Introduction to the Infectious Diseases Symposium

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When the organizational meeting of the American Pediatrics Society was held in 1888, and when I was a medical student during the 1930s, the leading causes of death in the United States were influenza, pneumonia, diphtheria, tuberculosis, and gastroenteritis. Epidemics of smallpox, polio, and measles occurred at frequent intervals. It seems incredible that during the 10-year period from 1920 to 1930, there were about 530 000 reported cases of smallpox in the United States and about 5000 deaths, 130 years after Edward Jenner administered the first inoculation.

However, the subsequent development and appropriate use of antimicrobial drugs and various vaccines have had a dramatic effect on the incidence of various infectious diseases in countries where these therapeutic and prophylactic-therapeutic agents have been used. For example, smallpox has been eradicated in the world, and later this afternoon you will hear from Dr. D. A. Henderson, a participant of this centennial program, who played a key role in the worldwide eradication program.

The number of reported cases of diphtheria in the United States has declined from about 100 000 in 1921 to less than five each year during the 1980s. The decrease in the incidence of measles and other vaccine-preventable diseases has exceeded 99%. This achievement should be attributed to another historic event that occurred in 1949 when three members of the American Pediatric Society, the late Dr. John Enders, and Tom Weller and Fred Robbins, who are here, demonstrated that poliovirus could be successfully cultivated in cell culture. This historic achievement that won the Noble Prize was responsible for the subsequent development of many viral vaccines.

Deaths caused by tuberculosis or *Haemophilus influenzae* b. meningitis are no longer inevitable. During the preantibiotic era more than 90% of children with these types of meningitis died. Today, more than 90% survive after appropriate antimicrobial therapy.

The story that was referred to this morning that appeared in *USA Today* yesterday about a child who died after bacterial meningitis demonstrated very clearly that antimicrobial therapy is far superior to prayers.

During the past decade, new and newly recognized infectious diseases have appeared. These include Legionnaire's Disease caused by *Legionella pneumophila*, toxic shock syndrome, and of course, as you heard this morning, acquired immune deficiency syndrome, AIDS, caused by the human immunodeficiency virus. This disease may prove to be the greatest challenge in the history of infectious diseases during this and future centuries.

The Centennial Celebration Program Committee has selected three distinguished physicians and investigators to discuss the extraordinary advances in the field of infectious diseases during the past century. Doctors Robert Chanock, Richard Johnston, and Floyd Denny are well recognized nationally and internationally for their important contributions: Bob Chanock, in the field of virology; Richard Johnston in immunology; and Floyd Denny in his studies of streptococcal and respiratory viral diseases. To discuss the long list of their awards, honors, and many achievements would deny them the time that they need for their presentations.

Our first speaker is Dr. Robert Chanock, who is not only Chief of the Laboratory of Infectious Diseases of NIAID, but also the scientific son of the 1974 Howland awardee, my favorite cousin, Dr. Albert Sabin. He will discuss "Control of Pediatric Viral Diseases, Past Successes, and Future Prospects."

Dr. Richard Johnston is our second speaker. He has lived in six states during the course of his medical career: Tennessee, where he was a medical student, pediatric intern, and resident at Vanderbilt University; Massachusetts, where he was a fellow in immunology at Children's Hospital Medical Center in Boston; Alabama, where he was an Associate Professor of Pediatrics and Microbiology at the School of Medicine in Birmingham; Colorado, where he was Chairman of the Department of Pediatrics, National Jewish Hospital and Research Center; and now, Pennsylvania, where he is Professor and Chairman of the Department of Pediatrics at the University of Pennsylvania School of Medicine. In between, in 1976 and 1983, he was a visiting professor at Rockefeller University which, of course, is in New York. The subject of his presentation is "Resistance to Infection: Prospects for Therapeutic Manipulation."

Our distinguished discussant, Dr. Floyd Denny, like Dr. Richard Johnston, received his M.D. degree and pediatric house staff training at Vanderbilt University. Before his appointment as Professor and Chairman of the Department of Pediatrics at the University of North Carolina School of Medicine, he was at Western Reserve University School of Medicine as Assistant Director of the Streptococcal Disease Laboratory. In subsequent years, he was a member of the faculty of the University of Minnesota, a member of the faculty of Vanderbilt University, and, after returning to Western Reserve University, he was finally recruited by the University of North Carolina in 1960. He was Professor and Chairman of the Department of Pediatrics for 21 years before he relinquished the chair to devote his full time to teaching and research.