



# VACCINE FACT BOOK 2012

**PRMA**





“Prevention is better than cure” is a proverb in many other languages as well. This idea is central to the development of vaccines, which have transformed human health since the time of Edward Jenner in the late 18th Century. Smallpox has been eradicated, polio largely controlled and measles and rubella have been targeted for elimination. Bacterial meningitis is becoming rare in countries that vaccinate their children. Acquisition of hepatitis B at birth can now be prevented. All of this and more has been accomplished by the development and deployment of vaccines. Most of these advances occurred in the last 50 years.

More and more vaccines are being developed and brought into use. Japanese scientists have contributed to the recent creation of powerful vaccines, notably against pertussis and chickenpox. These two vaccines are used throughout the world. It is, therefore, fitting that Japan also takes advantage of other new vaccines such as rotavirus, pneumococcal conjugates and human papillomavirus, which can, respectively, prevent infantile diarrhea and dehydration, invasive infections and pneumonia, and various forms of cancer, particularly cancer of the cervix in women. Japanese children and adults should share in the benefits of vaccination. Moreover, governments have a reason to promote vaccination: better health of a general population lowers medical costs and is associated with broad economic benefits. Therefore, the vaccine industry has been growing in importance and in many countries, including Japan, governments consider vaccine production as a precious resource, for example, to control epidemics of new types of influenza and other emerging infections.

New techniques and strategies of vaccine development are being constantly discovered and it is likely there will be more diseases that can be prevented. It will be challenging to educate physicians and the public about vaccines and to find the best ways to implement vaccination. Nevertheless, industrialized and poor countries will want their populations to have access to preventive measures that make life better and safer.

This book seeks to explain to non-specialists what vaccines do, how they are developed, how they are given, and what results have been obtained when they are routinely used. It is a dramatic and impressive story, but unfortunately not well understood by the general public. However, once people understand it is likely that they will demand that vaccines be made available to them in sufficient quantity and at an affordable price.

I know that my dear student and friend, the late Hitoshi Kamiya, would have agreed with me. Hitoshi studied in my laboratory at Philadelphia Children’s Hospital in 1981. After his return to Japan, we kept in touch and I had the opportunity to visit him many times. I watched him become the chief exponent of vaccines in Japan through his knowledge and the force of his personality. Hitoshi Kamiya’s untimely death was a tragedy and I miss him very much. I would like to dedicate this book to his memory because he was a remarkable person and did much good for his country.

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