A Day to Remember

Background: Thomas Francis Jr. with Jonas Salk on April 12, 1955.

There were no last-minute press releases this time, and the battery of television cameras and radio microphones was absent, but the room was again packed, and you could feel the excitement. At the very hour when, 50 years earlier, Thomas Francis Jr. stood at a podium on the stage of Rackham Auditorium to announce the success of the Salk polio vaccine, University of Michigan President Mary Sue Coleman stood at the same podium, on the same stage, to award the first-ever Thomas Francis Jr. Medal in Global Public Health.

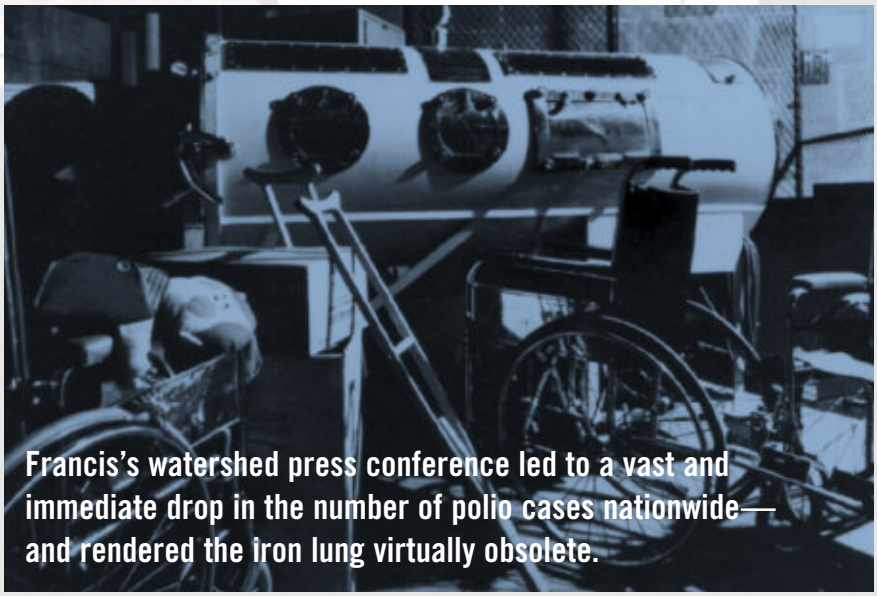
On such days dreams are made, and April 12, 2005, was such a day. To mark the 50th anniversary of Francis's watershed press conference—which led to a vast and immediate drop in the number of polio cases nationwide—the University of Michigan staged a day-long program of events that included a documentary video, reflections by polio survivors, and panel discussions on the history of the polio vaccine and the future of global public health, the latter chaired by Harvey Fineberg, president of the Institute of Medicine.

The day's most dramatic moment came when Coleman presented the Thomas Francis Jr. Medal in Global Public Health to William Foege, a past director of the Centers for Disease Control and Prevention and executive director of The Carter Center, and currently a senior adviser to the Bill and Melinda Gates Foundation, who pioneered a strategy to eradicate smallpox in the 1970s. Foege's high achievement and life-time dedication in public health mirror that of the medal's namesake, Thomas Francis Jr., a world-renowned virologist and founding chair of the SPH Department of Epidemiology, who designed and oversaw the 1954–55 field trial for the Salk polio vaccine. The Francis medal carries a prize of $50,000.

An excerpt from Foege's inspirational Thomas Francis Jr. Lecture follows, as do remarks by six historians who took part in the 50th anniversary celebration. ■

UM President Mary Sue Coleman awards the inaugural Thomas Francis Jr. Medal in Global Public Health to William Foege; Regent Rebecca McGowan is at left.

SPH Dean Noreen Clark shares a lighthearted moment with Mary Sue Coleman and William Foege.



Francis's watershed press conference led to a vast and immediate drop in the number of polio cases nationwide—and rendered the iron lung virtually obsolete.

2055: A New Age of Enlightenment

Remarks by William Foege

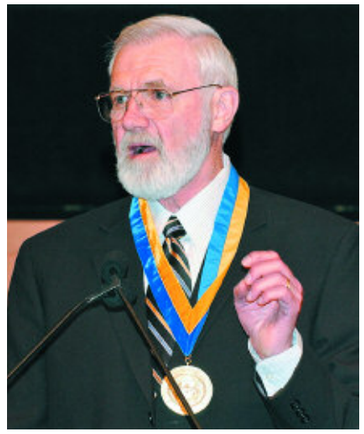
After insisting he did not deserve the Thomas Francis Jr. Medal in Global Public Health, but thanking the University of Michigan nevertheless for giving him the award, William Foege—whose groundbreaking work led to the eradication of smallpox in the 1970s—turned his thoughts to the anniversary at hand and to all that it signifies. He considered the future, too:

In April 2055, there will be another celebration at this university, to remember the centennial of this announcement. I won't be here—although I intend to try—but there are some people in this audience today who will be here 50 years from now, and someone, in giving the Thomas Francis lecture, will describe the true legacy of the 1955 press conference. They will point out what in 2055, a hundred years later, is simply accepted—namely, that the place or country of birth, ethnicity, wealth of parents, the education of the family, will no longer be the deciding factors which determine whether a child is protected by vaccines or not protected. Because the legacy of the 1955 field trial, the subsequent U.S. government decision to make resources available for the use of polio vaccine for all children, the elimination of smallpox and polio from the world, the promotion by Bill and Melinda Gates for more vaccines, safer vaccines, and equitable distribution, and a hundred other steps, will have led to a world where this is an accepted part of global conventions. In the words of Richard Horton, the editor of *Lancet*, "We will have discovered that equity is as precious as any drug or vaccine."

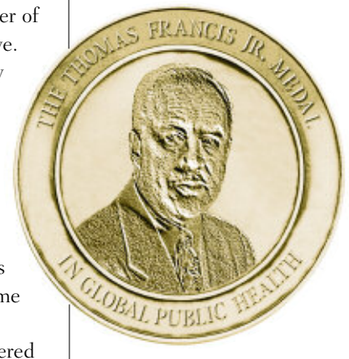
"They will still marvel at the audacity of a field trial that kept track of 1.8 million children before the days of computers."

And even given the enlightened approach to global health that finally became the norm, those gathered will still express their astonishment over the number of vaccines given. Dozens of vaccines will be part of the standard childhood immunization program, and an additional computer-generated array of various other vaccines will be given to children, determined by a scan of their genome disk. And they will include vaccines against infectious disease, cancer, and chronic diseases. What will be reiterated is that vaccines are the very foundation of public health, providing inexpensive lifelong protection. The vaccines will be combined, will require no needles or syringes, they will be given orally or through skin patches, they will be heat-stable—therefore usable in the tropics without refrigeration. They will no longer include the small number of adverse reactions that we now have.

But a hundred years later, they will still marvel at the audacity of a field trial that kept track of 1.8 million children before the days of computers. The speaker will say it was just a moment in time, but you will have learned the lesson. Every moment in time ripples on forever, and that moment in time changed the world. It allowed the expected lame to walk, and it ushered in the expectation that not only will government support the search for new knowledge and the sharing of that knowledge, but it will also mold the tools of that knowledge into effective immunization programs, and those vaccines, as they go into children around the world, will carry messages that instruct immune systems on how to serve that person better. And every message will carry the social DNA of Thomas Francis and Jonas Salk, and the University of Michigan. ■

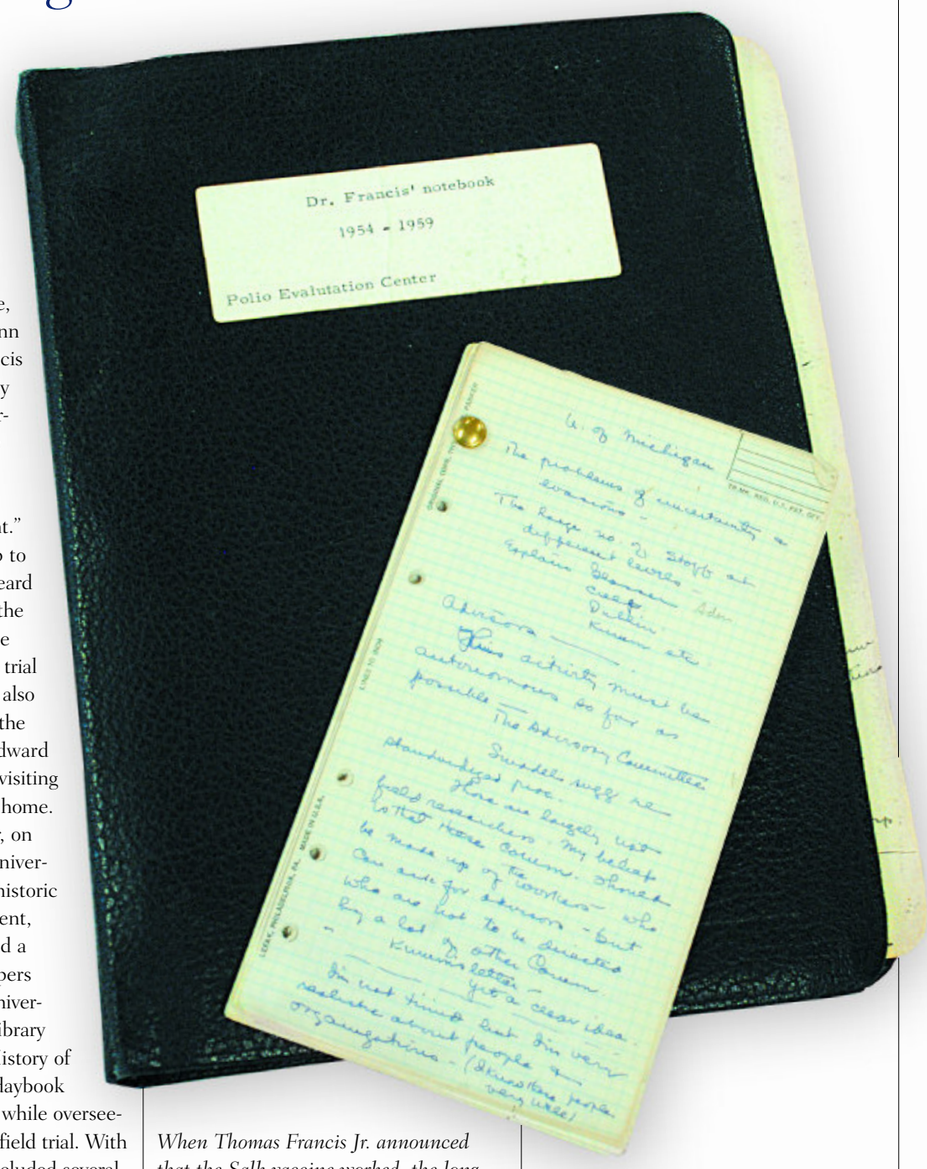


William Foege



To hear William Foege's lecture in its entirety, visit www.polio.umich.edu.

The Notes Behind the Francis Legend



Mary Jane Francis was a freshman in college when her father made history on April 12, 1955. It was spring break for Mary Jane, and she stayed home in Ann Arbor to see Thomas Francis Jr. tell a standing-room-only crowd in Rackham Auditorium that the polio vaccine developed by his former student Jonas Salk was "safe, effective, and potent."

In the days leading up to the announcement, she heard her father comment that the press was unhappy because he'd refused to release the trial results ahead of time. She also remembers the journalist Edward R. Murrow visiting her parents' home.

Mary Jane Francis

This year, on the 50th anniversary of the historic announcement, Mary Jane Francis donated a number of her father's papers and memorabilia to the University's Bentley Historical Library and The Center for the History of Medicine, including the daybook Francis kept in the 1950s while overseeing the Salk polio vaccine field trial. With the daybook, Mary Jane included several bits of paper on which her father had jotted some of his thoughts about the design of the field trial and what he would need in order to carry it out. Among those jottings: *"What do I get out of it?" "I want complete assurance of the freedom & autonomy." "What if the stuff is no good."* ■

When Thomas Francis Jr. announced that the Salk vaccine worked, the long campaign against polio entered its final stages. Using original documents, letters, and photographs from the Thomas Francis Jr. papers and other related collections in the Bentley Historical Library at the University of Michigan, the story of that dramatic day is recounted in "Safe, Effective and Potent: The 50th Anniversary of the Salk Polio Vaccine," a special exhibit open to the public through August 2005. Additional material illustrates the scourge of polio, the massive evaluation and testing program, and Salk's relationship with Francis.

Six Windows into the Campaign to Conquer Polio

Six historians took the stage of Rackham Auditorium on April 12, 2005, and offered these thoughts on the historic events of a half-century ago. Collectively, their reflections tell a remarkable, if bittersweet, story:

THE EPIDEMIC

Naomi Rogers

Associate professor, Section of the History of Medicine and the Women's, Gender, and Sexuality Studies Program, Yale University; author of *Dirt and Disease: Polio before FDR* (1992).

In 1900, about a decade before Jonas Salk was born, polio was an invisible disease. The polio virus was ubiquitous—like the common cold. Everyone was infected as infants, and few ever developed paralysis. In 1916, all this changed with the world's then largest, most severe polio epidemic. It began in New York City and spread to surrounding states. As an epidemic disease, polio was new and terrifying, and so it was explained the way most public health crises were explained—as the fault of America's immigrants, pouring into cities with strange languages, clothes, eating habits, and probably strange germs. This picture of polio did not alter until after 1921, when a wealthy lawyer who'd just run as the vice presidential candidate for the Democratic party, and lost, Franklin Delano Roosevelt, got polio. Now, polio was no longer personified by an immigrant, an outsider, but by an ordinary American. ■

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THE VACCINE

Jeffrey P. Baker

Associate clinical professor, pediatrics, and medical historian, Center for the Study of Medical Ethics and Humanities, Duke University.

At the end of the 1940s the great question was: "How do you make the vaccine?" There were really two, fairly divided, schools of thought. Most vaccines from the earlier part of the 20th century were actually inactivated, or killed, vaccines. In general, these vaccines were the old style of vaccine by the 1940s. The newer approach was to try to take viruses and modify them somehow into a harmless form that could still induce

Craig van der Lende/Getty Images

immunity—the live-attenuated vaccines. This was championed by the great majority of virologists, including Albert Sabin. Well, there were a couple of exceptions to that, and Tommy Francis was chief among them. He still was convinced the idea of a killed vaccine made sense, and Francis, of course, is the mentor of Jonas Salk. So we need to appreciate that Salk is in the killed-vaccine school, Sabin in the live-vaccine school—two kinds of orthodoxies—and they don't easily see the other's point of view. And in addition, Sabin's camp is by far the stronger—a lot of leaders are in his group. So Salk is very much on the defensive. You can imagine, when Salk was ready to have his vaccine in a field trial, he was in a defensive position, and I think that's very important to understand when we try to understand why this trial here was done so well, why it had to be done so rigorously. It had to be an elegant trial because it did not rest on the most elegant science. ■

JONAS SALK

Jeffrey Kluger

Senior writer, *Time*; author, *Splendid Solution: Jonas Salk and the Conquest of Polio* (2005).

Whenever he could, Salk lived in the country. He lived as far away from the city as he could, which sometimes meant a 45-minute or an hour commute each day. The reason he did that wasn't so much that he needed that reclusiveness and seclusion at the end of the day, as much as it was that Salk saw the world, the universe, as a series of self-repeating fractals. At all different levels the same patterns were repeated. A man spending his free time in his garden, immersed

Bettmann Archive

in that nature writ large, is no different from that same man going into his laboratory the next day and looking into his petri dishes and into his microscope and seeing nature writ microscopically small. It was Salk's belief that if he could immerse himself in those rhythms in his everyday world, he'd be better able to recognize those rhythms when they presented themselves to him in his microscope and in his dishes. That was why at the pivotal moment, in 1952, when he saw that his early work with antibodies—which he had drawn from the blood of patients who had been given an early version of his vaccine—when he saw that was working in vitro, he called that his "yes" from nature. Nature just told him that the process could work. Now all that was left for him to do was to scale it up and make it work in humans, in vivo, on a massive scale. ■

THOMAS FRANCIS JR.

Howard Markel

George E. Wantz Professor of the History of Medicine, University of Michigan School of Medicine; author, *When Germs Travel: Six Major Epidemics that Have Invaded America and the Fears They Have Unleashed* (2004).

Internationally known for his deft direction of the complex field trials for influenza vaccines during World War II, Tommy Francis agreed to conduct the polio field trials if three inviolable demands were met: 1) equal or greater numbers of children than those who were to receive the vaccine would receive a

Bentley Historical Library

placebo; 2) the results of both the control group and experimental group would be recorded using a scrupulous, double-blind protocol; and 3) absolutely no interference from the National Foundation for Infantile Paralysis. The study formally began on April 26, 1954, when Randy Kerr, a six-year old boy from McLean, Virginia, received the first inoculation. No detail of the field trial escaped Francis's watchful eyes, from experimental design issues to more mundane matters such as the packaging of vaccine, the composition of safety instructions for parents, and the creation of the Polio Pioneers, the collective name of the 650,000 children who received the vaccine and the other 1.18 million who received a placebo in the study, all under the watchful eyes of some 150,000 volunteers, 15,000 schools, and 44 state departments of health. ■

THE MARCH OF DIMES

David Oshinsky

George Littlefield Professor of History, University of Texas–Austin; author, *Polio: An American Story* (2005).

The March of Dimes was unbelievable when it came to advertising, fundraising, and public relations. Think back. It was the poster child that came from the March of Dimes, that's so ubiquitous today; the Mother's March against Polio—there are so many marches now, with AIDS and breast cancer and the like; unbelievable fashion shows at the Waldorf Astoria, where you would have Grace Kelly or Marilyn Monroe walking down the runway with the latest creations of Christian Dior; the Harry Winston traveling jewel extravaganza, where people would pay small amounts of money to see the best jewels in the world. I have in my book a picture of an extremely unhappy and uncomfortable-looking Richard Nixon pumping gas for polio. The March of Dimes, however, raised hundreds of millions of dollars, and a lot of it went into research. So when we remember polio, I think we should remember the engine behind the polio vaccine, and that was the March of Dimes. ■

Bentley Historical Library

THE AFTERMATH

Daniel Wilson

Professor of history, Muhlenberg College; author, *Living with Polio: The Epidemic and Its Survivors* (2005).

Thomas Francis's announcement of the success of the Salk vaccine was a bittersweet announcement for polio patients and polio survivors alive in 1955. They were certainly happy that the trial was a success, that future generations would grow up free of the fear of polio—but they were also sad that the vaccine had come too late to help them. It's important, I think, to note that the success of the Salk vaccine trial and the immediate licensure of the vaccine did

Bentley Historical Library

not bring an immediate end to the disease. In 1955 alone, nearly 29,000 cases of polio would be diagnosed. Between 1955 and 1960, over 67,000 cases would be diagnosed. In my own case, in northern Wisconsin, there was a shortage of vaccines, and in a good public health decision, they were giving it only to students going to school, and I was a year too young to go to school and got the virus instead of the vaccine. ■

To hear this panel discussion in its entirety, visit www.polio.umich.edu.