

Empowering Pharmacists: Champions in Immunization Advocacy and Overcoming Vaccine Hesitancy

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ABSTRACT

A vaccine is a preparation to boost the immune system's ability to fight off sickness¹. Vaccines consist of either microscopic components of the pathogen responsible for the illness or the instructions for producing these components. Despite mounting evidence that vaccination is among the most effective therapies for preventing mortality and morbidity, vaccination rates continue to be below ideal in many parts of the globe. Non-traditional vaccine providers are being considered to supplement vaccination coverage. Pharmacists may be essential in education, facilitation, and immunization to avoid vaccine-preventable illnesses. This article focuses on pharmacists' role in educating patients and the importance of vaccines.

Keywords: Vaccines, Pharmacist, Education, Immunization, Vaccination

1. Introduction

One of the best and most effective ways modern medicine has found to protect people against harmful illnesses is via vaccines². Vaccination has achieved a great deal, from a significant reduction in Hemophilus influenzae type b invasive infections in industrialized countries to the complete eradication of smallpox³. Since vaccines were made accessible around the end of the 18th century, there has been a significant decline in the incidence, prevalence, morbidity, and mortality of illnesses that vaccination may prevent⁴. Vaccines prevented almost 100 million instances of smallpox, measles, polio, rubella, mumps, hepatitis A, diphtheria, and pertussis since its inception in 1924⁵. More than 92% fewer instances and 99% fewer fatalities have happened between 1980 and now compared to prior periods⁶.

Vaccination protects both one and those in the vicinity. Vaccinating 75-94% of the population, depending on the illness, may protect those not vaccinated. When enough individuals are vaccinated against the disease, the virus encounters obstacles in transmitting from one person to another and cannot rapidly disseminate across a population.

Herd immunity is essential for those who cannot be vaccinated due to age, health conditions, allergies, or other factors. It can also protect those immunized but did not develop a robust immune response, making them susceptible to illness.

2. Vaccine Types

Creating a vaccine for a disease relies on several elements, including whether it is a bacterium or virus, the infectious component, and the immune system's reaction. Consequently, there are several types of vaccinations.

Live, attenuated vaccines include live organisms that have been weakened to the point that they do not cause serious illness in healthy individuals. These vaccinations are particularly successful since they mimic infection with the live, full-strength pathogen, resulting in a robust immune response. However, because of the live (albeit attenuated) viruses in these vaccinations, they are unsuitable for everyone.

Inactivated vaccines include deactivated microorganisms that stimulate immune responses without the possibility of producing illness. Typically, many doses are required to establish or sustain immunity.

Subunit: Comprises recognizable portions of infections that the immune system may use to develop protection against the complete disease. Side effects are less frequent due to the absence of the whole infection. Individuals with compromised immune systems may be vaccinated but often need booster shots to maintain immunity.

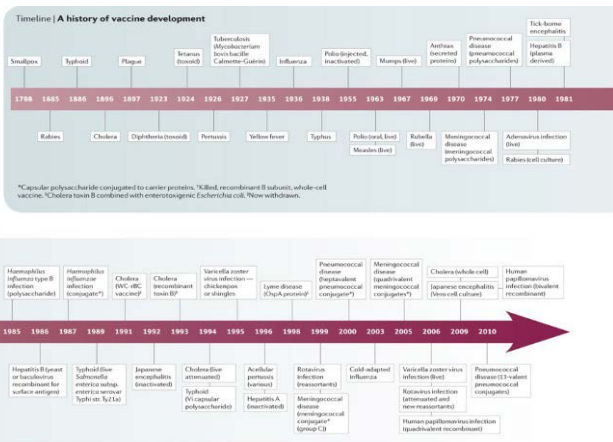


Figure 1: A history of vaccine development⁷.

Recombinant vaccines include genetically modified cells that produce components of the specific pathogen, stimulating the immune system to identify and develop immunity against it. Side effects are less frequent due to the absence of the whole pathogen. Individuals with compromised immune systems may be vaccinated but often need booster shots to maintain immunity. Conjugate: Merge a less potent virus with a more potent one to enable the immune system to identify the less potent one, which would not trigger an immunological reaction alone.

Toxoid: Contains attenuated bacterial toxins (toxoids) that stimulate the body’s immuneresponse against common toxins without inducing sickness.

Messenger RNA (mRNA) directs ribosomes in immune cells to produce a specific antigen, triggering the immune system to generate antibodies. mRNA vaccines are a crucial new approach in combating emerging diseases like Zika and Ebola.

3. Pharmacists as Immunizers

Public health doctors, pediatricians, primary care practitioners, and nurses often organize vaccination programs. Allied health workers such as community pharmacists, pharmacist- extenders like technicians, pharmacy students, and interns have been engaged in immunization initiatives to boost vaccine coverage rates.

The pharmacist is one of the most approachable healthcare providers in the US⁸. For those without access to a primary care physician, pharmacists are often the initial point of contact⁹ when seeking medical attention in other nations, particularly developing ones. The need for vaccinations has grown due to the underutilization of vaccines and past influenza pandemics like swine flu. Consequently, there are now openings for pharmacists to contribute to better public health by increasing vaccination rates¹⁰. Pharmacists may play significant parts in the vaccination process:

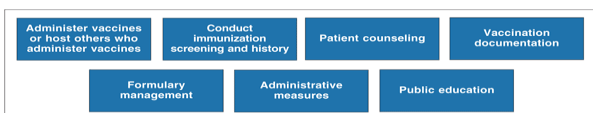


Figure 2: Categories of pharmacist immunization services¹¹.

In addition to administering the immunizations, pharmacists are in a prime position to address patients’ concerns and make them feel at ease throughout the vaccination process.

Pharmacists should anticipate that patients might be interested in vaccinations and be ready to address any inquiries. Receiving information from several reliable sources and engaging in numerous discussions with patients is necessary to sway the “moveable middle”, those who are open to changing their opinions or have not yet decided on vaccination.

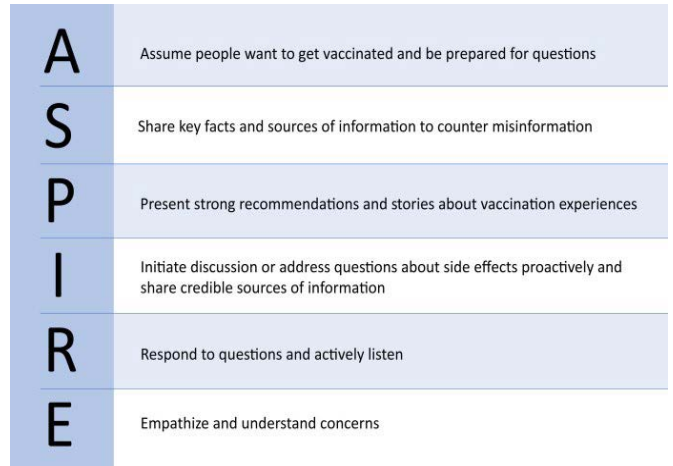


Figure 3: ASPIRE communication framework for public engagement in the vaccine messaging¹².

These days, a pharmacist’s responsibilities include filling patients’ prescriptions and providing primary care and public health preventative services. Pharmacists can educate patients, provide reliable information sources, and start discussing vaccinations with their patients.

4. Obstacles to Adult Immunization

The U.S. Public Health Service has recognized barriers to adult vaccination, and several national professional healthcare organizations and state public health agencies help follow vaccine recommendations⁵. Multiple variables, such as expenses, limited awareness, lost chances, and operational or systemic obstacles, hinder regular vaccination¹³. Understanding the factors contributing to why adults choose not to be vaccinated is crucial for enhancing vaccination policies and tactics and boosting adult immunization rates¹⁴. An analysis of obstacles to adult immunization.

Low priority: Healthcare providers cited that healthy individuals do not need vaccinations and patients do not attend regular well-care visits as common causes for patients not receiving prescribed vaccines¹⁵.

Inadequate information: Vaccines protect against a wide range of common illnesses. These include the flu, shingles, herpes zoster, human papillomavirus, tetanus, diphtheria, and pertussis. Among the twelve vaccine-preventable diseases recognized by the Advisory Committee on Immunization Practices (ACIP) of the Centers for Disease Control and Prevention (CDC), about 50,000 individuals lose their lives annually in the US. Poor uptake of effective vaccinations among adults has been a concern for decades, according to the Healthy People reports of the US Department of Health and Human Services¹⁶. There is a widespread lack of information about the need for adult vaccination. Physicians lack awareness of vaccine guidelines, and health professionals have not adequately informed the

public about the advantages of immunization. As a result, chances to educate individuals about the benefits of vaccination and provide immunizations or refer them are often overlooked during medical appointments. In a 2007 poll by the National Foundation of Infectious Diseases, 87% of respondents said they would be vaccinated if suggested by their physicians, whereas just 41% said they would proactively seek immunization¹⁷.

Vaccine hesitancy: Vaccine hesitancy is delaying or refusing immunizations even when vaccination services are accessible. Parental reluctance to vaccinate is increasing, and vaccination rates for children's infections are below the desired level for several avoidable illnesses. The causes behind it are intricate. Healthcare providers and pharmacists believe it is more beneficial to target counseling efforts towards vaccine-hesitant parents who partially immunize their children rather than concentrating on staunch vaccination refusers who do not immunize them. Parents may search the Internet for immunization information, but doctors and pharmacists are the most reliable sources. When addressing vaccine hesitancy with parents, it is essential to share experiences, establish trust, emphasize the protective advantages, and honestly reveal adverse effects when inquired.

Lack of Accessibility: The price of vaccines can be a big problem for people who want to get them. Some families who don't have health insurance or much money might not know about free public vaccine programs when and where they are offered. Issues with transportation, language hurdles, or missing records are some other things that might make people not follow through with their vaccine plans. Some patients may also have memory problems that make it hard to understand vaccine advice or why they must be immunized¹⁵.

5. Conclusion

Finally, there are many other ways in which pharmacists contribute to the larger goal of protecting the public's health and safety via immunization. In many ways, pharmacists are an integral part of the healthcare system and help make immunization programs a success.

Vaccination is a team effort, and pharmacists play an essential role at every step, from educating the public to giving vaccinations, tracking side effects, and encouraging vaccine adherence. When reaching out to various groups and advocating for vaccination as a vital part of preventative healthcare, their accessibility, knowledge, and community presence are priceless. Pharmacists' dedication to public health and substantial contributions to worldwide disease prevention and control initiatives are on display as the vaccination landscape constantly changes.

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