HHS—Supporting Global Immunization through Policies, Programs, and Partnerships

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The primary mission of the U.S. Department of Health and Human Services (HHS) is to protect and promote the health of Americans. Now, more than any other time in our history, improving the well-being of those within our country must be done within a global context, taking into account both the threats and the opportunities that we find beyond the borders of the United States.

The infectious disease community has long been sensitive to this reality, with examples ranging from smallpox and polio to the rapid spread of H1N1. In our increasingly globalized and interconnected world, health threats can travel more quickly than ever. Fortunately for us, so too can the vaccines that can often be relied upon to prevent them. Vaccine-preventable diseases (VPDs) have been an area of major success for the global health community, but also one in which we must continue to search for new solutions as new and reemerging diseases become serious health threats. As former HHS Secretary Kathleen Sebelius has said, “We can no longer separate global health from America’s health.”¹

The U.S., and particularly the scientific community, has a special leadership role to play in addressing VPDs. Global immunization and the prevention of infectious diseases is an arena in which U.S. leadership is not only welcomed but also in high demand. HHS’s scientific, policy, and programmatic expertise in the immunization field is vast. The National Institutes of Health (NIH) conducts research to develop new vaccines; the Food and Drug Administration (FDA) licenses and regulates vaccines; the Centers for Disease Control and Prevention (CDC) provides guidance on immunization practices and guidelines, while providing technical assistance to establish and strengthen programs; and multiple HHS agencies deliver immunizations to at-risk populations. The National Vaccine Advisory Committee and the National Vaccine Program play vital roles advising on the key policy, operational, and programmatic issues that are integral to conducting safe and effective immunization programs. Together, HHS agencies working with other U.S. government agencies, public and private partners, and international organizations are reducing the worldwide burden of VPDs and improving the health of people in every country, including our own.^{2,3}

The work on VPDs being conducted in the U.S.—from our collaborations to develop new vaccines, to our technical assistance to improve surveillance systems, to our rapid outbreak responses—is a key example of health diplomacy in action.

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We reflect on the significant historical precedent that the U.S. and the Soviet Union set in the 1970s, setting aside our Cold War conflicts to work together for the global eradication of smallpox.⁴ Today, our ongoing efforts to help low- and middle-income countries develop their own influenza vaccine manufacturing capabilities has been a major factor in bringing countries to the table to rapidly share the natural influenza viruses that arise in their animal and human populations—critical steps to better understand and respond to new influenza threats.^{5,6} These partnerships expand and diversify our capacity to respond to outbreaks, making all of us safer and more secure.

Vaccines are at the very top of public health's greatest success stories, averting millions of deaths annually.⁷ It is precisely because of the enormous impact of immunizations that we must do more to increase the use of existing vaccines and accelerate the discovery and development of new ones. No mother anywhere should have to experience her child dying from a VPD; yet, every year, 2.5 million children worldwide who have not been adequately immunized die as a consequence before reaching their fifth birthday.⁸ However, we must remember that vaccines no longer just save the lives of children. With the continued development of new vaccines against viruses proven to cause cancer, such as the human papillomavirus (HPV) and hepatitis B vaccines, we now have the capability to prevent nearly 900,000 adult deaths each year.^{9,10} The growing global focus on chronic conditions provides increased opportunities to focus needed attention on vaccine-preventable cancers and expand access to these new or underused vaccines. In addition to reducing preventable cancer deaths, strengthening HPV vaccine delivery systems presents new opportunities to serve populations often not effectively reached by health systems (e.g., adolescents) and ensure that routine vaccines such as tetanus are up-to-date and that adolescents have had their hepatitis B shots. And while no successful vaccine against human immunodeficiency virus (HIV) has yet been developed, the global collaboration on vaccine discovery efforts has yielded important knowledge about other promising methods to prevent and control the spread of HIV/acquired immunodeficiency syndrome.¹¹

Although HHS has enormous scientific capacity, the development and dissemination of vaccines cannot be accomplished by one agency, country, or sector alone. As the MenAfriVac™ story demonstrates, successes come from collaborations with other U.S. departments and agencies, nongovernmental organizations, industry, international organizations, and the governments of other countries. In 2000, the Meningitis Vaccine Project (MVP) was established as a public-private partnership

to develop a better, more effective, low-cost vaccine that would prevent meningitis outbreaks due to the type A strain of the meningococcal bacteria endemic throughout sub-Saharan Africa.¹² Through collaborations with MVP partners including HHS agencies (e.g., FDA and NIH), the MVP succeeded in developing, licensing, and achieving WHO prequalification status for MenAfriVac by 2010.¹³ In addition, MenAfriVac is the first vaccine licensed for storage and handling outside of the typical cold chain conditions (2°C–8°C), allowing for broader distribution in remote areas.¹⁴ By December 2012, more than 100 million people had received the vaccine within three years of the vaccine being licensed for use.¹⁵

Public-private partnerships are an important way to expand vaccine access, as demonstrated by the collaboration among Walgreens, CDC, and the World Health Organization to distribute seasonal flu vaccine to developing countries. Walgreens, the largest retail provider of flu shots in the U.S., donated \$10 million of seasonal flu vaccine vouchers during the 2013–2014 flu season to HHS to help increase immunization rates among underserved U.S. populations. The company donated its unused flu vaccines to the country of Laos in 2012, and expanded the program to Nicaragua in 2013. This collaborative effort not only enabled populations identified as high risk for flu complications, including pregnant women, to benefit from this important vaccine, but will also help the countries develop or strengthen their own vaccination programs. Because of this partnership, thousands of people at risk for severe influenza are protected for the first time.^{16,17}

The prevention of preventable diseases such as influenza requires not only access to and the availability of these important vaccines, but also putting an end to unfounded and disproven claims about the safety and purpose of vaccinations. Although scientifically debunked, the mistaken but oft-echoed belief that certain childhood vaccinations lead to autism has resulted in children worldwide being denied lifesaving immunizations—even in wealthy communities.^{18–21} Outbreaks of measles and pertussis in the U.S. and Europe, carried by people who have chosen not to vaccinate their families, have claimed the lives of other children who are too young to receive the vaccines and sickened thousands more.^{22–24} We have also seen unfounded rumors derail global immunization efforts and lead to unnecessary illness and death. In Nigeria, a mass boycott followed false stories that polio vaccine was a Western ploy to spread HIV and sterilize Muslim girls, resulting in a rash of new polio infections in the country and the further spread of the polio virus to 20 countries across Africa, the Middle East, and Southeast

Asia.^{25–27} Outbreaks in unstable areas of the Middle East and East Africa are further jeopardizing global polio eradication.²⁸

The medical truth is proven and straightforward: vaccines are safe and effective and save thousands of lives every day. Yet, while we celebrate the successes of vaccines, we must also acknowledge the work still to be done. The world still suffers from many potentially preventable diseases for which no widely effective vaccines yet exist, including HIV, tuberculosis, malaria, and hepatitis C. Continued research is crucial to developing new vaccines for these and other diseases that cut lives short and leave survivors with life-long disabilities. In the meantime, we need to work toward universal access for existing vaccines so that every person in the world receives the full benefit of the greatest contribution that science has made to public health.

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