem-solving with team work

1. Basics of One Health

One Health Ally Course is **Intra- and Inter-University Special Program** of graduate school education for fostering mindset for contributing One Health (HU PhD students **both for natural sciences and humanity** as well as PhD students of RG and OU can join)

Based on research and education resources by 21COE, GOCE, and Leading Program, and multi-disciplinary collaboration with variety sectors including human health, animal health, and environmental health

This program aims at fostering professional/expert (superior PhD) who will be able to tackle and resolve problems related to One Health, with a definite idea for disease control and prevention, a holistic viewpoint, a well-balanced international sense, and a comprehensive competence for decision-making and problem-solving

For the health of human, animal, and the planet (One Health)

