



Our Community, Our World, One Health

North Carolina One Health Collaborative (NC OHC): “Our Community: Our World: One Health”

The North Carolina One Health Collaborative seeks to promote and improve the health and well-being of all species by [1] enhancing collaborations among physicians, veterinarians, public, environmental and other local/global health professionals, and by [2] increasing public awareness of the interconnectedness of people, animals and the environment. Our goal is to provide educational discussion forums for students, professionals and the public that address local community issues related to One Health, while recognizing that we live in a global community.

Background

The concept of ‘One Health’ is an evolving, interdisciplinary way of approaching complex health issues by recognizing the interconnectedness of human health, animal health and the environment. It encourages people to move beyond narrow, professional perspectives toward a more holistic view of health.^{1,2,3,4.}

Why is a ‘One Health’ Approach important now?

- Over 75% of emerging worldwide infectious diseases are zoonotic⁵, meaning they pass between humans and animals. Most of these originate in wildlife.
- We live in a changing environment in which humans and animals share increasing contact in both the developed and underdeveloped world. Animals support us through social and economic means.⁶ They feed us, clothe us, and provide comfort and companionship, heightening the risk of disease transmission. This intimate relationship creates complex challenges that call for cross-disciplinary leadership skills.
- The increasing global population creates a growing demand for sufficient and safe food supplies. Future food production will require broad based, interdisciplinary collaborations, sharing of information, and cooperative technology development, the essence of One Health.
- Local communities are affected by global issues such as rabies control, vector borne diseases, and emergency preparedness, among many others. One Health recognizes the importance of ‘thinking globally while acting locally.’

The Collaborative

The North Carolina One Health Collaborative (NC OHC) is a unique partnership formed in spring 2010 with guidance from the Triangle Global Health Consortium. The NC OHC was founded by representatives of three leading research universities (Duke University, the University of North Carolina - Chapel Hill, North Carolina State University) and other private and governmental entities. The Collaborative has built upon the academic strengths of four medical schools, a veterinary college, three Global Health Institutes, a School of Public Health, and agricultural, envi-

ronmental and governmental research programs in central North Carolina such as NIEHS, USDA and EPA. The NC OHC draws from this exceptionally diverse community to create interdisciplinary educational and professional collaborations. The Steering Committee⁷ promotes the “One Health” concept by integrating expertise across disciplines. It includes professionals from human medicine, veterinary medicine, agriculture, ecology, public health, public policy, and social sciences. Dr. Cheryl Stroud, the Chair of the Steering Committee, serves on the Board of Directors of the national One Health Commission as the elected Representative for the American Veterinary Medical Association.

NC OHC Outreach Activities

Soon after forming, the NC OHC assumed leadership of a local, monthly One Health Intellectual Exchange Group (IEG) Discussion Series. Co-sponsored by the Center for Medical and Translational Research (CCMTR), this group began within the Intellectual Exchange Group Program of the North Carolina Biotechnology Center in January 2009 at the request of a group of university students. These students wanted an opportunity for students, physicians, veterinarians, nurses, ecologists, physician’s assistants, emergency responders, public health, and environmental workers – entities who rarely interact directly – to come together in conversation about overlaps in their respective areas of expertise. These stimulating and timely discussion sessions draw a wide range of participants and facilitate, ‘out of the box’ thinking that emphasizes the “One Health” approach to solving problems at the local, national and global levels.

NC OHC Educational Activities

There is a critical need for a new generation of health professionals who are trained as experts at the interface of human, animal, and environmental health.^{8,9} In spring 2011, NC OHC created, a weekly graduate level course titled “One Health: From Philosophy to Practice”. This course is uniquely cross listed at Duke University, North Carolina State University, and the University of North Carolina - Chapel Hill.

Both the IEG Discussion Series and the One Health graduate course attract nationally renowned speakers who present their work and lead enthusiastic discussions about the interface of human and animal health and how the environment affects those interactions. The overriding focus includes the bi-directional impact of animal health on human health, environmental impacts on the health of animals and people, and the mutual benefits of comparative medicine. Overall objectives of the course include (1) understanding how different disciplines contribute to the discipline of One Health, (2) creatively designing interdisciplinary interventions to improve local health using a One Health model, and (3) establishing networks among One Health-relevant professionals throughout North Carolina and the world.

Course participants represent a wide range of interests and graduate degree programs including students of global health, public health, nursing, infectious disease researchers, environmental science/ecology students, MD global health fellows, graduate and veterinary students. In addition to attendance and participation requirements, students are charged with selecting, researching and presenting detailed case studies that address One Health issues. These student authored case studies are jointly published by the three Universities as an online-compendium for sharing globally with other educational institutions. Some will also be added to the "Supercourse"¹⁰ thus extending the NC OHC's local impact to an international scale.

Goals of the NC OHC "Our Community, Our World, One Health" Initiative

- Continue identifying year-round One Health IEG discussion topics that will attract a diverse audience of students, health professionals and the general public. Participating students will thus be able to experience the complexity and inter-disciplinary utility of One Health.
- Implement community-based, One Health problem-solving projects that engage students to develop viable plans of action for solving North Carolina-specific problems.
- Develop and implement a didactic component to the course that illustrates and emphasizes a One Health approach to problem solving. A long term goal could include the development of a One Health Graduate Program.
- Develop the ability, with a series of policy papers, to rapidly respond to local One Health issues by making the NC OHC the 'go to' resource for public officials and the general public in North Carolina .

Implementing the " Our Community, Our World, One Health " Initiative

The NC OHC's One Health Intellectual Exchange Group and inter-institutional One Health graduate course rep-

resent a truly ground-breaking initiative among regional professionals. By drawing upon the rich environment of the Research Triangle Park, the NC OHC provides local leadership for furthering the concept of One Health. Building upon this solid foundation of academic, private and government program excellence, the NC OHC intends to develop a sustainable forum for One Health discussions, education and networking opportunities. It will expand its One Health leadership by: (1) establishing a salaried Director to oversee its day to day operations (2) annually funding a Teaching Assistant who will coordinate the course (3) obtaining resources to attract nationally and internationally renowned speakers and (4) developing / sustaining a dynamic website for increased outreach locally and beyond the borders of North Carolina. Finally and most importantly, the NC OHC will further develop comprehensive One Health educational curricula/programs aimed at producing future leaders who will be able to provide multidisciplinary responses to local health challenges involving animals, humans and the environment. These NC OHC One Health curricular programs could become national and international models to address problems that arise at the interface of animal, human, and environmental health.

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