

# The ever-important legacy of Jonas Salk —and finding myself in his polio vaccine trial



Dr. Jonas Salk stands in the University of Pittsburgh laboratory in which he developed a vaccine for polio.  
Bettmann, Getty Images contributor

## Howard K. Rabinowitz, MD

Dr. Rabinowitz is Professor Emeritus, Department of Family and Community Medicine, Sidney Kimmel Medical College at Thomas Jefferson University, Philadelphia, PA.

Those who cannot remember the past are condemned to repeat it.<sup>1</sup>

—George Santayana

The initial mystery of any journey is not so much where you will end up, but how you got to the starting point at all.<sup>2</sup>

—Colum McCann

When I was in the third grade in the early 1950s, polio was endemic. My parents, like most at the time, were terrified that my two brothers and I would become paralyzed as more than 20,000 people—mostly children—had in 1952, or even die, as over 3,000 did.<sup>3</sup> Polio was also known as “infantile paralysis,” and photographs of paralyzed children in iron lungs were often seen in the media. Parents commonly restricted summer activities for their children, including swimming in community pools. Everyone knew that President Franklin Roosevelt had been partially paralyzed by the disease.

I grew up in Pittsburgh, where a University of Pittsburgh medical researcher, Dr. Jonas Salk (ΑΩΑ, NYU Grossman School of Medicine, 1937), led the effort to develop an inactivated (killed) polio virus (IPV) vaccine. He had already tested it on animals, and his first small human tests were with individuals who already had paralytic polio or other crippling diseases, and later with individuals with intellectual disabilities living in a group home (something that would not occur today). He also tested it on his wife and three young children as well as himself. With positive antibody responses to all three types of poliovirus, and with no polio infections or significant side effects, he tested it in a Phase II clinical trial on several thousand grade school children in the Pittsburgh area—including me!

Most parents, including mine, eagerly gave their consent. Fearful of needles, I was unconsenting. Interestingly, the consent form used the words “I hereby request” that my child participate in the trial<sup>4</sup>—rather than “I give my permission,” as is used today. I remember little about this. I do not remember getting the shots, but I do remember being held down for the blood draws.

My most vivid memory is lying on a mat in the gym afterward, sobbing, trying to calm down and pull myself together before returning to class.

Salk’s Phase II trial in Pittsburgh was a success, and in 1954, the National Foundation for Infantile Paralysis (the March of Dimes) undertook the largest Phase III clinical trial in history, enrolling more than 1.8 million children—called Polio Pioneers—across the country. Some received the Salk vaccine, while others served as controls. When the results were released a year later, on April 12, 1955, they showed that the vaccine had an amazing success rate of 80-90 percent. It was a dramatic moment, and Salk was immediately hailed as a hero by the public. *The New York Times* headline the following day read “Salk Polio Vaccine Proves Success; Millions Will be Immunized Soon.” He was universally recognized from newspaper photographs and television appearances, including on the evening of the trial results, when Edward R. Murrow famously asked him who owned the patent to the polio vaccine. He replied, “Well, the people, I would say. There is no patent. Could you patent the sun?”<sup>5</sup> He was invited to the White House to meet with President Eisenhower and received innumerable awards and honors.

The Salk polio vaccine was responsible for dramatically impacting this dreaded disease. By 1962, the number of cases of polio had plummeted by 98 percent, with only rare deaths occurring. By 1979, polio had been eliminated in the US, and today it is on the verge of worldwide eradication with only a handful of countries still experiencing cases. While vaccines had previously been developed for diphtheria, pertussis, and tetanus (as well as smallpox), Dr. Salk’s extraordinary success against polio, one of the most terrifying diseases that primarily affected children, epitomized what science and medicine, as well as public health, could accomplish. And Jonas Salk’s name was firmly linked with the goal of advancing science for the public good.

Years later, after medical school, a pediatric residency, and two years working as a general medical officer in the Indian Health Service, I accepted a faculty position in the newly formed Department of Family Medicine at Jefferson Medical College (now Sidney Kimmel Medical College at Thomas Jefferson University). Board certified in both Pediatrics and Family Medicine, I cared for thousands of patients. I gave or arranged for administration of countless doses of polio vaccine, vaccines against diphtheria, pertussis, and tetanus as well as vaccines

## The ever-important legacy of Jonas Salk

developed after polio, including for measles, mumps, rubella, varicella, influenza, *Hemophilus influenzae*, human papilloma virus, pneumococcus, and hepatitis. By the time I started practice, the Salk inactivated vaccine had been replaced in the US by an oral polio vaccine (OPV), developed by Dr. Albert Sabin (AQA, NYU Grossman School of Medicine, 1937, Alumni). However, beginning in the 1990s, Salk's IPV was once again routinely administered and remains so today.

In addition to caring for patients, I also taught medical students and residents, ran a successful program to increase the supply and retention of rural physicians, and did research on the rural and family medicine workforce. Throughout this time, I rarely thought about my experience in the Salk polio vaccine trial, although I occasionally joked that one of the reasons I became a doctor was that I wanted to be on the other side of the needle. I was always aware, however, as were many of the other trial participants, that we had been involved in



Dr. Jonas Salk gives an 8-year-old boy a trial polio vaccine at the Frick Elementary School, Pittsburgh, Pennsylvania, February, 1954. Underwood Archives, Getty Images

something important and historic. I learned more about this history sometime in the 1990s, when I happened upon a book about Dr. Salk and the history of the polio vaccine—*Patenting the Sun: Polio and the Salk Vaccine* by Jane S. Smith<sup>5</sup>—while browsing in a local bookstore. It remains in my bookcase to this day.

For decades, Jonas Salk's legacy solidified the importance of science, research, medical practice, and public health for the nation, paving the way for a long period of unprecedented expansion of scientific and medical achievement. The US government poured billions of dollars into supporting scientific and medical research, supporting training for physicians and research scientists, and partnerships with universities and private companies. This led to truly amazing advances in knowledge and practice related to health and diseases, resulting in major increases in the health and longevity of individuals and the population. These advances included new antibiotics; medications addressing a multitude of diseases, including antiretroviral treatments, anti-cancer medications and therapies; surgical advances including organ and stem cell transplantation; interventional procedures and medical imaging; and widespread public health measures. Vaccines in particular—including mRNA vaccines—were “among the greatest achievements of biomedical science and public health, stimulating protective immune responses against acute and chronic infectious diseases, as well as some infectious diseases that result in cancer.”<sup>3</sup>

Over time, however, while the vast majority of the public continued to value and support the importance of science, Jonas Salk's name—and knowledge of his accomplishments in developing the polio vaccine—began to fade. With polio no longer a visible threat, many people, especially younger generations, took for granted the absence of infectious diseases like polio and measles. Many incorrectly assumed that they would never return and did not see the direct link between immunizations and the absence of diseases. People obviously feel grateful if they are cured of a disease but tend to overlook the fact that a disease was prevented in the first place. In addition, major societal and political changes were taking place, including the rise of social media and, over time, vaccine denial and anti-science attitudes started to take a greater hold in society. And then came COVID-19!

I retired in 2019. Shortly thereafter COVID-19 erupted, and the world dramatically changed in so many unprecedented ways. Much was written at the time about the

current pandemic, often comparing it with the previous polio pandemic. With lots of time in retirement and with the world locked down, I began to think more about Dr. Salk, what he had accomplished, and his enormous impact on patient care, medical science, and research. I thought about my personal connection as a participant in his polio vaccine trial. I also thought about how during my own medical career, I never saw polio or measles. And while I did care for seriously ill patients with Hemophilus influenzae earlier in my career, most of these vaccine preventable diseases were very uncommon by the time I retired.

During this time, I also pulled the book, *Patenting the Sun: Polio and the Salk Vaccine*, off my bookshelf and reread it. This time, I was struck by something that I did not remember from my earlier reading. The author ended the book talking about searching for evidence of her own participation in the national polio trial, and the final sentences in the book read: "I found myself in Box no. 28, sheet no. 47855, student no.21, vaccination record 35/35/35/00.... If you were a Polio Pioneer, you can look it up."<sup>5</sup> I wondered if I might be able to find some tangible record of my own participation.

I emailed the University of Michigan's Bentley Historical Library in 2020, where Jane Smith found her record in the Dr. Thomas Frances Papers, and I asked if they might have mine. They did not, as their archives were only the repository for the national Phase III trial. Because so many children in Pittsburgh (including me) had already received the vaccine during Salk's Phase II trial, Pittsburgh was not included as a site in the national trials. I then contacted the University of Pittsburgh, but they did not have any of Salk's polio records, as he had taken them to California when he moved there to start the Salk Institute for Biological Studies in 1960. Finally, I contacted the University of California San Diego, where some of the records had been transferred from the Salk Institute, and they did find a letter Salk sent to a number of Pittsburgh grade school principals (including mine) in October 1955 saying that his team would be visiting each school for "initiating our most recent studies with the polio vaccine." Again, they found no record of my participation.

The years since COVID-19 emerged brought unprecedented changes to health, medicine, society, and life in general. Although COVID-19 vaccines were responsible for averting 2.5 million deaths worldwide,<sup>6</sup> COVID and



**A shopkeeper expresses a nation's gratitude for Dr. Salk's discovery.** March of Dimes Birth Defects Foundation, Public domain, via Wikimedia Commons

society's responses to it stoked the backlash of the anti-science and anti-vaccine community. Like all medical and public health crises, some were unhappy with the medical and governmental response to the pandemic, including issues like masking, school policies, and mandatory vaccines. Dr. Salk would likely have understood these feelings, as he was well aware of the need for societal support for scientific advancement.<sup>7</sup> However, the initial 2020 governmental response to COVID-19 was disjointed, often encouraging conflict and division rather than societal cooperation. Some whose families or communities were less impacted by the disease were upset that their children were unable to attend school in person, oftentimes requiring a parent to leave their job. Others who had older or vulnerable family members or who were in areas of the country with massive disease and death were supportive of these changes. After the 2024 election, a small group of elected leaders and appointees to the highest levels of national governmental and health agencies, despite lacking apparent

## The ever-important legacy of Jonas Salk

qualifications, began making major changes that were negatively impacting the entire country, and in some cases, the world. Many of these changes were anti-science and anti-vaccine; based on clear misinformation, biases, politics, and power; and stood in opposition to everything that Jonas Salk represented. Experts in science and medicine who were working for or advising the federal government were dismissed. Based on decades of scientific data and experience, these changes will likely cause substantial harm to the health and welfare of huge numbers of people. Already, vaccine rates are decreasing, and measles is reemerging in the US. Massive decreases in the funding of medical and scientific research, as well as support for research trainees, are occurring and will irreparably harm future progress. All of this is taking place at a time when the medical and research community are on the cusp of another dramatic era of advancement.

In the spring of 2025, I wrote a short poem about all this, starting with mention of my participation in the Salk trial, entitled “What would Dr. Salk think?”<sup>8</sup> While working on it, I revisited the University of Pittsburgh website related to Salk’s work.<sup>9</sup> I saw that Salk’s three sons had donated his files from when he was at Pitt,

including the records of thousands of children who were in the Pittsburgh trials. They also listed the grade schools included in these Phase II files—and my school, Roosevelt Elementary School, was on the list! There was also a section on the website asking anyone who might have been involved to contact The Jonas Salk Legacy at Pitt, which I did.

Over the next few months, I worked in parallel on two interconnected activities: finishing my poem and searching for my records. I submitted my poem to the journal *Family Medicine* (the journal of the Society of Teachers of Family Medicine). The same day, the Jonas Salk Legacy team at Pitt contacted me, and I asked if they might have my trial records. A month later, I submitted a revised version of my poem, and Pitt connected me with Jason M. Rampelt, PhD, the History of Science and Medicine Archivist at the University of Pittsburgh Library, who was in charge of the Salk Papers. Shortly thereafter, my poem was accepted for publication, and two weeks later, on May 21, Dr. Rampelt sent me a copy of my own 70-year-old Salk polio vaccine record!<sup>10</sup>

My record was on a 3x5 inch index card, called a serum card. It had my name, school, grade, age, and subject number (2019, which I thought interesting, as

Rabinowitz, Howard K.		Roosevelt-3A	8 <sup>th</sup> grade	2019	
2/10/55	121-E-9 (168)			#53	
2/25	128-J-5 (1841)	0 8	0 0	0 4	#25
4/14	131-F-4 (299)	4 16	4 8	8 32	#25
3-25-55		0	0	0	#79
4-14-55		8	16	32	
4-12-56	156-L-5 (1:16 Hem)	< 16	256	16	
4-26-56	156-L-6 (256)	256	8192	128	
2/10	5 RJA 10-11 1.8	4-12-56	REF J	1ml	
2/25	27		(copy)		

The author's 3"x5" serum card (vaccine record and antibody tests results) from when he participated in the Salk vaccine trial.<sup>10</sup>

that was also the year that COVID-19 emerged). It also listed a series of my antibody test titer results for all three polio types, recurrently drawn over a three-year period. It listed my three doses of Salk vaccine that were made in Salk's lab—the first two given one month apart with a booster a year later. Dr. Rampelt also connected me with Donald Burke, MD, Distinguished University Professor Emeritus of Health Science and Policy, Dean Emeritus of the School of Public Health at the University of Pittsburgh, and an international expert on vaccines and infectious disease. Dr. Burke helped arrange for the gift of these records from the Salk family. He reviewed my record with me, sharing that I had entered the trial without evidence of any polio infections, and developed protective levels of antibodies after my vaccines. He also put into context how I fit into the Phase II trials. My grade school had not been included in the initial Phase II trials in 1954, the positive results of which allowed for the large national Phase III trial. During the time that national trial was taking place, Dr. Salk continued to test children in Pittsburgh to try and improve the vaccine by identifying the ideal dosage and spacing of shots, all before the Phase III trial results were reported and before the vaccine was widely distributed. That was the part of the extended Phase II polio clinical trials that I had participated in! The journal *Family Medicine* published my poem in July 2025 and included a copy of my newly obtained vaccine record.

After searching for five years, I found it personally meaningful to have finally found myself in the Salk Phase II polio trial. It also made me consider whether the experience actually had any impact on my own decision to become a physician. While there are always myriad factors in career decisions, I think that for me it was unlikely to have played a significant role, if any. Yet, the experience reinforced for me the ever-increasing importance of Jonas Salk's legacy—his dedication to: service, research, science, and using medical science to help his fellow human beings. The future of people's health, and the health of the public, depend on this.

Jonas Salk's legacy is more important today than ever before, given the current assault on science and evidence-based medicine. He epitomized medical service and science, which is “the very root of medicine”—i.e., helping humankind with medicine's “special knowledge,” as articulated by Dr. Edmund Pellegrino (AΩA, NYU Grossman School of Medicine, 1944)—who was also the mentor of my own mentor, Dr. Paul Brucker.<sup>11</sup> Few have

ever so clearly helped so many other individuals using medical knowledge than Jonas Salk. Those of us who have benefited enormously from the advances in health and medicine over the past 70 years have a responsibility to future generations to keep the legacy of Jonas Salk—and what it represents to service, science, medicine, research, and society—alive and flourishing.

## References

1. Santayana G. *The Life of Reason*. New York: Charles Scribner; 1905.
2. McCann, C. *Twist*. New York: Random House; 2025.
3. Roush SW, Murphy TV, Vaccine-Preventable Disease Table Working Group. Historical Comparisons of Morbidity and Mortality for Vaccine-Preventable Diseases in the United States. *JAMA*. 2007; 298: 2155–63.
4. Marks HM. The 1954 Salk Poliomyelitis Vaccine Field Trial. *Clin Trials*. 2011; 8: 224–34.
5. Smith, JS. *Patenting the Sun: Polio and the Salk Vaccine*. New York: Doubleday; 1990.
6. Ioannidis JPA, Pezzullo AM, Cristiano A, Boccia S. Global Estimates of Lives and Life-Years Saved by COVID-19 Vaccination During 2020–2024. *JAMA Health Forum*. 2025; 6:e252223.
7. Salk, J. What Jonas Salk Would Have Said About COVID 19. *The Hill*. April 13, 2020. <https://thehill.com/opinion/healthcare/492438-what-jonas-salk-would-have-said-about-covid-19/>.
8. Rabinowitz HK. What Would Dr Salk Think?. *Fam Med*. 2025; 57: 516.
9. The Jonas Salk Legacy at Pitt. University of Pittsburgh; School of Public Health website. <https://www.publichealth.pitt.edu/about/history-mission/jonas-salk-legacy-pitt>.
10. Jonas Salk Papers, 1943-1995, UA.90.F89.1, University Archives, Archives & Special Collections, University of Pittsburgh Library System, Box 42, Folder 6.
11. Pellegrino ED. The Generalist Function in Medicine. *JAMA*. 1966; 198: 541–5.

The author's email address is [howard.rabinowitz@jefferson.edu](mailto:howard.rabinowitz@jefferson.edu).