Since 1796, when Edward Jenner first inoculated 8-year-old James Phipps with cowpox to protect him against a related virus, smallpox, a multitude of effective vaccines have been developed and licensed to protect against a growing number of viral and bacterial diseases.

The development and use of vaccines has been heralded as the number one greatest public health achievement of the 20th century, and is one that has had significant global impact. The wide-spread use of vaccines in the population has resulted in the eradication of smallpox; elimination of polio in the Americas and many other areas of the world; and control of the transmission and spread of diseases such as tetanus, diphtheria, measles, mumps, rubella, varicella, Haemophilus influenzae type b, pneumococcal disease, and a host of other infectious diseases. Through the global initiatives of the Bill and Melinda Gates Foundation and The Global Alliance for Vaccines and Immunization (GAVI), many of the current childhood vaccines that are readily available in the US are now being made available to children in resource-poor countries and are having a major impact on infant and childhood morbidity and mortality.

This special issue on immunization contains articles that highlight the importance of vaccination across the life span; discusses the complex process by which vaccines are developed and licensed; and looks at new vaccines in development. The article by Larry K. Pickering, MD, FAAP, FIDSA, and L. Reed Walton, MA (see page 321) gives the reader an appreciation for the complex process that is involved in the development and licensure of vaccines, the way that vaccine recommendations are developed, and a glimpse at some of the novel vaccines against a number of bacterial, viral and parasitic agents that are currently in development.

The concept of vaccination across the life span is first addressed in the article by Flor M. Munoz, MD (see page 322), who reviews the concept of maternal immunization, and the benefits that it provides to the newborn infant who is too young to be immunized.

This is followed by the article by Daniel P. Boyle, MD, and John P. Flaherty, MD (see page 323), who emphasize the importance of adult immunizations and the trickle-down benefits that this can have on children. The article stresses the critical need for significant improvement in adult vaccination rates in order to prevent the spread of vaccine-preventable diseases to the infant population.

The last two articles of the issue introduce the reader to vaccines that have been recently licensed or are in late-phase clinical trials for emerging diseases. The article by Charles R. Woods, MD, MS (see page 324) highlights the use of vaccines for the prevention of meningococcal infections in children in the first 2 years of life; it reviews the strengths and potential weaknesses of the currently licensed vaccines.

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Finally, the article by David P. Greenberg, MD, Corwin A. Robertson, MD, MPH, and Daniel M. Gordon, MD (see page 325) discusses the epidemiology of pediatric influenza and the potential benefits provided by the new quadrivalent influenza vaccines which have been licensed for use in the United States beginning with the 2013-2014 influenza season. The article also provides an overview of dengue fever, and discusses the dengue fever vaccines that are in development. This is very timely given reports of a global increase of dengue fever, not only abroad but also in southern Florida and the US territory of Puerto Rico. Dengue may rapidly become a disease that is more frequently seen by US practitioners.

The widespread use and continued development of vaccines plays a crucial public health role in the control of the spread and transmission of various diseases. These vaccines will provide the practitioner with the tools necessary to protect their patients and gives health care providers the ability to significantly impact the morbidity and mortality associated with these diseases.

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