



Image credit: Elaine Maier, "Circle of Life", with human figure overlay

One Health, One Welfare, One Planet

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July 2019

One Health is a global movement that originated as One Medicine, expanded to include prevention and health promotion, and has gained steady momentum since the middle of the 20th century. It is now increasingly being adopted and implemented globally, not only in academia and research, but also, in some countries at the highest levels of government and policy. In this article the authors explain a critical need to push the boundaries of the One Health framework toward 'One Health and One Welfare for One Planet'.

There are many definitions of One Health in use today but all share the following features:

- They are rooted in a deep understanding of the interdependence of the five kingdoms of life (bacteria, fungi, Protista, plants and animals) and their collective dependence on the planet's natural resources.
- They all recognize that the current state of life as we know it is not sustainable, and that many complex global health problems have been caused, or exacerbated, by human activities.
- They maintain that addressing these complex problems will require the engagement of a variety of experts and community representatives in a collaborative, interdisciplinary approach for which the solutions are greater than the sum of individual contributions.
- The One Health approach requires implementation on local, regional, national and international levels.
- The outcome of a One Health approach is optimal health for its living inhabitants and the planet itself.

Often implied, but less well-represented, is an understanding that health and well-being of people, other animals, ecosystems and the planet are inseparable. This latter, related concept is often termed "One Welfare" and is captured in the World Health Organization's definition of health as a "State of complete physical, mental, and social well-being, and not merely the absence of disease or infirmity." While the One Health movement was originally driven by the need to protect the health of people, today's One Health practitioners increasingly recognize its application to health for the planet and all species.

It is true that zoonotic diseases such as HIV-AIDS and avian influenza initially propelled the One Health movement forward, with veterinarians and ecologists serving as its early champions. But in the past 20 years we have come to understand that many arenas are begging for a One Health interdisciplinary approach. Thus there are now calls to implement the One Health concept to address many current global issues including antimicrobial resistance, biodiversity loss, climate change, comparative medicine, disaster preparedness, environmental contamination and ecosystem degradation, food and water safety and security, habitat use conflicts, human – animal bond, vector-borne diseases and many other complex challenges. Furthermore, the social determinants of health (e.g. socio-economic status, education, natural and built environments, social and community context) are increasingly recognized as playing a critical role in health, thus highlighting the strong social and environmental justice aspects of One Health. Indeed, One Health implementation has been proposed as the means to achieve many of the United Nations’ seventeen Sustainable Development Goals. Finally, although it is beyond the scope of this article, the ethics of humankind’s relationship with other animals and the environment is beginning to be explored in the context of One Health in order to elucidate overarching principles that will help guide decision-making where complex trade-offs must be accepted.

What is the role/importance of a One Health Approach to animal health?

At the core of One Health run underlying themes of protecting and preserving our One Planet, our only home. And, while it is understood that One Health largely originated with emerging and zoonotic infectious diseases that pose a threat to human populations, and this remains a primary driver of One Health, the One Health Commission seeks to expand One Health thinking and acting to more strongly emphasize animal and environmental health. Furthermore, because we remain concerned in the immediate time frame with measures to primarily protect the health of people, we take measures that address the proximal causes of human illness and infirmity but fail to consider that more distal measures, such as those designed to protect animal health and well-being, may be more effective in the long run.

The question for us all is, does humankind’s ego consider itself the most important species in nature, or is humankind one of many species, all of which deserve consideration?

We cannot continue to think of humans as the most important species with no acknowledgement of the significant role and inherent value of animals and all living creatures, including the plant life that provides oxygen and food to support all life. Yes, it will be people who have to do something about the trouble our planet is in; but it is our societal focus on *people only* that has systematically forced us into our silos and allowed us to lose our appreciation for the interconnectedness and value of all life. We must re-frame our human attitudes toward the planet and all living creatures, moving away from anthropocentric perspectives that lead us to unbridled consumption and use of the planet's resources, toward a deeper sense of humankind’s stewardship for earth's ecosystems and creatures. Although a few scholars are attempting to explore the ethics of those relationships, we have much to do to assure a world in which we are not only human, but humane, to animals and to each other in civil society. Reframing our current societal attitudes will require long term, committed education starting very early and extending throughout human lifespans, not because humans are the most important species but because they can be the most destructive.

What is the One Health Commission?

A number of international organizations work on parallel paths, each with its own priorities and focus, toward similar end goals of health and well-being for animals, ecosystems, humans, plants and the planet. In the remainder of this article we will explore one of those organizations, the One Health Commission (OHC).



The One Health Commission is a small but prominent, international body of action-oriented, One Health-dedicated individuals and organizations with a global reach. Its mission is to 'connect' One Health stakeholders, and to 'create' networks and teams that work together across professions to 'educate' about One Health and One Health issues. Its working groups seek to increase awareness at all levels of society of the interconnectedness of people, animals and the environment and to promote ecosystem resilience through an interdisciplinary, collaborative, local to global One Health approach. Chartered in 2009 in the U.S. as a 501(c)(3) non-profit organization, but working globally, the Commission's programs are designed for sharing resources and leading collaborative initiatives that extend beyond disciplinary boundaries.

How does the One Health Commission address all these colossal challenges?

Connecting One Health Stakeholders

Through volunteer [One Health Action Teams](#) made up of individuals from diverse backgrounds, the OHC provides opportunities for One Health leaders around the world to share their initiatives, programs, and skills to facilitate synergies and collaborations across professions. But for collaborations to emerge individuals and organizations with common interests must first find each other. Activities directed toward that goal have included hosting:

- The [First International Who's Who in One Health webinar](#) on November 11, 2014;
- The [Second International Who's Who in One Health webinar](#) on November 4, 2016 in celebration of inaugural global One Health Day;
- An '[Optimizing \(One Health\) Collaborations Online Meeting](#)' among key One Health players, August 22, 2017; and
- Two '[Synergizing One Health Collaborations Online Meetings](#)' on October 17 and 24, 2018.

The OHC manages a growing [Global One Health Community listserv](#) of over 10,000 international participants, distributes a monthly global [One Health Happenings newsletter](#) of One Health news, events, opportunities, announcements and publications and has recently created the world's first interactive map and expanding global directory of '[Who's Who in One Health](#)'. Its website serves as a clearinghouse for One Health [events](#), [scientific publications](#), relevant popular media [news items](#), training, employment and funding [opportunities](#). It also provides global outreach and representation of One Health at major international conferences.

Creating and Leading One Health Actions

In addition to providing a platform and mechanism for collaboration via [Action Teams](#), many of our 'wicked' health challenges, like antimicrobial resistance, can be controversial. The Commission provides a 'safe zone' for difficult or controversial interprofessional conversations, projects and actions. In 2016 the OHC led a stakeholder partnership to create an annual, global [One Health Day](#) which is now celebrated around the world every year on November 3. One Health Day [2016](#) registered over 155 events in more than 35 countries. One Health Day [2017](#) and [2018](#) saw similar global participation and planning for One Health Day 2019 is underway. A One Health Day student-led event competition awards cash prizes to top-ranked student teams. Its Action Teams

Educating about One Health and One Health Issues

Education, from early childhood through adulthood, is a primary focus of the Commission. It communicates credible, science-based information on One Health issues to the public through venues such as the bi-lingual 'What is One Health' [public service radio](#) announcement and a YouTube [video](#). It hosts free global [educational webinars](#) that raise public awareness and educate government officials and policy makers about the economic, public health and global security benefits of a One Health approach to shared health challenges. Since 2014 it has hosted or supported more than 55 such webinars on One Health topics such as '[Antibiotic Resistance](#)' and '[Understanding Bartonella: A One Health Perspective](#)'. It provides its online webinar platform to unincorporated One Health groups that do not otherwise have the means to share their One Health initiatives with a larger global audience.

Across the globe, One Health is slowly being integrated into many university and professional training programs. But the One Health Community believes that One Health education needs to start much earlier, at primary and secondary (K-12) levels, to begin reframing global attitudes toward our human place on the planet. Identifying a gap in public health education, the Commission's first educational effort in 2014 was creation of a [Bat Rabies Education Team \(BRET\)](#) focused on raising awareness among children, parents and teachers in the Americas about the risk that bats may transmit rabies. The message is "Don't harm bats; we need them to pollinate crops and eat insects. Just don't touch them." In 2015 the OHC formed a [One Health Education Task Force](#) (OHETF) to explore ways to bring One Health education to primary and secondary (K-12) school children around the world. A [Press Release](#) in June 2016 invited interested parties to participate in a [K-12 One Health Survey](#) and an online conference on integration of One Health into K-12 (or equivalent) educational settings. A [summary](#) of that online conference was published in April 2017; [conference slides](#) and a [recording](#) are available.

Concomitantly, the OHC partnered with the global One Health Community on an overview of [One Health Training, Research and Outreach](#) initiatives around the world that provided a snapshot at that moment of One Health education (academic, government and non-profit) in China, Australia/New Zealand, North America, South Asia, sub-Saharan Africa and Western Europe. A contribution from South America was also planned but was not realized at the time. In 2018 a sub-group of the OHETF, the One Health Education-US, began introducing K-12 teachers in the US to the One Health concept through teacher workshops that were presented at the National Science Teachers Association. The OHC began a compilation of [One Health Educational Resources](#) and created an online [One Health Opportunities](#) webpage that is gathering into one place lists of higher One Health education programs around the world. All these efforts made it apparent that many individuals and organizations around the world sought a mechanism to be involved in collaborative One Health Education work. For that reason an [International One Health for One Planet Education Initiative](#) (1HOPE) was launched in April, 2019.

Supporting the Next Generation of One Health Professionals and Leaders

In 2015 the OHC brought student representatives from human, animal, environmental and plant health domains onto its [Board of Directors](#). Those students saw a need for and formed an independent [International Student One Health Alliance](#) (ISOHA) for which the OHC serves as the parent organization. They have established ISOHA country representatives, a One Health mentor program, and have been connecting student groups working for One Health around the globe in a [Who's Who in Students for One Health](#) interactive spreadsheet and map and in [Who's Who in SOH webinars](#).



In summary, over the past twenty years One Health has gained great traction in policies and programs globally. The One Health Commission provides the leadership, platform and resources to connect hundreds of global One Health groups, thereby allowing them to combine forces to break through disciplinary silos and re-orient thinking and practice away from siloed interests and into systems frameworks that synergize to address today's complex health challenges. By doing so it is pushing the very boundaries of the One Health framework toward 'One Health and One Welfare for One Planet' to become an even more powerful force for protecting and sustaining life on the planet as we know it.