

Careers in Vaccine Research

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A variety of careers are available in basic vaccine research and development, clinical trials, production, and distribution of vaccine to the public. These jobs are available in universities, industry, government laboratories and agencies, hospitals, and on the front line of vaccine distribution all over the world.

Typically, most people start their career in vaccines with an undergraduate degree such as a Bachelor of Science (BS) in fields such as cellular or molecular biology, chemistry, biochemistry, or microbiology. It is helpful, before earning these degrees, to have had a combined strong background in high school science classes and a natural sense of curiosity. Many vaccine development jobs require masters and/or doctorate degrees (MS and/or PhD) that require several years of additional study beyond the BS degree.

VAERS has demonstrated its public health importance by providing health scientists with signals about possible adverse events following immunization. In one instance, VAERS detected reports for intussusception over that what would be expected to occur by chance alone after the RotaShield rotavirus vaccine in 1999. Epidemiologic studies confirmed an increased risk, and these data contributed to the product's removal from the US market. In another example, VAERS determined that there may be a potential for a small increase in risk for Guillain-Barre' syndrome (GBS) after the meningococcal conjugate vaccine, Menactra. As a result of this finding, a history of GBS became a contraindication to the vaccine and further controlled studies are currently underway to research this issue. Operation Each year the VAERS receives at least 50,000 reports of adverse events following immunization by more than 10 million vaccines.

Where to Find Vaccine-Related Jobs

Vaccine development research takes place in university, industry, government, and not-for-profit organization laboratories, and is funded in a number of different ways.

University research projects usually rely on federal grants

from agencies such as the National Institutes of Health (NIH), and this money comes from the federal budget. Industry, which includes pharmaceutical and biotechnology companies, contract labs, and diagnostic testing facilities, has access to investor money, or in the case of successful companies, revenue from successful commercial products that can be put back into basic vaccine research.

The U.S. federal government funds research at many small startup companies that are often focused on specific projects such as those supporting the development of vaccines against potential biological warfare agents such as anthrax, or large public health issues such as the hepatitis C virus (HCV) and the human immunodeficiency virus (HIV).

Government vaccine development research jobs are also funded by the federal budget. The U.S. Army Medical Research Institute of Infectious Diseases works to develop vaccines "to protect our military service members from biological threats." Within the NIH, the National Institute of Allergy and Infectious Diseases (NIAID) supports and conducts basic and applied research to develop new vaccines.

The U.S. government's Food and Drug Administration (FDA) oversees all clinical trials assessing the safety and efficacy of vaccines; they have a staff of scientists and doctors that evaluates potential vaccines and approves and monitors the clinical studies. These positions usually require advanced degrees.

Public health careers, which can be found at the city, state, or federal levels, focus on getting vaccines to the public and may require getting advanced degrees in public health.

What is a Vaccine Researcher?

A vaccine researcher carries out job duties just like their title would suggest. They specialize in studying and developing vaccines, monitoring and modifying existing vaccines, and studying the overall safety of vaccines in general.