



National Office
1275 Mamaroneck Avenue
White Plains, New York 10605
Telephone (914) 428-7100

SALK POLIO VACCINE **50TH ANNIVERSARY BACKGROUNDER**

In the spring of 1955, the March of Dimes and the entire nation were poised on the brink of one of the greatest medical achievements of the 20th century: a vaccine against the terrible epidemic disease polio. Just 17 years earlier, in 1938, President Franklin D. Roosevelt, himself paralyzed by polio, had founded the March of Dimes (then known formally as the National Foundation for Infantile Paralysis) to lead and unify efforts to find a preventive measure for the disease and to care for polio patients. The American people were asked to contribute to the March of Dimes even in the depths of the Great Depression and during World War II, and they responded generously. This unique collaboration of citizens and scientific researchers was the first large-scale, nationwide biomedical initiative led by a charitable organization. Grassroots volunteerism became an integral part of American life.

The March of Dimes had supported the work of numerous scientists seeking to develop a polio vaccine. Among them was Jonas Salk, M.D. With funding provided by the March of Dimes, Dr. Salk was able to grow the three known types of poliovirus in his lab at the University of Pittsburgh School of Medicine and eventually to develop an inactivated polio vaccine (IPV), given by injection. Dr. Salk's initial promising findings were published in 1953 in the *Journal of the American Medical Association*.

In 1954, the March of Dimes sponsored the largest clinical trial in United States history in order to test Dr. Salk's new polio vaccine. In scope and magnitude, it was unprecedented; some have called it the largest human cooperative effort in history at that time. More than 1.8 million schoolchildren, designated as "Polio Pioneers," rolled up their sleeves for what later became known as "The Shot Heard 'Round the World." Twenty thousand physicians and public health officers, 40,000 nurses, 14,000 school principals, 50,000 teachers, and hundreds of lay volunteers across the country took part.

Renowned epidemiologist Thomas Francis, Jr., M.D., of the University of Michigan School of Public Health, was asked to design, supervise, and evaluate the field trials. Dr. Francis insisted on a rigorous double-blind, randomized, case-controlled trial for the Salk vaccine. Under his direction, March of Dimes staff and volunteers organized vaccination clinics, record-keeping, parents' meetings, blood samplings, stand-by transportation, and make-up clinics for absentees at each of the 217 field trial sites.

On April 12, 1955, Dr. Thomas announced to an expectant nation that the Salk polio vaccine was "safe, effective, and potent." The field trials had shown the vaccine to be 80 to 90 percent effective in preventing polio.

Over the next four years, 450 million doses of the Salk polio vaccine were administered and it became a standard fixture among childhood immunizations.

In 1962, the oral polio vaccine developed by Albert B. Sabin, M.D., also with funding from the March of Dimes, was licensed for use in the U.S. Within only a few years, the vaccines had effected a spectacular decrease in polio. Before the development of the vaccines, an estimated 50,000 people in the United States were affected by polio each year. In 1963, there were only 396 reported cases. The last U.S. case of polio caused by wild poliovirus occurred in 1979. The success of polio vaccination in the U.S. and other developed countries sparked the effort to eliminate polio worldwide.

From Polio to Prematurity: the March of Dimes Today

Following the defeat of polio in the U.S., the March of Dimes re-focused its mission on a new challenge: saving babies from birth defects and other serious health problems, including the leading causes of infant death. In 2003, the March of Dimes launched a multi-year, multi-million dollar campaign to address the serious, common, and growing problem of premature birth in the U.S. Over the years, March of Dimes support has led to breakthroughs that have spared many babies from death or lifelong disability, including support for:

- Special neonatal intensive care units (NICUs), designed to treat the sickest babies.
- Drug treatments to replace surgery for babies with a common heart defect.
- Expanded newborn screening for metabolic disorders such as PKU.
- Surfactant therapy for babies with respiratory distress syndrome.
- Folic acid education and food fortification to prevent neural tube defects.
- Establishing the effectiveness of AZT treatment to prevent transmission of the AIDS virus from mothers to babies.
- Identification of genes responsible for many specific diseases.

Despite its current focus on improving the health of babies, the March of Dimes has not forgotten its historic origins. It is the Presenting Sponsor of a new exhibit, "Whatever Happened to Polio?" at the Smithsonian Institution's National Museum of American History. The March of Dimes is celebrating the 50th anniversary of the Salk polio vaccine throughout 2005. To learn more about the March of Dimes and the fight against polio, visit marchofdimes.com/polio.

National supporters of the March of Dimes 50th Anniversary Salk Vaccine activities throughout 2005 are Merck, Sanofi-Pasteur and BD.

For more information about the March of Dimes mission to improve the health of babies, visit marchofdimes.com or the Spanish language Web site at nacersano.org.

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