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# TOWARDS A NEW ERA OF IMPROVED INFECTIOUS DISEASE CONTROL

# KEY COMPONENTS TO MAKING VIET NAM SAFER FROM AVIAN INFLUENZA IN 8 YEARS (2006-2014)



(Photo: FAO)

# FAO shares 8 years of achievement for bird flu control in Viet Nam and a future commitment

To celebrate the closing of an eight year long project, OSRO/RAS/604/USA "Immediate Technical Assistance to Strengthen Emergency Preparedness for Highly Pathogenic Avian Influenza (HPAI) to Viet Nam", funded by the United States Agency of International Development (USAID), the Emergency Centre

for Transboundary Animal Disease (ECTAD) of the Food and Agriculture Organization (FAO) Viet Nam co-organized a closing workshop with the Department of Animal Health (DAH) and the Department of Livestock Production(DLP) within the Ministry of Agriculture and Rural Development (MARD). This event was an occasion to highlight achievements and challenges during the eight year project (2006-2014) which provided almost USD \$17 million of support to Viet Nam.

The HPAI (highly pathogenic avian influenza) focused project aimed on combatting H5N1 HPAI and other zoonoses through technical and financial support to MARD primarily in areas of capacity development, coordination, surveillance, laboratory diagnostics, vaccination, biosecurity along value chains, improved animal production practices, and communication. With



the number of human deaths from H5N1 HPAI falling from 39 in 2004 and 2005 before the project, to less than a handful in 2012-2013, international agencies and the global community refer to the response to H5N1 HPAI by the Government of Viet Nam as an example of the successes that can be achieved in controlling this disease. eight years, we have witnessed a drastic reduction in the impacts of the H5N1 HPAI virus on poultry and people in Viet Nam and the animal health systems have significantly enhanced capacity to detect and respond to avian influenza and other zoonotic diseases" said Dr. Scott Newman, Senior Technical Coordinator of the FAO ECTAD Viet Nam Program.



Group picture at the closing workshop (Photo: FAO)

The project has strongly supported initiatives of MARD and encouraged adaptation of technical elements into policy and legislation, but most importantly, FAO ECTAD worked closely with DAH and MARD to develop an influenza management plan to be implemented beyond the duration of the project.

"After the implementation of the HPAI project for

While one project comes to a close, FAO ECTAD VN is looking forward to further collaboration with MARD and other One Health partners upon receiving government clearance for the implementation of a newly funded USAID global program, EPT2 - 'Risk Mitigation and Management of Human Health Threats along Animal Value Chains'. Within Viet Nam, FAO and MARD will build on the successes obtained in the past HPAI project and broaden efforts to address other zoonotic disease threats at the human-livestockwildlife-ecosystem interfaces.

"As Viet Nam is identified as a potential emerging infectious disease hot spot, we hope to build more sustainable capacity and

ownership in disease response and management through our next project. In our programs, we aim to minimize impacts of diseases on animals, people, livelihood, food safety and food security" stated Mr. Jong Ha Bae, the country representative of FAO Viet Nam

FAO Viet Nam

## **ENHANCE ONE HEALTH COORDINATION MECHANISMS IN VIETNAM**

A consultation meeting to enhance One Health coordination mechanisms between the Ministry of Health, the Ministry of Agriculture and Rural Development, and international partners was organized in Hanoi on 21st October 2014. The meeting was chaired by Professor Tran Dac Phu, Director-General of the General Department of Preventive Medicine (GDPM), the Ministry of Health (MOH) and vice-chaired by Mdm. Nguyen Thu Thuy, Deputy Director-General of the Department of Animal Health (DAH) of the Ministry of Agriculture and Rural Development (MARD).

The Chair and Vice-Chair of the meeting emphasized in their open remarks the challenges posed by dangerous diseases in animals and humans both inside and outside the country, and noting that Viet Nam is located within one of several global disease risk hot spots. In this context, addressing disease risks at the human-animalenvironment interface through a One Health approach is of the utmost necessity. Viet Nam has strongly committed to participate actively in the Global Health Security (GHS) Agenda, which calls for effective national One Health coordination.

The General Department of Preventive Medicine (GDPM) introduced the One Health concept and provided an overview of national coordination mechanisms, focused on the two national steering committees. Feedback from provinces emphasizes the need to ensure consistent directions which requires activity coordination between the two steering committees. Circular 16 also provides an important basis for collaboration, particularly between GDPM and the Department of Animal Health (DAH).

PAHI Secretariat presented the results of the review, based on interviews with key stakeholders in MARD and MOH, provincial agriculture and health authorities and international partners and the recommendations of the 2nd National One Health Conference in April 2013. The review team found strong consensus by national and international partners that the overall approach to national coordination during peak alert and crisis periods had proven to be effective, with the direct involvement from high-level leaders in chairing key meetings and directing the national response. National and international stakeholders generally identified the need to enhance coordination during 'peacetime', including on prevention activities and addressing drivers of disease.



*Prof.Dr. Tran Dac Phu, Director-General of the General Department of Preventive Medicine, opened the meeting (Photo: PAHI)* 

through the SC-OH project presented the draft design for the revised partnership, based on consultations with MARD and MOH as well as MONRE and suggestions from international partners

The two senior national consultants engaged by MARD

# INTER-SECTORAL COOPERATION ON PREVENTION OF RABIES IN VIETNAM



*Mr.* Nguyen Van Dung – Vice-President of Hoa Binh Provincial People's Committee is giving open remarks at the meeting

Whith the purpose of raising public awareness of rabies and enhancing government support and commitment at all levels, on 27 September 2014, the National Institute of Hygiene and Epidemiology (NIHE) in cooperation with the General Department of Preventive Medicine – MOH and the Department of Animal Health – MARD and funding from WHO, FAO celebrated the World Rabies Day 28/09/2014 in Hoa Binh province, which ranks 3rd nationwide in 2013 and 2nd this year regarding the number of rabies deaths.

Rabies fatality rate is up to almost 100% yet it is also 100% preventable. Rabies can be eliminated by dog vaccination and prevention of spreading rabies virus to humans, rabies vaccination for those who have been exposed. This is the only evidence-based rabies elimination strategy.

In recent years, Viet Nam has made huge progress in rabies elimination thanks to joint efforts between human and animal health sector. Number of deaths reported by the beginning of 2014 was 50, decreased by 31 cases compared to the same period last year. Overall, the number of deaths recorded marked a considerable decrease, while the number of provinces reported with rabies raised from 20 in 2013 to 24 provinces this year. Rabies deaths now distribute in not only mountainous but also plain area, which emphasizes the necessity of continued national effort in order to reach the ASEAN target on Rabies Elimination by 2020.

28 September has become the day for worldwide collaboration on rabies prevention, also known as the World Rabies day of activism and awareness. Reflecting the inter-sectoral "One Health" approach between human health and animal health sectors in Vietnam, the selected theme this year was "Together Against Rabies". Generally, dogs are disgraced for spreading rabies, however dog vaccination will thoroughly prevent rabies pathogens and rabies transmission thereafter, contributing to rabies elimination.

Celebration of the World Rabies day this year provided the opportunity for community, authorities and human health and animal health experts from 28 cities/







Exchange knowledge about rabies among secondary students at the meeting

provinces at high risk for rabies to gather in Hoa Binh province. A new set of raising rabies awareness materials, including flyers and posters, has been distributed to local government agencies of provinces with low access to tools for rabies vaccination and prevention communication. The exchange program was designed for raising secondary students' rabies awareness and putting forward 5-side commitment among Hoa Binh Province People's Committee, the Ministry of Health, the Ministry of Agriculture and Rural Development, WHO, FAO on collaboration towards absolute elimination of rabies in Vietnam.



*Representatives from Hoa Binh Province People's Committee, GDPM, DAH, NIHE, WHO, FAO signing commitment on action toward rabies elimination in Vietnam by 2020.* 

Elimination of rabies in Vietnam by 2020 requires an integrated and sustainable politic commitment, based on human health and animal health services. Close cooperation among different GoV agencies is a must and can be improved through the World Rabies Day. Leadership and commitment from local government agencies of provinces at high risk will act a crucial role in prevention and control rabies

Nguyen Thi Thanh Huong National Institute of Hygiene and Epidemiology

### News in brief

n October 2014, the Ministry of Agriculture and Rural Development approved the second phase of the "Characterizing Influenza Viruses Posing Risks as the Next Global Pandemic" project (OSRO/INT/001/USA), funded by USAID through FAO. The first phase of the project was implemented from October 2013 to September 2014 and the second phase lasts from October 2014 to September 2015, with total fund of USD 332,000 for both periods. The project is operated in 9 provinces including Bac Giang, Bac Ninh, Cao Bang, Ha Noi, Ha Giang, Hung Yen, Lang Son, Lao Cai and Quang Ninh. The project aims at minimizing the risk for the emergence and spread of new pandemic influenza disease threats by specifically identifying influenza viruses in swine and avian populations, improving knowledge on fundamental drivers, directional movements/circulation patterns and spread-related risks of influenza viruses, and their strengthening surveillance at national and local levels

rom 22 November to 23 November 2014, the Sun Yat-sen University together with Duke University and South China Agricultural University co-organized the First International Symposium on One Health Research in China. This international meeting has brought together professionals from all provinces of China, as well as from neighbouring countries such as Bhutan, India, Kazakstan, Kyrgyzstan, Laos, Mongolia, Myanmar, Nepal, Russia, Romania, and Vietnam. The goal of the symposium is to recognize and encourage multidisciplinary one health approaches to research. Dr. Hung Nguyen-Viet, senior scientist at the International Livestock Research Institute (ILRI) on behalf of his colleagues from PAHI, FAO, WHO and VOHUN working on One Health in Vietnam - gave an overview on the Inter-sectoral collaboration for One Health implementation in Vietnam: training, research and EIDs control polices

he 7<sup>th</sup> Asian Meeting on Zoo and Wildlife Medicine/Conservation took place in Tam Dao between 14 October and 17 October, 2014. The meeting was co-organized by Vietnam National University of Agriculture (VNUA) and Asian Society of Conservation Medicine (ASZWM), toward the One Health programme in Asia Pacific. More than 160 specialists in wildlife health from 20 countries including the US, Australia, Japan, Korea, Thailand, Malaysia, etc. and national organizations such as Hanoi zoo, Institute of Ecology and Biological Resources, Vietnam Animal Health Association, attended in the workshop

# IMPLEMENT URGENT MEASURES TO PREVENT AND CONTROL ANTHRAX DISEASE ON CATTLE



Vaccination against anthrax for cattle

Since 2010, numerous anthrax outbreaks in cattle and humans have been detected in some Northern mountainous provinces. In September 2014, infected cattle were reported in Meo Vac district, Ha Giang province, causing transmission to humans due to the slaughtering and consuming of sick or death cattle. Reported data showed that there were 215 people eating the animals died due to anthrax, in which there were 9 people infected. In fact, farmers and local authorities did not inform the local animal health agency promptly in order to timely handle, the collaboration between human health and animal health at local level has not been sufficient, and the vaccination for cattle have not been implemented effectively.

In order to actively prevent anthrax disease in cattle and human, on 22 October 2014, the Ministry of Agriculture and Rural Development issued an Official Telegraph on the operation of urgent measures to prevent and control anthrax disease in cattle and human, in sending to the President of Provincial People's Committee in northern mountainous provinces.

### Some key measures included:

- Direct the animal health and human health sectors to actively examine and report on Anthrax disease situation in cattle and humans in past 10 years as a basis for the development of prevention plan

- Launch and organize extensive and continous propaganda in various appropriate ways to communicate the severity of the Anthrax disease, and provide preventive measures to local people to apply actively

- Review vaccination activities for Anthrax in the area

- Upon the detection of Anthrax suspected cases in sick or death cattle, clean, disinfect, collect litter and animal waste to burn and bury under concrete pit. It is strictly prohibited to transport, slaughter and consume infected or unusual death cattle in outbreak reported communes and surrounding communes.

- Direct human health sector to collaborate closely with human health sector to implement integrated measures to response the infection in cattle and prevent transmission to humans

### News in brief

n European – Southeast Asia **Experts One Health in Action** workshop took place from 13 to 15 October, 2014 in Hanoi. The workshop was co-organized by different national and international partnersincludingtheNationalInstitute of Hygiene and Epidemiology (NIHE), the French Agricultural Research Center for International Development (CIRAD), the International Livestock Research Institute (ILRI) and the Southeast Asia One Health University Network (SEAOHUN). Nearly one hundred experts from 16 countries, including 41 animal health, 49 public health and 7 environmental/wildlife health experts participated in the meeting. The workshop elaborated justified topics for One Health research to be submitted to the European Commission for future H2020 calls; provided a policy note supporting the One Health approach and needs of research; and teamed up and built of consortia to submit bids to H2020 calls 🔳

merging Pandemic Threats 2 program (EPT 2) was launched by the United States Agency for International Development (USAID) inNovember, 2014 in Washington D.C. The EPT 2 program is developed based on the successes of the Agency's EPT 1 and the Avian Influenza portfolios. USAID's EPT 2 program will focus on helping countries detect viruses with pandemic potential, improve laboratory capacity to support surveillance, respondin an appropriate and timely manner, strengthen national and local response capacities, and educate at-risk populations on how to prevent exposure to these dangerous pathogens. The EPT 2 in Viet Nam will focus on four main areas including One Health mechanisms and Collaboration; risk reduction along Value Chains from farms to Epidemiology-based chopsticks; disease prevention and control; and Epizone cross-border collaboration in the lower Mekong and Red river deltas 📕



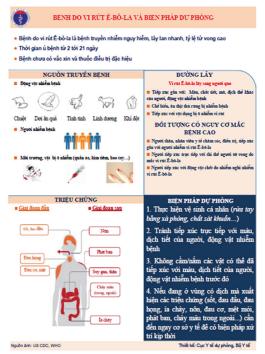
# ONE HEALTH COMMUNICATION NETWORK (OHCN) QUARTER IV MEETING, HANOI

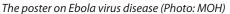
n 25 November 2014, PAHI Secretariat facilitated to organize the Quarter IV One Health Communication Network (OHCN) meeting in Hanoi with the attendance of participants from different national and international partners including Ministry of Agriculture and Rural Development (MARD), Ministry of Health (MOH), Food and Agriculture Organization (FAO), World Health Organization (WHO), the United States Agency for International Development (USAID) and other stakeholders.

In the meeting, OHCN members provided updates on ongoing and upcoming activities related to emerging infectious diseases and other activities. Representatives from the Communications Subcommittee of the Steering Committee on Dangerous and Emerging Diseases of the MOH and the National Agricultural Extension Center (NAEC) gave presentations on prevention and control activities for Ebola virus disease in Vietnam and agricultural extension activities for prevention and control of disease

in poultry, respectively. Participants from WHO, FAO, USAID, the Vietnam One Health University Network (VOHUN), the Vietnam National University of Agriculture (VNUA), the Vietnam Convention on International Trade in Endangered Species (CITES) Management Authority and the Centre for Health **Education and Communications** (CHE) also shared information related to their communication and other activities. Especially, Dr. Michael O'Leary, USAID/ Viet Nam's Senior Infectious Diseases Advisor, brought some updates on the new EPT 2 Programme funded by US Government.

The Wildlife Conservation Society (WCS) then presented the project outputs and test results of the project "PREDICT Pathogen Surveillance in Wildlife at Key Interfaces between Wildlife and Humans in Vietnam". The results of European - Southeast-Asian Experts "One Health in Action" workshop in





Hanoi from 13th-15th October 2014 were also summarized by National Institute of Veterinary Research(NIVR). Besides, PAHI Secretariat took this opportunity to briefly introduce their new One Health website which aims to maintain and enhance communication and information sharing and knowledge management for One Health in Viet Nam

# **UPDATES ON DEVELOPMENT OF THE VETERINARY LAW**

n 7 October 2014, the Secretariat of Partnership on Avian and Human Influenza (PAHI) supported the Committee on Science, Technology and Environment (CSTE) of the National Assembly and the Ministry of Agriculture and Rural Development to organize the Development of Veterinary Law Workshop in Can Tho. The workshop was chaired by Mr. Phung Duc Tien, Standing member of the CSTE, and cochaired by Mr. Mai Van Hiep, Deputy Director-General of the Department of Animal Health, who is responsible for Southern area. The chair and co-chaired provided open-remarks and introduced key contents of the Veterinary Law.

The participants from different southern provinces including Can Tho, Vinh Long, Ca Mau, Tien Giang, Soc Trang, Long An, Ho Chi Minh city presented their comments on the draft of the Law. The comments and suggestions focused on Regulation for Veterinary activities (Article 4); The organizational structure of veterinary agencies at local level (Article 6); Quarantine of animals and animal products (Article 40); Control of slaughtering activities (Article 67, 68); and the responsibility of state management bodies on veterinary.

Besides the representatives from provincial authorities and departments, the experts from universities (eg. Can Tho University) and business sector (eg. Navetco) attended and contributed various comments to the draft.

Based on the veterinary law enforcement practical in Viet Nam, international laws and experiences on this issue, as well as comments and suggestions from stakeholders, the CSTE developed the Verification report for the Veterinary Law project and submitted to the National Assembly.



Meeting in Can Tho (Photo: PAHI)

In December 2014, the workshop for consultation and revision of the draft Veterinary Law, based on comments and suggestions of the delegates of National Assembly at the 8th session, was held in Hochiminh city. It is expected that the draft Veterinary Law will be submitted to the 9th session of the National Assembly meeting for approval after extensive revisions and considerations

# **RELEVANT LEGAL DOCUMENTS**

### **DOCUMENTS ISSUSED BY MARD**

Official Telegraph No. 7115/CD-BNN-TY dated 04/09/2014 by the Ministry of Agriculture and Rural Development on intensifying urgent measures for Avian Influenza H5N6 and other strains prevention

Official Letter No. 7359/CD-BNN-TY dated 12/09/2014 by the Ministry of Agriculture and Rural Development on blocking transferring avian and avian products by passenger transportation modes

Official Telegraph No. 8552/CD-BNN-TY dated 22/10/2014 by the Ministry of Agriculture and Rural Development on implementation of urgent prevention measures for anthrax disease in cattle and human.

Official Letter No. 9102/BNN-TY dated 11/11/2014 by the Ministry of Agriculture and Rural Development on implementation of measures for livestock diseases active prevention

Circular No. 44/2014/TT-BNNPTNT dated 01/12/2014 by the Ministry of Agriculture and Rural Development regulating diseases requiring periodic medical check at cattle and poultry breeding farms

Official Letter No. 9897/CT-BNN-TY dated 09/12/2014 by the Ministry of Agriculture and Rural Development on strengthening the prevention and control of poultry and cattle diseases

Official Telegraph No. 10091/CĐ-BNN-TY dated 17/12/2014 by the Ministry of Agriculture and Rural Development on implementing urgent measures to prevent and control Food and Mouth Diseases

#### DOCUMENTS ISSUED BY MOH

Decision No. 3192/QD-BYT dated 25/08/2014 by the Ministry of Health on provision of Ebola virus diseases monitoring process.

Decision No. 3711/QĐ-BYT dated 19/09/2014 by the Ministry of Health on release of "Guidelines for prevention of Dengue fever".

Official Letter No. 4273/QD-BYT dated 21/10/2014 by the Ministry of Health on establishment of 4 teams for quick response for Ebola virus disease prevention.

Official Letter No. 7821/BYT-DP dated 03/11/2014 by the Ministry of Health to Ministry of Transport on arrangement of isolation rooms, isolation areas at international airports.

Official Letter No. 7822/BYT-DP dated 03/11/2014 by the Ministry of Health on intensifying collaboration on surveillance passengers coming from Ebola-affected countries.

Official Letter No. 4600/QD-BYT dated 05/11/2014 by the Ministry of Health on provision of quidance for Ebola virus diseases diagnosis and treatment.

Decision No. 4665/QD-BYT dated 07/11/2014 by the Ministry of Health on approval of "Guidelines for Streptococcus suis prevention".

Decision No. 4717/QD-BYT dated 11/11/2014 by the Ministry of Health on provision of actions plan for malaria prevention, 2015 -2020.

### **DOCUMENTS ISSUED BY OTHER RELATED AGENCIES**

Official Letter No. 9954/KH-BGTVT dated 13/08/2014 by the Ministry of Transport on provision of Ebola virus fever prevention plan.

Official Letter No. 8289/VPCP-KGVX dated 21/10/2014 by the National Assembly Office on intensification of Ebola virus diseases prevention.

Official Letter No. 1198/TCDL-TTDL dated 04/11/2014 by the Vietnam National Administration of Tourism on management of entry from Ebola regions.

### **UPCOMING ONE HEALTH EVENTS**

#### January 2015

SEAOHUN Executive Board Meeting "One Health Workforce" EPT2 Kualar Lumpur, Malaysia, 14-15 January, 2015

3<sup>rd</sup> National One Health Conference Tentatively: Hanoi, January, 2015

"IDRC-USAID pre-conference meeting" as part of the Prince Mahidol Awards Conference (PMAC) Bangkok, Thailand, 26-27 January, 2015

### March 2015

3<sup>rd</sup> International One Health Congress Amsterdam, 15-18 March, 2015

VOHUN Stakeholders Workshop: OHW identification and planning

March 2015



### **RECENT PUBLICATIONS IN ONE HEALTH**

**Bệnh cúm ở người và động vật (Influenza in Animal and Human)** Asso. Prof. Dr. Nguyen Ba Hien. Agricultural Publishing Company. December 2014.

**The dawn of Structural One Health: a new science tracking disease emergence along circuits of capital.** Wallace, R. G., Bergmann, L., Kock, R., Gilbert, M., Hogerwerf, L., Wallace, R., & Holmberg, M. Social Science & Medicine. 2014. http://www.sciencedirect.com/science/article/pii/S0277953614006145

The Global One Health Paradigm: Challenges and Opportunities for Tackling Infectious Diseases at the Human, Animal, and Environment Interface in Low-Resource Settings. Gebreyes WA, Dupouy-Camet J, Newport MJ, Oliveira CJB, Schlesinger LS, et al. PLoS Negl Trop Dis 8(11): e3257. 2014.

http://www.plosntds.org/article/info:doi/10.1371/journal.pntd.0003257

Improving animal health for poverty alleviation and sustainable livelihoods Andy Stringer, Veterinary Record 2014;175:526-529 doi:10.1136/vr.g6281 http://veterinaryrecord.bmj.com/content/175/21/526.full

**Emerging infectious diseases and pandemic potential: status quo and reducing risk of global spread.** B. McCloskey, O. Dar, A. Zumla, D. L. Heymann. The Lancet Infectious Diseases. September 2014. pii: S1473-3099(14)70846-1. doi: 10.1016/S1473-3099(14)70846-1. http://www.ncbi.nlm.nih.gov/pubmed/?term=Emerging+infectious+diseases+and+pandemic+potential%3A+status+quo+and+red ucing+risk+of+global+spread

**Capacity building efforts and perceptions for wildlife surveillance to detect zoonotic pathogens:** comparing stakeholder perspectives. Schwind et al. BMC Public Health August 2014, 14:684 http://www.biomedcentral.com/1471-2458/14/684

**Rabies control and elimination: a test case for One .** S. Cleaveland, F. Lankester, S. Townsend, T. Lembo, K. Hampson. Veterinary Record. August 2014. 175(8):188-193. doi:10.1136/vr.g4996. http://veterinaryrecord.bmj.com/content/175/8/188.long

**Uncovering zoonoses awareness in an emerging disease 'hotspot'.** S. B. Paige, C. Malavé, E. Mbabazi, J. Mayer, T. L. Goldberg. Social Science & Medicine. July 2014. pii: S0277-9536(14)00498-5. doi: 10.1016/j.socscimed.2014.07.058. http://www.sciencedirect.com/science/article/pii/S0277953614004985

**Toward a modernized definition of wildlife health.** C. Stephen. Journal of Wildlife Diseases. July 2014. 50(3):427-430. http://dx.doi.org/10.7589/2013-11-305

**Controlling malaria using livestock-based interventions: a One Health approach.** A.O. Franco, M. G. Gomes, M. Rowland, P.G. Coleman, C. R. Davies. PLoS One. July 2014. 9(7):e101699. doi: 10.1371/journal.pone.0101699. http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0101699

**More than one world, more than One Health: re-configuring interspecies health.** S. Hinchliffe. Social Science & Medicine. July 2014. pii: S0277-9536(14)00436-5. doi: 10.1016/j.socscimed.2014.07.007.

http://www.sciencedirect.com/science/article/pii/S0277953614004365

**One Health in action: the work of the HAIRS group.** D. Morgan. Veterinary Record. July 2014. 175(3):61-3. doi: 10.1136/vr.g3641.

http://veterinaryrecord.bmj.com/content/175/3/61.long

**Evaluation of medical and veterinary students' attitudes toward a One Health inter-professional curricular exercise.** J.N. Winer, K. Nakagawa, P.A. Conrad, L. Brown, M. Wilkes. Journal of Interprofessional Care. July 2014. 1-6. http://veterinaryrecord.bmj.com/content/174/4/85.full.html#ref-list-1

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**One health, many histories.** A. Woods, M. Bresalier. Veterinary Record. June 2014. 174: 650-654. http://veterinaryrecord.bmj.com/content/174/26/650.long

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1st Floor Bld. B1, Ministry of Agriculture and Rural Development - No. 10 Nguyen Cong Hoan, Ba Dinh, Hanoi Tel: (84-4) 37711 356/357 & Fax: (84-4) 37711 362 & Email: pahi.secretariat@gmail.com & Website: http://www.onehealth.org.vn