

Maurice Hilleman (1919–2005)

Saving Millions of Lives via Vaccine Breakthroughs

“Montana blood runs very thick. And chicken blood runs even thicker with me.”

—Maurice Hilleman



ioneering vaccinologist Maurice Hilleman dedicated himself to developing microbiology research into life-saving products. One of the most important, yet least known, figures in public health, he developed over forty vaccines, including eight of

the fourteen vaccines recommended by the United States Center for Disease Control and Prevention.

Hilleman was born on August 30, 1919, in Miles City, Montana. He described the value of his Montana childhood: *“Life on a farm in an economically underdeveloped area of the western frontier during the Great Depression was not easy. But it was of immense value in providing hands-on experience in the worlds of biology and mechanics, and creating sobriety and an intensive work ethic.”* Hilleman received a full scholarship to Montana State University, then known as Montana State College—a school that he praised as a *“no-nonsense institution where professors taught.”* After receiving his Ph.D. from the University of Chicago in microbiology and virology, Hilleman eschewed a traditional academic career and went to work for the pharmaceutical company E.R. Squibb & Sons.

While working at the Walter Reed Army Institute of Research from 1948 to 1957, Hilleman identified the “drift and shift” process of how viruses undergo minor and major changes. Understanding this process improved

scientists’ ability to produce vaccines and prevent pandemics. For example, during the 1957 influenza pandemic, Hilleman helped save countless lives through early detection of the virus strain.

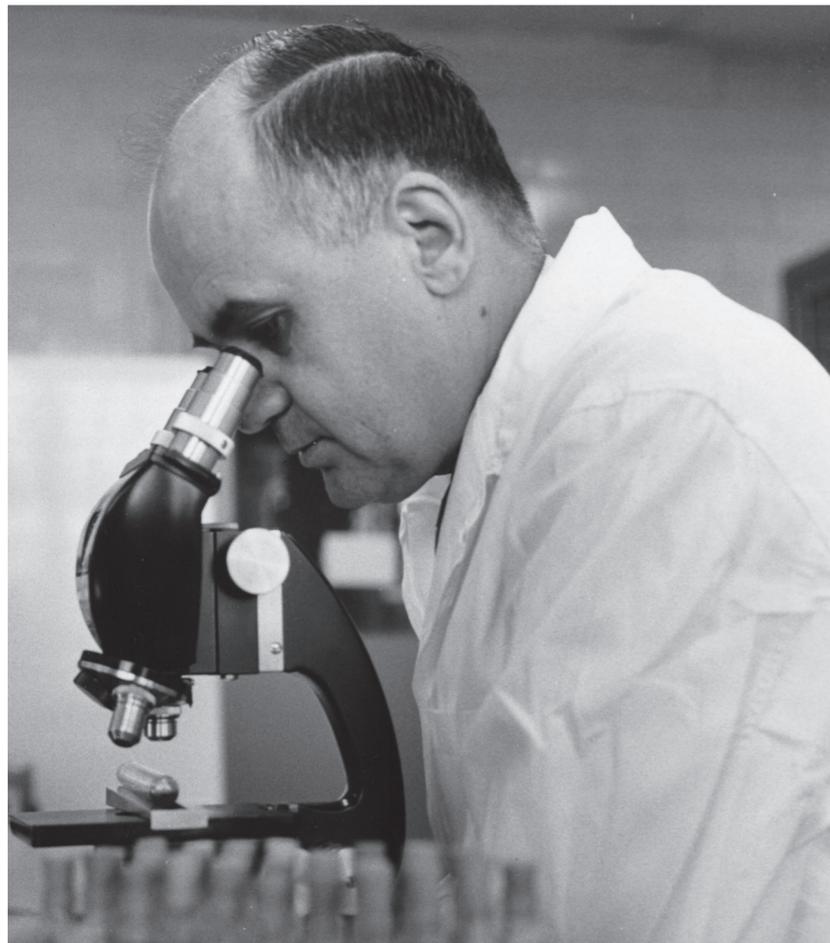
In 1957, Hilleman joined Merck as director of the new Department of Virus and Cell Biology. Under his visionary, efficient, and commanding leadership, Hilleman and his team developed vaccines for hepatitis B; meningitis;

pneumonia; Haemophilus influenza bacteria; and measles, mumps, and rubella (MMR). An MMR vaccine administered today still uses the Jeryl Lynn strain that Hilleman sampled from his daughter when she had the mumps in 1963.

Hilleman’s work extended beyond public health to the poultry industry. He developed a vaccine for Marek’s disease, a viral infection which causes cancerous tumors in chickens. The disease results in lowered productivity, unsuitability of animals for commercial use, and accompanying economic losses. Licensed in 1971, Hilleman’s vaccine was the

first vaccine against viral cancers.

After retiring from Merck at the company’s mandatory age of sixty-five, Hilleman continued consulting until his death in 2005. Emphasizing the life-saving and economic values of prevention, he sought to use science for the public good. Hilleman’s behind-the-scenes accomplishments are a testament to the work ethic, curiosity, and perseverance instilled in him growing up on a Montana farm.



Dr. Maurice Hilleman in his laboratory, ca. 1962, Merck Archives; Merck, Sharp & Dohme Corp., 2014