

In Memoriam: Robert M. Chanock, MD, 1924–2010

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The world of biomedical science lost a revered leader on July 30, 2010, with the death of Robert M. Chanock (Figure 1), age 86, at Copper Ridge residential care center, Sykesville, Maryland, from complications related to Alzheimer's disease.

Bob Chanock's impact on infectious diseases in the last half of the twentieth century was unparalleled. In a 1967 reference to Bob's first decade at the National Institute of Allergy and Infectious Diseases (NIAID), National Institutes of Health (NIH), Dorland Davis, then its director, summed up Bob's achievements by stating that "...never in the history of infectious disease research has one person developed so much definitive information about the cause of so much human disease in so short a period of time." [1] Bob built on that first exceptional decade with 40 more years of accomplishment that make him one of the most influential infectious disease researchers of the twentieth century.

Bob was born in Chicago, served in the Army Specialized Training Program during World War II, received a BS

degree from the University of Chicago in 1945, and two years later received the MD degree from the University of Chicago's School of Medicine. After completing an internship at the Highland-Alameda Hospital in Oakland, California, he returned to the University of Chicago for a pediatrics residency in 1948. In 1950, he began a fellowship at Cincinnati Children's Hospital under the supervision of Albert B. Sabin (1906–1993). Following two additional years of service in the US Army Medical Corps (1952–1954), Bob returned to the University of Cincinnati as an assistant professor of pediatrics.

In Cincinnati, he discovered the first of many new infectious agents that he would identify over his career, an agent then referred to as the "croup-associated virus" (now parainfluenza virus type 2) [2]. He soon left for a position at Johns Hopkins University Medical School and then joined the NIH in 1957. While at Johns Hopkins, he and a colleague discovered the respiratory syncytial virus, the most common cause of acute lower respiratory tract illness in infants and children under 5 years of age worldwide [3–5]. Despite leaving the Sabin lab, he and Dr Sabin and their families maintained a close relationship over their lifetimes. Dr Sabin proudly referred to Bob as his "scientific son."

At NIH Bob worked under another man he greatly admired, Dr Bob Huebner (1914–1998), chief of the Laboratory of Infectious Diseases (LID) at NIAID,

and was appointed by Huebner to the position of head of the Respiratory Virus Section in 1959. Continuing his quest to discover and characterize respiratory disease viruses, Bob soon identified, with LID colleagues, three more distinct parainfluenza viruses [6]. In 1967 Bob succeeded Dr Huebner as LID chief, holding the position until 2001.

Administrative responsibilities did nothing to slow Bob's productivity. Chanock and colleagues isolated new strains of rhinoviruses and coronaviruses, both associated with the common cold; in addition, he and his colleagues isolated and characterized *Mycoplasma pneumoniae*, associated with a then-mysterious form of "atypical" pneumonia [7–9]). Chanock and colleagues developed a Food and Drug Administration (FDA)-approved adenovirus vaccine to prevent respiratory illnesses in military recruits [10]. In addition, he and colleagues initiated studies of enteric diseases that led to the discovery of the Norwalk virus (norovirus), other noroviruses, and hepatitis A virus, as well as to the licensure of vaccines for hepatitis A and rotavirus [11–15]. Other important work with his colleagues led to development of an FDA-licensed recombinant monoclonal antibody to prevent respiratory syncytial virus disease in high-risk infants (palivizumab); in addition, they made important contributions to the cold adapted live virus (nasal spray) influenza vaccine [16–19]. Bob also initiated a program in the 1990s to develop dengue vaccines, which are currently in clinical studies [20].

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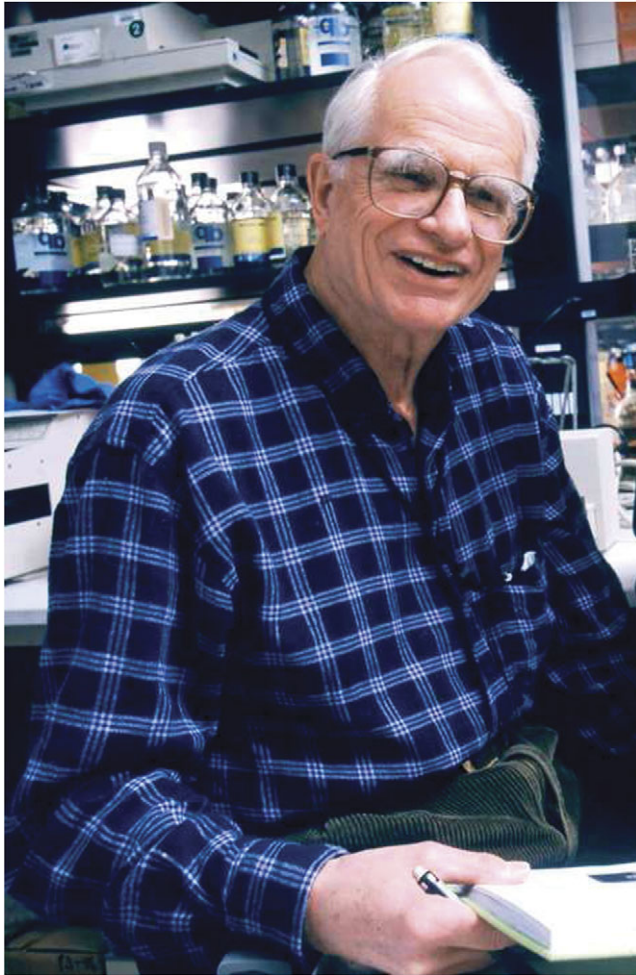


Figure 1. Robert M. Chanock, MD, (1924–2010) in 2003.

Bob's contributions were true to the traditional mission of LID, which emphasizes finding the causes of medically important infectious diseases, defining their epidemiology and importance, and developing methods for prevention. Bob embraced these goals with energy and enthusiasm, noting in 1996 that "... studies performed by LID scientists have been driven by long-term goals directly related to issues of health and not by technological advances or changing trends in what was considered fashionable in research." [1]

Bob had a simple and direct working philosophy: "The only way to do it is to do it." Implicit in this maxim was the responsibility to do it right. He inspired his colleagues as well as many investigators he mentored who went on to

become national and international leaders in infectious diseases. Bob was a decisive "man of action," and was also creative, thoughtful and able to express himself with clarity. He was a modest person, spreading credit to his staff whenever possible and showing genuine interest in advancing their careers. Colleagues remember him as passionate and energetic, brimming with enthusiasm and love of life. Even in his 80s, slowed by illness, he was always ready to expound on a myriad of subjects that interested him, there being very little that did not interest him, and he typically did so with zest and obvious excitement and enthusiasm.

Bob received many honors, including election to the National Academy of Sciences and the Danish Royal Academy of Sciences. He received the Infectious

Diseases Society (IDSA) of America Joseph E. Smadel Medal, the IDSA Squibb Award for general excellence in the field of infectious disease, the E. Mead Johnson Award for research in pediatrics, the Robert Koch Medal, the 1990 Award of the ICN Pharmaceuticals International Prize in virology, the Bristol-Myers Squibb Award for distinguished achievement in infectious disease research, the Gorgas Medal of the Association of Military Surgeons, and the Albert B. Sabin Medal for exemplary research in vaccinology. In addition, he was the recipient of the U.S. Public Health Service Meritorious Service Medal and the Distinguished Service Medal.

No remembrance of Bob Chanock would be complete without recalling his passion for classical music. He had an amazing collection of musical recordings that by his own estimates (circa 2002) exceeded 40,000 shellac records, vinyl records, tapes, and CDs. At the time of his death he had over 18,000 CDs alone. These were not museum pieces, as Bob knew the contents of each recording and typically had multiple interpretations of the same piece of music.

He was a veritable *Schwann Catalogue*, relating from memory the interpretive styles of specific movements of countless works in the repertoire played by innumerable artists, comparing and contrasting their tempos, timbres, flourishes, use of the piano pedal, specific characteristics of the string, horn, and wind sections, and so on. In accord with his generosity of spirit, he loved almost everything he heard and disliked very little.

Although Bob never played a musical instrument, his mother had been a skilled pianist, having played with the Chicago Symphony Orchestra on three separate occasions as a young woman. She was also a link to a rich romantic musical heritage that Bob treasured, being related to German composers Felix and Fanny Mendelssohn. Bob loved to share his classical music interest with guests, of whom there were many over the years. Bob and his extraordinary,

talented, and supportive wife Beth, who predeceased him in 2009, were ever hospitable in making their living room a modern salon, reminiscent of what Viennese salons must have been like in the era of Mozart, Beethoven, and Schumann.

In his life, in his hobbies and home life, and in his work Bob Chanock was a man of unbound passion, love of life, optimism, and good will.

Bob is survived by a son, Stephen, a physician who is a principal investigator at the NIH; Stephen's wife, Lizette; and their four children; and by Dorie Caesar, wife of Bob and Beth's son Foster, who died in 1980. He is mourned by three generations of scientists and friends who trained under him or were influenced by him during a remarkable 60-year career.

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