

## 'One Medicine-One Health': an historic perspective

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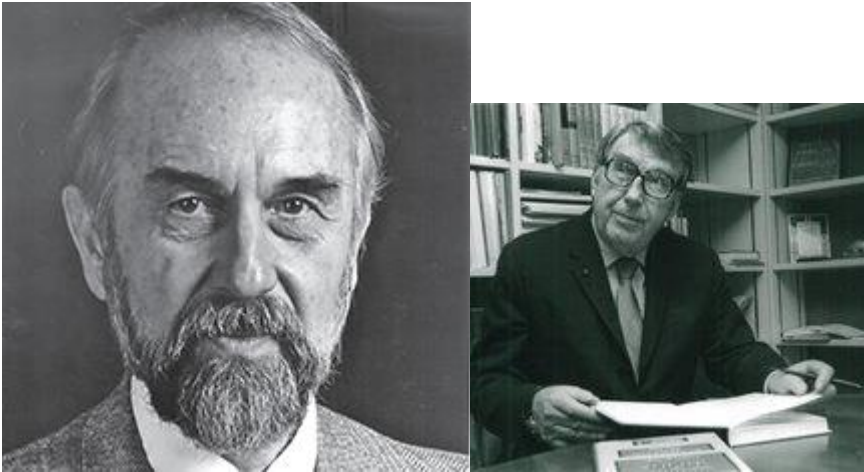


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“One Health” is the collaborative efforts of multiple disciplines working locally, nationally, and globally to attain optimal health for people, animals, and our environment. One Health implementation’s *raison d’etre* is to significantly help protect and/or save untold millions of lives in our generation and for those to come. There have been several pertinent *Impakter Magazine* [One Health articles](#) published including this year’s [Virus Mapping, Pandemics Preparedness and One Health: We Need Them All](#) and last year’s [Health Illiteracy – Why a Silent Epidemic Needs a “One Health” Approach](#) and [COVID-19: Why More Than Vaccines Are Needed – One Health Approach](#).

## Origin of present day's "One Health"

**concept/approach:** the two leading 20<sup>th</sup> century national and international veterinarian protagonists/lodestars were **Drs.**



**Calvin W. Schwabe and James H. Steele:**

The long recognized 'Father of Veterinary Public Health', [James H. Steele, DVM, MPH](#), founder of the U.S. Centers for Disease Control and Prevention's (CDC) Veterinary division, advocated for One Health principles, zoonotic disease management plus many global public health endeavors along with [Calvin W. Schwabe, DVM, MPH, DSc.](#) were powerful and influential One Health advocates. On July 24, 2007 Steele wrote a note to the [author](#) saying *"Congratulations. You have moved OH [One Health] to a higher level with your [OHI team] campaign. One World, One Medicine, One Health ..."*. Deliberately, Dr. Steele routinely included the term "One Medicine" prior to "One Health" in oral communications with me during the last third of the 20<sup>th</sup> and early 21<sup>st</sup> century. Why? Because like Schwabe, the lodestar of the "One Medicine" concept, Steele, a former *\*[OHI Advisory Board](#)* member, and close colleague was instrumental in helping to usher in the concept/approach of the historically modern-day One Health

movement stemming from Dr. Schwabe's monumental intellectual contributions and undertakings as the 'Father of Veterinary Epidemiology'. Schwabe coined the term "One Medicine" and that eventually led to the American Veterinary Medical Association (AVMA) and American Medical Association (AMA), together adopting and highlighting the 21<sup>st</sup> century's most significant "One Health" forefront.

Some luminous One Health leaders have emerged, among them have been many physicians, past and present, in the "[One Health vanguard](#)". Health professional standouts are highlighted in the '[lest we forget](#)' phrase about other physician and veterinarian historic One Medicine-One Health pioneers!

Early appreciation and acknowledgement of [comparative medicine and translational research](#) (considered under the [One Health umbrella](#)) by Schwabe was presciently discussed in his book, "[CATTLE, PRIESTS, AND PROGRESS IN MEDICINE](#)" (1978). He did this as an expansion of the 1977 fourth series of Spink Lectures in Comparative Medicine—an integral aspect that falls under the [umbrella of One Health endeavors](#). Notably, in Volume 4 of The Wesley W. Spink Lectures on Comparative Medicine <https://med.umn.edu/dom/news-events/wesley-spink>, Dr. Spink, a physician, "maintained a deep interest in comparative medicine for almost forty years...":

*" ... The author [Dr. Schwabe] shows that over the centuries many of the most significant breakthroughs in improving humans health have been closely associated with observations and experiments on animals other than man. Because human medical progress has been so dependent on*

*veterinary studies, he urges that schools of veterinary medicine assume a much greater role in the training of persons for research in human medicine.*

*To illuminate the historical link between animals and man in medical progress, Professor Schwabe recounts highlights in the history of medicine from ancient times onward. He describes the early history of man in terms of animal cultures, focusing on the prehistoric Nile Valley, and points to similarities in medical knowledge between present-day "cattle" societies in Northeastern Africa and the ancient people of the Nile. He discusses the comparative healers of ancient Egypt, the comparative foundations of Greek medicine, the Arabic contribution, Sicily and the beginnings of modern medicine, and subsequent developments through the Renaissance .Bringing the history down to modern times, Professor Schwabe emphasizes the role of veterinary medicine in medical research. He outlines specific reforms in the curricula of schools and colleges of veterinary medicine which would provide for the education of medical investigators."*

The 21<sup>st</sup> century physician trailblazer, instrumental in establishing the modern One Health movement, was the late [Ronald M. Davis, MD, MPH](#), President of the American Medical Association (AMA). A visionary physician One Health leader, Dr. Davis adroitly guided the passage of the landmark AMA One Health resolution that has propelled further into the 21<sup>st</sup> century One Health movement lexicon:



**Ronald M. Davis, MD, MPH**

President, American Medical Association Director, Center for Health Promotion & Disease Prevention. Henry Ford Health System One Ford Place, 5C Detroit, Michigan 48202-3450

**July 3, 2007 – American Medical Association (AMA)**

[message to OHI team]

*"I'm delighted that the AMA House of Delegates has approved a resolution calling for increased collaboration between the human and veterinary medical communities and I look forward to seeing a stronger partnership between physicians and veterinarians. Emerging infectious diseases, with the threats of cross-species transmission and pandemics, represent one of many reasons why the human and veterinary medical professions must work more closely together."*

Davis's prophetic coalition with the then American Veterinary Medical Association President Dr. Roger Mahr signaled the re-emergence of the human medical profession's participation in the rekindling of a One Health surge that will hopefully continue and flourish for the betterment of humankind, animals and planet earth's environment.



Photo by Joseph L. Murphy, MD

Left to right: Ronald M. Davis, MD, President AMA, Roger K. Mahr, DVM, President, AVMA and [Laura H. Kahn, MD, MPH, MPP](#) of Princeton University.

### **Important “One Health” 21st-century History:**

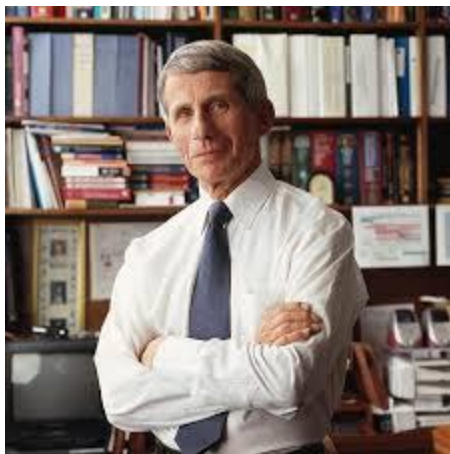
June 24, 2007- American Medical Association Meeting during “One Health” resolution testimony. Historic resolution subsequently adopted.

The AMA “One Health” resolution was originally drafted by Dr. Kahn under Dr. Davis’s guidance. Thomas P. Monath, MD [also instrumental in later [visionary vaccinology/virology](#) One Health endeavors] and Bruce Kaplan, DVM assisted. The historic “One Health” liaison between AVMA and AMA [in effect today] was fostered by collaboration between Drs. Mahr and Davis. The AVMA passed a one-health resolution during the annual meeting of the AMA House of Delegates in Chicago, IL. (USA).

Highly influential on the world scene was the 2012 [World Medical Association \(WMA\) and World Veterinary Associations’ One Health recognition statement](#) which included \*[Cecil. B. Wilson, MD](#), the WMA President at the time and American Medical Association past President. Also,

in November 2012, [The American Association of Public Health Physicians](#) (AAPHP) when [\\*Virginia “Ginny” Dato, MD, MPH](#) was serving as President and [Dave Cundiff MD, MPH](#), then and now was their AMA representative, strongly endorsed One Health. This lent considerable impetus to the validity of implementing and institutionalizing the One Health approach for efficaciously expediting national and global public health and clinical research endeavors.

Critical recognition of [One Health by the World Bank](#) continues to support and enhance the notion that, “*Public health systems have critical and clear relevance to the World Bank’s twin goals of poverty eradication and boosting shared prosperity. ...*”. Detailed [documentation and evaluation](#) has established an essential financial underpinning. Further clarification for ‘[Safeguarding Animal, Human and Ecosystem Health: One Health at the World Bank](#)’ is available in well defined language. The strategic health care [sustainability](#) of a One Health approach has been well established and elucidated.



The leading light in the current COVID-19 pandemic crisis has been [Anthony S. Fauci, MD](#). In 2018 Dr. Fauci notified

the OHI team that indeed he recognizes and [endorses the One Health concept](#).

The three visionaries, Schwabe-Steele-Davis, not to mention other health scientist professionals along the way, were arguably the historic Titans of the expanded and dynamic One Health era in today's 21<sup>st</sup> century. Other associated giant figures included



\*[Roger Mahr, DVM](#) and



\*[Lonnie King, DVM, MS, MPA, DACVPM](#), select members of the [2008 AVMA One Health task force](#), and some other worldwide leaders, many still active today. Albeit the USA led the way, other nations in Europe and Asia contributed immensely, particularly during the 21<sup>st</sup> century including



[Sweden](#), [Switzerland](#), [Japan](#), [Australia](#), [United Kingdom](#), [India](#) and [others](#). A promising newcomer to the world's One Health scene is [Africa](#). Highly influential on the world's One Health movement advancement was the 2012 [World Medical Association \(WMA\) and World Veterinary Associations' One Health recognition statement](#) which included [\\*Cecil. B. Wilson, MD](#), the WMA President at the time and American Medical Association past President.



Another remarkable trailblazer physician One Health contributor has been and is [\\*Gregory Gray, MD, MPH](#). Among many extraordinary [One Health accomplishments](#), now at Duke University (USA), Dr. Gray established the first [PhD degree with a concentration in One Health](#), while directing the [University of Florida's One Health program](#).

The first of its kind, landmark [Human-Animal Medicine textbook](#) by a physician/veterinarian editing collaboration, Drs. [\\*Peter Rabinowitz](#) and the late [Lisa A. Conti](#) ([a member of the OHI team](#)) set a high bar in the scheme of One Health

book publications; a second edition would be welcomed. Other important [textbook contributions](#) followed. Available excellent international educational endeavors now include [International One Health for One Planet Education Initiative \(1-HOPE\)](#), [“Hogs, Bats, and Ebola: An Introduction to One Health policy”](#), and [The Passion behind One Health Lessons](#).



- A major physician One Health leader [Thomas P. Monath, MD](#), co-founder of the One Health Initiative team (OHI), and AVMA taskforce member voiced a suggestion to members of the new OHI team alliance (2007) regarding the value of instituting a unique DVM (VMD)/MD (DO) degree program. There are many examples of where various individuals have attained both degrees and went on to become exceptionally prominent and productive international health care participants. One such dual degree is [\\*Steven W. Atwood, VMD, MRCVS, MD, MPH](#), who practices veterinary medicine at Animal Health Care Associates in West Tisbury, MA (USA). Dr. Atwood co-authored a [paper discussing Dr. Monath’s suggestion](#).

The Schwabe/Steele public health leaders’ One Medicine-One Health extensive 20<sup>th</sup> century dissertations and public speaking engagements, explored all aspects of diseases

developing among humans, domestic animals, and wildlife [reaffirmed in [2004](#)] and how best to combat health threats to humans and animals from disease transmissions, particularly zoonoses via a One Health approach. This was fundamentally accomplished well before the 21<sup>st</sup> century surge in awareness and various quests for exclusive provincial nomenclature credit. Indeed, the author personally recalls telephone conversations in the 1990s wherein Steele expressed the phrase "One World-One Medicine-One Health" in the context of discussing Dr. Calvin Schwabe's [a close colleague] contribution to "[One Health](#)" origins. Schwabe's modest insightful brilliance was reminisced in a [2011 Veterinaria Italiana One Health article](#): "...I met and spent part of a morning and lunch with Dr. Schwabe at the home of one of his close friend(s) [a leading New Jersey Department of Health]—public health authority in Princeton, N.J. (USA), [Oscar Sussman, DVM, MPH, JD...](#)in the early 1960s. ...". Memorably, veterinarian Sussman and his arbovirus research physician collaborator, then New Jersey's laboratory director [Martin Goldfield, MD](#) helped inspire this author/contributor to further appreciate the potent influence a "One Medicine-One Health" approach, i.e. transdisciplinary paradigm offered to 'grease the skids' for advancing society's health care strategic management.

There were abundant descriptive publications and lectures from both iconic leaders cogently and powerfully voicing their concept of "One Medicine-One Health" during the later half of the 20<sup>th</sup> century and Steele continued doing so for 13 years into the 21<sup>st</sup> century. Steele's "One Health" activities were explored in his [biography](#) "One Man, One Medicine,

One Health: The James H. Steele Story” by [Craig N. Carter, DVM, PhD](#), a member of the [One Health Initiative team](#).

A foundational public health physician One Health leader, Dr. D. A. Henderson, collaborated extensively with Steele:



**\*D. A. Henderson, MD, MPH**

Professor of Medicine and Public Health, University of Pittsburgh. Resident Scholar, Center for Biosecurity, U. of Pittsburgh Medical Center. Johns Hopkins University Distinguished Service Professor. Dean Emeritus, Johns Hopkins Bloomberg School of Public Health. Pier IV Building, Suite 210, Baltimore, Maryland 21202

April 22, 2007 Henderson, the late legendary leader of the worldwide smallpox eradication program wrote the OHI team and said:

*"I thank you for your email and congratulate you and your colleagues in promoting the "One Medicine" concept. It is an initiative that is long overdue but, at the same time, I don't personally identify dramatic solutions that are apt to change the landscape in the short term. I would note that when one has had the good fortune to have enjoyed the tutelage of [Jim Steele](#) during my tenure at CDC and periodically ever since, as a friend, the one medicine concept becomes well engrained. Indeed, when I came to Hopkins as Dean in 1977, I cast about to determine how we might link up with a veterinary school for research and educational purposes.*

*Unfortunately, geography was simply too great a hurdle to overcome.*

*Bottom line: I would be more than happy to do whatever I could in support of your efforts.”*

The essence of how Steele and Schwabe influenced the One Health movement was captured by Dr. Lonnie King, Chair, American Veterinary Medical Association (AVMA) 'One Health Initiative Task Force' in his classic JAVMA, Vol 233, No. 2, July 15, 2008 special report with his [One Health summation as it had evolved in today's world](#).

King, recognized today and then by many as a living “*giant*” in the One Health movement, proposed and established The [One Health Office at the U.S. Centers for Disease Control and Prevention \(CDC\)](#) in 2009. King was then director of [CDC's National Center for Zoonotic, Vectorborne, and Enteric Diseases](#). And is a member of the [American Veterinary Epidemiology Society's](#) (AVES) Board of Directors.

The [One Health Commission](#) and [One Health Platform](#) leaders, since 2010, have staunchly helped elevate and propel the One Health movement in the U.S. and worldwide. Leaders of a major environmental/wildlife silo that has given One Health impetus during this last two decades has been the [Ecohealth Alliance](#).

The author suggests readers review [resource library information](#), i.e. internationally available broad spectrum and comprehensive websites for further information as listed particularly in the [CDC's historic One Health chronicle](#). More

than ample generational evidence exists to literally **scream out**, “Why was this One Health modality not widely implemented much earlier? While exponentially expanded on the world stage today, why is it still not ramrodded above and beyond its current status?!!

“[\*The time has come, the walrus said\*](#) ...” Lewis Carroll and reference the [1930s appeasement in WWII](#), *The Gathering Storm*. Winston Churchill’s great memory recalled it from *Punch*, 4 October 1890, following a train wreck blamed on a sleeping crewman.

To the crewmen of the world’s political and health establishments’ powers-that-be, WAKEUP!

**Note:** Thanks to [Claude Forthomme](#), [Impakter Magazine](#), Impakter Senior Editor and Columnist, who helped inspire this article. Guidance in preparing this history was provided by [Richard Seifman, JD, MBA](#), a member of the [One Health Advisory Board \(Hon.\)](#).