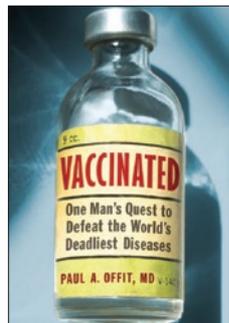


A true vaccine pioneer



Vaccinated: One Man's Quest to Defeat the World's Deadliest Diseases

Paul Offit

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Vaccines have proven to be one of the most important and cost-effective medical interventions available to mankind. As a consequence of vaccination, death and illness caused by many infectious diseases have decreased, and the average human lifespan has increased more than 30 years in the past century. One infectious disease—smallpox—has been completely eradicated, and it is expected that polio will be as well. Much of this success has been driven by a single individual, Maurice Hilleman, the subject of the book *Vaccinated: One Man's Quest to Defeat the World's Deadliest Diseases*, by Paul Offit.

Offit is a well-known and accomplished vaccinologist in his own right, having been a key contributor to the development of the rotavirus vaccine. His fourth and current book serves as a tribute to the many accomplishments of Maurice Hilleman and is based on a series of interviews conducted with Hilleman during the last years of his life. But the book is much more than a biography. It places the substantial impact of one man's successes in the context of the overall benefit of vaccines. It goes well beyond vaccines and their history, touching on various aspects of related discoveries in science, technology and medicine that helped to shape and set the stage for vaccines. The book also documents how politics, religion and intrigue have been, and continue to be, interwoven with vaccines and their development (a current example being the opposition to the human papillomavirus vaccine for adolescent girls lest it encourage risky sexual behavior) and provides many interesting anecdotes (before World War II, for example, more soldiers died from infectious diseases than combat). As such, the book is good reading for scientists, medical professionals, industry insiders, vaccinologists and the general public alike.

Maurice Hilleman was directly involved in the development of most of the vaccines available today, including those for measles, mumps, rubella, hepatitis A, hepatitis B, influenza, Japanese encephalitis, pneumococcus, meningococcus and *Haemophilus influenzae* B. Hence, he “left his mark on half of the world's children.” He developed the first cancer vaccines (for Marek's disease and hepatitis B), the first vaccine using recombinant DNA technology (hepatitis B) and the

first combination vaccine (MMR, for measles, mumps and rubella). He also was instrumental in characterizing and producing the first antiviral agent (interferon), and he discovered the tumor virus SV40 and its presence in the polio vaccine. There was one vaccine, however, that eluded even Maurice Hilleman—that for the common cold. But, in the process of trying to create it, he discovered 54 new virus strains and determined that this failure was due to the number of different cold virus strains, rather than to short-lived immunity. None of this could have been accomplished in isolation, and Hilleman had the benefit of having several greats before him, as Offit cleverly portrays in the ‘Eight Doors’ chapter. Hilleman's profligate successes were products of his ability to build on the past, learn from previous mistakes and recognize limitations. Importantly, he was the first to take an industrial approach to making vaccines, thereby putting into practice the preliminary observations of others.

In his book, Offit provides glimpses of Maurice Hilleman, the person: from his modest upbringing on the harsh plains of Montana, to university, to industrial research, to black tie affairs honoring his achievements. In all this time, he was never one to shy away from controversy. He was willing to address thorny problems and take unorthodox approaches to solving problems. In Offit's words, Hilleman was “intimidating,” “a committee of one,” and he “liked to curse.” Anyone who knew Hilleman (or his reputation) would concur. He was “a man of his time” and had a “style that would not be duplicated today.”

Offit has taken the opportunity in this book to highlight some of the misconceptions and misinformation surrounding vaccines, and appropriately so, as Hilleman himself was involved in some of these controversies. Vaccines are somewhat unique among pharmaceuticals in that they are intended for healthy people to prevent diseases that they might or might not have gotten otherwise. As a consequence, vaccines are often taken for granted, with an inordinate amount of attention paid to the rare adverse events that might be attributable to them, rather than to the positive benefits that they confer. The ongoing high-profile controversy concerning the perceived link between the MMR vaccine developed by Hilleman and autism in children is dealt with at some length in the book. Although Offit's stance on the matter is clear, he presents the facts in a balanced manner, thereby allowing the readers to draw their own conclusions. The vaccine-autism link is a complicated issue not likely to be resolved easily, but ongoing analysis, education and public discourse, such as that provided by Offit's book, certainly helps.

In summary, Offit has paid a well-deserved tribute to one of the true pioneers of vaccines and provides the ‘standing ovation’ that Hilleman did not receive in his lifetime. Along the way, Offit has compiled a well-documented and compelling case for the benefits of vaccination, supported by descriptions of real-life events that remind some of us and inform most of us of the grave consequences that would ensue if we discontinue their use.

COMPETING INTERESTS STATEMENT

The author declares competing financial interests: details accompany the full-text HTML version of the paper at <http://www.nature.com/naturemedicine/>.

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