



<http://www.onehealthinitiative.com/>

“One Health is the collaborative efforts of multiple disciplines working locally, nationally, and globally to attain optimal health for people, animals, plants and our environment.”

“One Health implementation will help protect and/or save untold millions of lives in our generation and for those to come.”

“Between animal and human medicine there are no dividing lines--nor should there be.” Rudolf Virchow, MD
(the father of cellular pathology)

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A potential large scale “One Health in Action” ... another dynamic case for implementing One Health!

Vaccines against diseases transmitted from animals to humans: A one health paradigm

Opinion by: Laura H. Kahn, MD, MPH, MPP, Bruce Kaplan, DVM, Thomas P. Monath, MD, Jack Woodall, PhD, and Lisa A. Conti, DVM, MPH

The One Health movement, during the 20th century and the early 21st century, has documented a powerful case for implementing this critically needed approach to assist solving many of the world’s health problems in both the public health and clinical health sectors. Time is not on the side of the health care communities of planet earth. Witness the known crisis evolving with antibiotic resistance which is causing many to speak of threats to human (and animal) life with a frightening new “post antibiotic” era lurking in the near future. We can imagine a time where a routine strep (sore) throat—a bacterial infection typically treated and cured with an antibiotic—could no longer have an effective antibiotic available or even be in the pharmaceutical pipeline!

Today we know that about 60% of all human pathogens are zoonotic (diseases transmissible from animals to humans) and approximately 75% of recently emerging infectious diseases affecting humans are diseases of animal origin. If mankind loses some more or most of the ability to treat these diseases with efficacious antibiotics we are in trouble. Our immune systems are usually not capable of fending off most of these diseases resulting in high morbidity and a higher death rate than currently operational in our societies. However, if vaccine research and development is fast forwarded, some of these can be prevented eliminating a need for antibiotics.

This particular pursuit is certainly doable with *adequate recognition and funding*. We consider it essential!

Principles of utilizing the One Health approach, i.e. multidisciplinary/interdisciplinary collaborations between animal health and human health industries and regulators can definitely help develop immunization products for such purposes. A visionary landmark September 2013 article published online by the notable medical virologist and vaccinologist physician *Thomas P. Monath, MD <http://www.sciencedirect.com/science/article/pii/S0264410X1301270X> gives reasonable guidelines to make it happen sooner rather than later. Examples of such vaccines are listed including West Nile, brucellosis, *Escherichia coli*, O157:H7, rabies, Rift Valley fever, Venezuelan equine encephalitis, Hendra virus, *Mycobacterium bovis*, and Lyme disease. Indeed, another September 2013 publication was published that discussed the dramatic food safety potential for using a vaccine in cattle to protect against human foodborne illness caused by *E. coli*, O157 <http://www.pnas.org/content/early/2013/09/10/1304978110.full.pdf+html>.

In simple terms, the idea is to develop vaccines that protect domestic animals and wildlife thereby establishing effective barriers against human infections. Developing animal vaccines are less expensive and are less strictly regulated than are those for humans. Hopefully a common sense One Health approach can go forward.

*NOTE: Dr. Monath <http://www.onehealthinitiative.com/publications/Tom%20Monath%20Biography%20June%202013.pdf> is a physician founding member of the One Health Initiative Autonomous *pro bono* team.

REMINDER:

“Apple Pie...The Flag...Motherhood and...One Health”? – Posted One Health Initiative NEWS Monday, September 17, 2012

“Apple Pie...The Flag...Motherhood and...One Health”?

See three combined powerful validations for using One Health principles in the 21st Century post-haste!!!

#1 Revised compilation July 17, 2012 One Health achievements previously documented on the One Health Initiative website since 2009:

<http://www.onehealthinitiative.com/publications/One%20Health%20Achievements%20POSTED%20on%20OHI%20website%20since%202009.pdf>

#2 July 20, 2012 – One Health Initiative website team: One Health more than a name...it represents efficacious, economical approach to protecting and saving lives!

<http://www.onehealthinitiative.com/publications/One%20Health%20Implementation%20Justification%20July%2020%202012.pdf>

#3 Institute of Medicine (IOM) - *Improving Food Safety Through a One Health Approach*. Washington, DC: The National Academies Press:

<http://www.onehealthinitiative.com/publications/IOM%20One%20Health%20Workshop%20Summaryt.pdf>

For distribution...

Thank you:

One Health Initiative Autonomous *pro bono* Team:

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