

'One Medicine-One Health': an historic perspective

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One Health Initiative Autonomous pro bono Team:

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*Deceased November 6, 2020

History of the One Health Initiative team and website

“*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’être* is to significantly help protect and/or save untold millions of lives in our generation and for those to come.

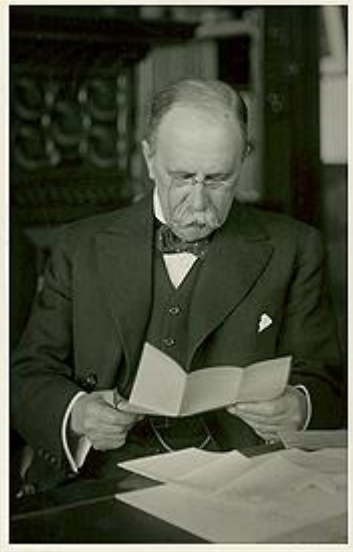
**Leading past One Medicine/One Health physicians—“Giants”:
Before the modern “One Health” era ...**



Rudolf Virchow, MD (the father of cellular pathology and coined the term "zoonosis")

"Between animal and human medicine there are no dividing lines--nor should there be. The object is different but the experience obtained constitutes the basis of all medicine."

Virchow's Contributions to Veterinary Medicine: Celebrated Then, Forgotten Now <https://pubmed.ncbi.nlm.nih.gov/10810984/>
<https://www.britannica.com/biography/Rudolf-Virchow>



William Osler, MD (*Father of Modern Medicine and founder of veterinary pathology*)

From Osler to Olafson. The Evolution of Veterinary Pathology in North America <https://pubmed.ncbi.nlm.nih.gov/3552167/>

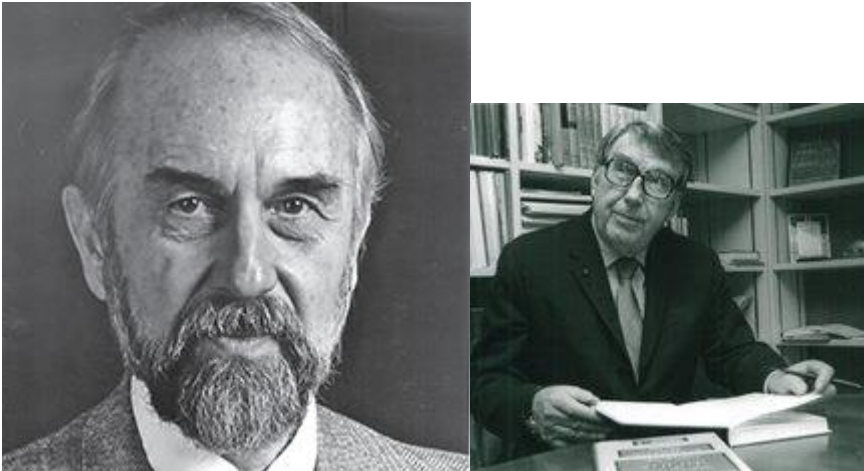
" ... by 1884, Osler had already left his indelible imprint on the students (both medical and veterinary) he had taught in Montreal, one of whom took over the teaching of pathology in the veterinary college. Another, who followed Osler's example and also studied in Berlin with Virchow, wrote the first book in the English language on veterinary post mortem technique in 1889."

1. Kahn LH, Kaplan B, Steele JH. Confronting zoonoses through closer collaboration between medicine and veterinary medicine (as 'One Medicine') *Veterinaria Italiana* 2007; 43: 5-19. http://www.izs.it/vet_italiana/2007/43_1/5_19.pdf ; and the One Health Initiative Autonomous pro bono team.
2. Bliss, Michael. *William Osler, A Life in Medicine*. Oxford University Press, 1999.
3. "The Life of Sir William Osler" by Harvey Cushing, 1925 Ed. (Courtesy Chris

Lyons, MA, Dip. Ed, MLIS, Osler Library of the History of Medicine, McGill University)

Origin of present day's "One Health"

concept/approach: the two leading 20th 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 in 1947, advocated for One Health principles, zoonotic disease management plus many global public health endeavors. Together with [Calvin W. Schwabe, DVM, MPH, DSc](#), called the 'Father of Veterinary Epidemiology', they came to represent powerful and influential synergistic One Health champions.

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 20th and early 21st 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 21st 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 21st 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 21st 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](#) [formerly] of Princeton University.



Dr. Kahn is a Co-Founder, One Health Initiative, Columnist, [Bulletin of the Atomic Scientists](#), Author, [Who's in Charge? Leadership During Epidemics, Bioterror Attacks, and Other Public Health Crises](#), Author, [One Health and the Politics of Antimicrobial Resistance](#), Instructor and [Creator of Coursera Course, "Bats, Ducks, and Pandemics: An Introduction to One Health Policy"](#) and currently working on her third book on One Health and coronavirus.

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 concomitant with 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.

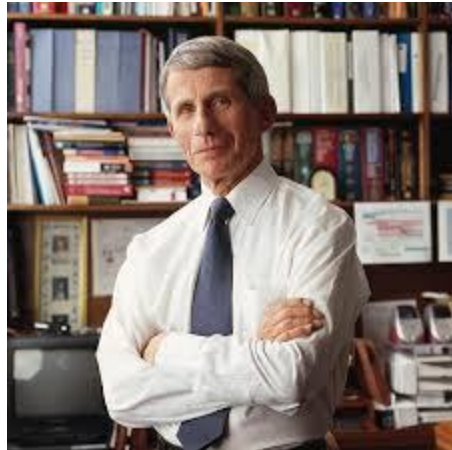
Drs. Wilson and Dato are members of the OHI Advisory Board (Hon.).

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.

In August 2022, co-founding physician member of the One Health Initiative (OHI) team Dr. Laura H. Kahn collaborated with the OHI team’s prolific new member-associate and eloquent wordsmith,



[Richard Seifman, JD, MBA, former World Bank Senior Health Advisor](#) to publish a far reaching proposal entitled “[It’s Time to Get Serious About Preventing Pandemics - Impakter](#)”. Their vision expressed was “*A new World Bank/WHO Fund could treat prevention as a priority and for which the One Health interdisciplinary approach is critical.*”



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](#). [Anthony Fauci, face of coronavirus response, to retire in December \[2022\]- The Washington Post](#).

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 21st 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 21st century including [Sweden](#), [Switzerland](#), [Japan](#), [Australia](#), [Canada](#), [United Kingdom](#), [India](#), [Greece](#), [Portugal](#), [South American](#), [Korea](#), [China](#) 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.

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](#).



Notably from 2013 to date, [Cheryl M. Stroud, DVM, PhD](#), Executive Director, has led the One Health Commission (OHC) nationally/internationally and developed a [comprehensive educational/informational website](#)—[among others]—and initiated the popular [One Health Day](#) concept.



One Health for One Planet Education Initiative (1 HOPE) has been indefatigably led by [George Lueddeke, PhD](#), Adviser in Higher, Medical and One Health Education, Global Lead, International *One Health for One Planet Education Initiative (1 HOPE)*, Southampton, United Kingdom:

[Survival: One Health, One Planet, One Future \(Routledge Studies in Sustainability\) - Kindle edition by Lueddeke, George R.. Politics & Social Sciences Kindle eBooks @ Amazon.com.](#)



**SURVIVAL: ONE HEALTH,
ONE PLANET, ONE FUTURE**

George R. Lueddeke



Dr. Lueddeke's publications have included [Planet Earth: Averting a Point of No Return?](#) and Reflections on the Transformation of Higher Education in the 21st Century

Part 1: The One Health & Wellbeing Concept

Part 2: Development of a Global 'All Life' narrative

Part 3: The international One Health for One Planet Education Initiative (1 HOPE) and the 'ecological university'



Another remarkable trailblazer physician One Health contributor has been and is [Gregory Gray, MD, MPH](#). Among many extraordinary One Health accomplishments including a [Newsletter at Duke University \(USA\)](#), prior thereto Dr. Gray established the first [PhD degree with a concentration in One Health](#), while directing the [University of Florida's One Health program](#). Gray recently left Duke and launched an extraordinary [One Health Program at the University of Texas Medical Branch \(UTMB\) at Galveston, TX \(USA\)](#).

The first and only one of its kind, landmark [Human-Animal Medicine textbook](#) by a physician/veterinarian editing collaboration,



[Peter Rabinowitz, MD, MPH](#) and the late



[Lisa A. Conti, DVM, MPH](#) ([a member of the OHI team](#)) set a high bar in the scheme of One Health book publications; a second updated 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 [One Health Lessons](#).



A major physician One Health leader [Thomas P. Monath, MD](#), internationally [recognized virologist and vaccinologist](#), 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 professional is



[Steven W. Atwood, VMD, MRCVS, MD, MPH](#), who practices veterinary medicine at Animal Health Care Associates in West Tisbury, MA (USA). Dr. Atwood, an [avid One Health advocate](#), co-authored a [paper discussing Dr. Monath's suggestion](#). This updated article has been reprinted in the Open Access [One Health & Implementation Research \(ohirjournal.com\) \[scroll down\]](#).

In addition ...

Renowned Physician Interventional Cardiologist Endorses One Health Concept - One Health Initiative



*Gary S. Roubin, BVSc. (Hons.), MB, BS., PhD, MD, FRACP, FACC, FAHA, FSCAI
Cardiovascular Associates of the Southeast Birmingham, Alabama*

AND



Myron "Mike" G. Schultz, DVM, MD, Helped Identify the AIDS Crisis

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6649340/>

" ... With DVM and MD degrees in hand, Mike interned at the US Public Health Service Hospital (Boston, MA, USA). This internship led to his recruitment by Alexander D. Langmuir (1910–1993) and a transformative 2-year stint in Langmuir's Atlanta-based Epidemic Intelligence Service (EIS) training program at the (then-named) Center for Disease Control (CDC). Mike's EIS[63] experiences included a 1964 deployment to Vietnam to investigate infectious disease threats in the war and an important friendship with ***James**

Harlan Steele, DVM (1913–2013), the renowned veterinary epidemiologist/epizootiologist whose leadership helped to formulate their shared concept of “One Health”—the idea that humans, animals, and the environment are all part of an intertwined ecosystem with respect to disease occurrence and microbial evolution—and to shape the conceptualization of emerging infectious diseases (3). ..."

Note: A strong longstanding One Health advocate, Dr. Schultz, a trained Doctor of Veterinary Medicine (veterinarian) and Doctor of Medicine, MD (physician), detected a cluster of pneumonia cases in the early 1980s which helped public health officials identify the AIDS epidemic. As an infectious disease epidemiologist with the U.S. Centers for Disease Control and Prevention (CDC), Schultz created the Parasitic Diseases Drug Service to provide physicians with medicines to treat rare illnesses. One was pentamidine. Prescribed for patients with African sleeping sickness, it was also made available to treat patients with pneumocystis pneumonia in the early years of the AIDS epidemic, when few alternatives were available. He published more than 110 papers and book chapters, mainly on epidemiologic subjects. He also published special articles on the history of medicine in the *New England Journal of Medicine*, the *Journal of the American Medical Association*, the *American Journal of Tropical Medicine & Hygiene*, and *Emerging Infectious Diseases* and served as an epidemiological consultant to the World Health Organization, the Pan American Health Organization, and the Ministries of Health of the Republic of South Vietnam, Poland, Egypt, Haiti, Federal Republic of Germany, People’s Republic of China, Republic of China (Taiwan), Indonesia, Israel, Saudi Arabia, and Zimbabwe.

In July 2018, Dr. Schultz was posthumously awarded the [American Veterinary Epidemiology Society’s \(AVES\)](#) coveted Gold Headed Cane award.

The Schwabe/Steele public health leaders' One Medicine-One Health extensive 20th century dissertations and public speaking engagements, explored all aspects of diseases developing among humans, domestic animals, and wildlife [reaffirmed and expanded upon 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 documented well before the 21st century surge in awareness/recognition and various quests for exclusive provincial nomenclature credit and tribalism.

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.

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."

There were abundant descriptive publications and lectures from both iconic leaders, Steele and Schwabe, cogently and powerfully voicing their concept of "One Medicine-One Health" during the latter half of the 20th century and [Steele continued doing so](#) for 13 years into the 21st century. Steele's "One Health" activities were documented and explored in his [biography](#) "Animal Health Human Health One Health: The Life and Legacy of Dr. James H. Steele" by



[Craig N. Carter, DVM, PhD](#), a member of the [One Health Initiative team](#).

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 current Director of the CDC's One Health Office is



[Casey Barton Behravesh, MS, DVM, DrPH, DACVPM](#), a progressive, outstanding One Health leader.

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?!!

There have been several pertinent



IMPAKTER

[Impakter One Health](#)

- [ARTICLES](#) published including this year's [How to Save our Common Future: The Global One Health One Welfare Approach](#), [Why One Health is Key To Address Future Pandemics](#), [Is One Health at a Turning Point?](#) and [It's Time to Get Serious About Preventing Pandemics.](#)

Bottom line:

"[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](#), BA, MA, [Impakter Magazine](#), Impakter Senior Editor and Columnist and member [One Health Advisory Board \(Hon.\)](#), who helped inspire and nurture this One Health article and those published in Impakter. Guidance in preparing this history was provided by [Richard Seifman, JD, MBA](#), a current [member of the One Health Initiative team](#).