

ONE HEALTH ATLAS

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Concepts through time: a brief history from Hippocrates to COVID-19

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A fundamental principle of the One Health concept is that all living organisms—including humans, animals, plants and the planet itself—are interconnected and their existence is mutually beneficial.

In the fifth century BCE, Hippocrates, known as the “father of medicine”, acknowledged the impact of the environment on human health. This view has evolved throughout the years in reaction to growing health concerns (Figure 1). Veterinarian Claude Bourgelat, who established the world’s first veterinary school in Lyon, France, in the mid-1700s and is considered the “father of veterinary medicine”, was a prominent figure in this school of thought. In his pioneering work, Bourgelat linked human and animal health. Modern veterinary medicine owes a great debt to his seminal work, which highlighted the need for a more comprehensive approach to health. Epidemiologist Calvin Schwabe revived this notion in the twentieth century, calling it “One Medicine”. To better understand and manage disease, Schwabe

called for a more holistic approach to public health that considers the interdependence of all forms of life (see Box).

The spread of zoonotic diseases in recent decades, such as the H5N1 avian flu, SARS, MERS-CoV, Ebola and, most recently, COVID-19, has increased the importance of the One Health approach. Due to the risks associated with altered interactions between humans, animals and the environment, these health crises have confirmed the need for a collaborative approach to fight them. Today, One Health is recognized and promoted by international organizations including the World Health Organization (WHO), World Organisation for Animal Health (WOAH), Food and Agricultural Organization (FAO) and United Nations Environment Programme (UNEP). In an increasingly globalized world, interdisciplinary and multi-sectorial efforts should be implemented to tackle public health issues, with the ultimate goal of improving overall health and well-being.

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NATURE AND (ONE) HEALTH

Although “One Health” is a somewhat recent concept, it draws upon the ideas of many thinkers who have explored the interconnectedness of nature and humans throughout history. **Hippocrates** (c. 460–370 BCE) examined the influence of the environment on human health; **Aristotle** (384–322 BCE) later explored the interconnectedness of living beings through his concept of “telos”, which suggested a natural purpose for all life forms. **Aldo Leopold** (1887–1948), a key figure in ecology, proposed a land ethic that highlighted the need to respect and preserve ecosystems, an idea echoed by the One Health philosophy of today. Other important thinkers may have indirectly influenced the development of holistic approaches: **Hans Jonas** (1903–1993) discussed the ethical obligations humans have towards nature and future generations, emphasizing environmental stewardship, in his work *The Imperative of Responsibility*. With his theory of complexity, **Edgar Morin** (born 1921) advocated for an interdisciplinary and systemic approach to addressing global challenges. The work of **Gregory Bateson** (1904–1980) in systems theory underscored the importance of understanding biological, social and ecological systems as interconnected entities. More contemporary philosophers, like **Michel Serres** (1930–2019) in *The Natural Contract*, have called for redefining the relationship between humans and nature, recognizing that human survival depends on the health of the planet.

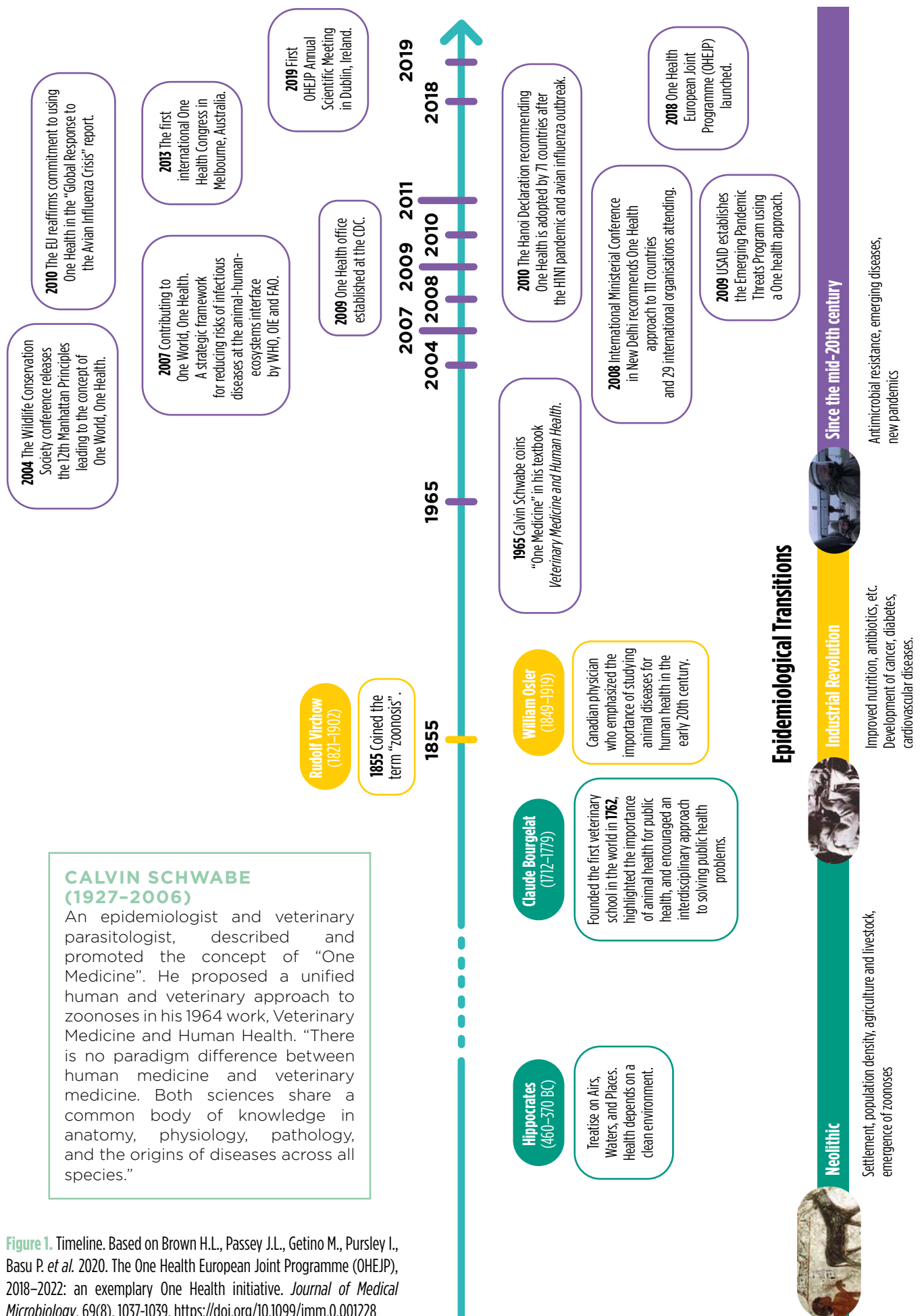


Figure 1. Timeline. Based on Brown H.L., Passey J.L., Getino M., Pursley I., Basu P. *et al.* 2020. The One Health European Joint Programme (OHEJP), 2018–2022: an exemplary One Health initiative. *Journal of Medical Microbiology*, 69(8), 1037–1039. <https://doi.org/10.1099/jmm.0.001228>