

**LIHJ** — Founded 1988 by Roger Wunderlich Stony Brook University, Stony Brook, NY 11794-4348

ISSN 0898-7084

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# Publicizing the Fight: Long Island's Influence in the Struggle against Infantile Paralysis, 1933-1955

## **Durahn Taylor**

**Abstract:** Long Island had a special role in the struggle against polio. On Long Island one of the first modern polio epidemics occurred, and early efforts in polio rehabilitation in Long Island Sound helped inspire Franklin Roosevelt to found the Warm Springs Foundation. The location of Long Island near a major metropolitan center, and its position as a major center for the growth of suburbia after World War II, led to Long Island's assuming a pivotal role in how the polio fight was publicized (in exhibits at World's Fairs and other local expositions) and how the fight was conducted (as Suffolk and Nassau Counties were the first two counties in New York State to host the Salk vaccine trials). An understanding of Long Island's role in this story also illuminates how American views about people who had polio evolved throughout the early 20th century.

Keywords: Polio, Roosevelt, World's Fair, Comics, Vaccine

- No good children's story is without a villain. In the comic books, the villains have ranged from the Joker and the Riddler to the Prankster and the Puzzler. But in the real-life early twentieth century, starting on Long Island and soon throughout the rest of the country, the children's enemy was far more deadly. It would require extraordinary efforts of scientific ingenuity, financial generosity, and community courage, on the part of both children and adults, to overcome it.
- That enemy was the Crippler. Or as it was better known, infantile paralysis: polio.
- It was on Long Island where the modern phase of that battle began. Moreover, the location of Long Island near a major metropolitan center, and its position as a major center for the growth of suburbia after World War II, led to Long Island's assuming a pivotal role in how the polio fight was both publicized and conducted from the early to the mid-twentieth century. When Long Island became the first testing ground in New York

State for the vaccine that millions of Americans hoped would eradicate the Crippler, the experiences of Long Islanders revealed not just something about the nature of the disease itself, but also how a community's approach to the people affected by that disease could evolve.

#### The Fear

- Although the symptoms of polio have been traced to ancient times, it was in the late 19th and early 20th centuries, the golden age of both urbanization and vaccination science, that infantile paralysis achieved its greatest recognition and publicity as a public health threat. Tragically, one of the greatest incidents contributing to this took place in Long Island—the great epidemic of 1916. The outbreak was blamed on Italian-American immigrants in Brooklyn, and when Long Island families working or going to school in the borough went back home, the disease spread into towns on Long Island, including Oyster Bay, the home and political headquarters of former President Theodore Roosevelt. The indomitable Colonel of San Juan Hill addressed the crisis by arranging mass cleanups of various slum areas and public dumps throughout the Oyster Bay area. Ironically, given that the polio research of later decades would indicate that the dirtier the environment in which a child grew up, the greater the chance that he or she would encounter the polio virus early and develop an immunity to it, cleanliness was counterproductive in this respect. Children raised in cleaner environments (such as the Long Island suburbs) were actually at a greater risk for coming down with polio because their immune systems had not been exposed to, and thus had not had the chance to develop fortifications against, the polio virus earlier on in their young lives. (This principle would play out more tragically in the life of another Roosevelt, in upstate New York, whose sheltering in early life led him to come down with many colds and mild illnesses, culminating with polio at the relatively older age of 39.)[1]
- The quarantines imposed throughout Long Island in 1916 caused roadblocks and police patrols to be established. Children and their families driving into Long Island, even if they lived there, were turned back if there was a risk that they carried the virus. In this period of fear, during which the causative agent of polio was still unknown, not only was dirt the enemy, not only was the fly (that carried dirt) the enemy, but so was any potential carrier of the virus. The polio victim and his or her family was first and foremost a group to be isolated, removed, and contained, so that they wouldn't infect anyone else in the community. In the class dynamics between the relatively affluent and white native-stock communities of Long Island and the immigrant communities of Manhattan and Brooklyn, that sense of threat, of the need to protect "us" against "them," was accentuated.[2]
- When the epidemic subsided in the fall of 1916, the roadblocks and patrols were gradually pulled back. Yet, the research into the causes of the disease went on, as smaller outbreaks could be detected throughout the country particularly in the summertime, and the disease became particularly known as an affliction that struck children in the warmer months. In the decade following the epidemic, Long Island played a role in the disease's eventual eradication that was not yet visible at the time. Jonas Salk, who was less than two years old when the 1916 epidemic broke out, would distinguish himself academically in his youth and enter Townsend Harris High School in Queens at the age of twelve, in the mid-1920s. He had not yet decided to pursue a career in medical research, but the series of credentials that would ultimately get him there were already being established.[3]

## The Fight

- 7 Five years after the hysteria died down in Oyster Bay and its environs, the dreaded crippler struck one of T.R.'s relatives, an up and coming political successor to the Rough Rider (albeit on the other side of the partisan divide) named Franklin D. Roosevelt.
- The story of FDR's diagnosis with polio, his rehabilitation struggle, and his establishment of the Warm Springs Foundation in Georgia is well known. Less well known is how, between that diagnosis and his reentry into electoral office (as Governor of New York) in 1929, and then between his assuming the Governorship and his co-founding (as President of the United States), of the National Foundation for Infantile Paralysis (NFIP) in 1938, Long Island played a prominent role in the fight FDR waged against polio.
- 9 It began with a conversation Roosevelt had in Boston with one of his earliest post-diagnosis physicians, Dr. Lovett. As FDR later recalled in 1934:

"In the spring of 1924 I was taking treatments from Dr. Lovett in Boston who, at that time, was believed, I think, by everybody to have done more in the after-treatment of infantile paralysis than almost anybody. In June I went on up to Boston and spent a week getting my braces fixed up and learning some new exercises. I got talking with Dr. Lovett about his experimental work with Polio and he said, "You know, I found an interesting thing last summer. Most of my patients come from New England, and a great many of them come from seashores. I told all of them to swim as much as they possibly could and it is an interesting fact that the patients who went down to Buzzards Bay [located in Massachusetts ] and Long Island Sound, where the waters were warm and where they could spend a great many minutes of the day in the water swimming around, seemed to improve in their muscles a great deal more than those of my patients who went to the North Shore or to the coast of Maine where the water is cold and you can only stay in for three or four or five minutes. Therefore," he said, "I have started a little shallow tank in the Children's Hospital of Boston to see if we cannot learn something from exercising muscles in the medium of water instead of just exercising them on tables."

I did not give very much time to it; I thought he was pursuing an interesting course in developing this theory. And then came a period that was known as the Democratic National Convention in Madison Square Garden, New York City  $-\ a$  party which lasted nearly three weeks. Then came a political campaign, in which I had some small part.

About September first, I think it was, I got a letter from Mr. Peabody and Mr. Peabody said, "Here is an interesting letter that I am enclosing from Mr. Tom Loyless, who is running Warm Springs for me."

Mr. Loyless told about a young man by the name of Josephs from Columbus who had come up here after an attack of infantile paralysis. He could not walk at all. There was just a public pool here then, but he had taught himself to use his legs in the water, to get his feet down to the bottom and to walk around on the bottom. Later on he found he could walk

in shallower water all the time, and he kept on doing that until he found that he could walk on dry land.

Well, I put two and two together and I said to myself, "This confirms Dr. Lovett's theory." Meanwhile, Dr. Lovett had gone on a trip to Europe and unfortunately had died over there, so I was unable to consult him anyway.

But I spoke to Peabody and it was arranged for me to go to Hart's Cottage, now Mr. Pierson's cottage. We came down in the autumn. The only people who were here when we arrived were Mr. and Mrs. Loyless and old Mr. Watts, the postman, and it is perfectly true that he read everybody's postcards. In fact, he read so many postcards that it took him almost all day to make the delivery of the mail to the Loyless cottage and mine.

When we came down, there was no doctor around here; there was nobody in charge, or anything of a medical nature. I went down to what is now the public pool. It was rather simple in those days.

I stayed here for a month and I improved so much that I came back the following spring. But people had heard about it."[5]

- 10 Yet, Dr. Lovett's death had not taken place before he had planted a seed in FDR's mind. Lovett's observations of the therapeutic effects of Long Island Sound, apparently corroborated by the experience of the patient in Warm Springs described by Tom Loyless, gave Roosevelt the inspiration for what would become the Warm Springs Foundation.[6]
- Long Island would go on to become a center of the medical struggle against the disease in the years following Roosevelt's inauguration as President in 1933. The first President's Birthday Balls were held in 1934. (As Inauguration Day was still held on March 4th in 1933, and would not start being held on January 20th until FDR's second inauguration in 1937, the first January 30th that Roosevelt spent in the White House was in 1934.) That first set of Birthday Balls brought over one million dollars into the anti-polio war chest. \$110,000 of that money went to direct grants to ten institutions across the country that were fighting that war on a variety of medical fronts. Two of those organizations were based in New York State; one was New York University (under the direction of Dr. William H. Park), and the other was the Long Island College of Medicine's Infantile Paralysis Commission, whose director of research was Dr. Sidney D. Kramer.[7]
- Two years after getting this Birthday Balls grant, Kramer announced experiments he was conducting at Long Island College of Medicine's Hoagland Laboratory with nose-sprays on rhesus monkeys, whom he described as the "only member of the animal kingdom that reacts to infantile paralysis in the same way as human beings..." Kramer explained that "We know that the poliomyelitis virus enters through a tiny door in the nose where are exposed the hair-line endings of nerves that lead to the brain. Therefore, we have been seeking a method of blockading this little door in the nose against the infantile paralysis germ." He was using a nose spray "recently recommended" by Dr. E.W. Schultz (one of the 10 grantees, of Stanford University) and Dr. L.P. Gephardt.[8]
- In 1939 Kramer became director of polio research at the Jewish Hospital in Brooklyn, the very borough that was the tragic epicenter of the 1916 epidemic. In his lifetime he would author or co-author more than fifty medical books, several of which concerned infantile paralysis. He would

die in June of 1955, months after the successful testing of the Salk vaccine. Throughout his career, Kramer was keenly aware that the war on polio needed more than generals; it needed detectives. He said publicly in January 1938, the month in which Roosevelt launched the National Foundation for Infantile Paralysis (later known as the March of Dimes), that "[o]ur knowledge of the disease is based on a comparatively small amount of data, simply because it is too expensive to obtain the data...."[9] Kramer's language reveals that, whether he read the stories or not, he thought a lot like Sherlock Holmes. At one point in the Arthur Conan Doyle story, "The Adventure of the Copper Beeches," Sherlock Holmes expresses that he cannot form a conclusion about a matter without first having enough information, exclaiming, "Data! Data! Data!...I can't make bricks without clay."[10] Kramer understood why those dimes and dollars were so necessary in the 1930s: to buy the clay.

Long Island had led the New York City metropolitan area in terms of the number of parties held in the second Birthday Ball season in 1935, hosting more than even the number in Manhattan and the Bronx that year.[11] Yet, by the end of the decade Long Island would make an even greater brick-and-mortar contribution to raising money to buy the "clay" in polio research: it would host an exhibit called "Fighting Infantile Paralysis" at the 1939 New York World's Fair.

#### The Fair

- By the time the New York World's Fair opened in Flushing Meadows, Queens on April 30, 1939, the National Foundation for Infantile Paralysis was over a year old. Entertainer Eddie Cantor had coined the phrase, "March of Dimes" to give a catchy image to the Foundation's fundraising efforts. In a play-on-words on the popular March of Time movie newsreel series of the era, he suggested that everyone contribute to sending a "march of dimes" to President Roosevelt at the White House to raise money for infantile paralysis research. The campaign was successful, and Roosevelt's business partner and Foundation President, Basil O'Connor, was looking for other ways to publicize the crusade and raise more money for it. Two months after the opening, on June 28, 1939, Chicago's Fredrick W. Snite, Jr., who had gained a dubious fame as the courageous 29-year old "man in the iron lung," was brought to the Fair along with his parents. An "iron lung," a giant cylinder in which a person lay while his or her lungs were connected to a breathing apparatus, was a device invented for polio patients whose lungs were attacked by the virus, and who therefore needed a device to do the patient's breathing for him or her. Snite exchanged autographs with Fair President Grover Whalen, New York City Mayor Fiorello La Guardia, and boxer Gene Tunney, dined with his parents at the Brazilian Pavilion, and was treated to seeing (through a periscope) the Trylon and Perisphere, the General Motors Exhibit (where a special detail of forty electricians stood ready to ensure that Snite's iron lung never ran out of the electric current it required to keep functioning), the Chrysler exhibit, the Italian Pavilion, the Aquacade show, and the evening fireworks. Snite's trailer that day was applauded everywhere he went; he was as much a celebrity as any other famous visitor to the Fair. [12]
- For the National Foundation, Snite's visit was of course a boon to the cause, another occasion of putting a brave, upbeat human face on the polio community, one whose courage would inspire people to join the fight to eradicate the disease. But why stop with an occasional visit from a famous person who had polio? A permanent exhibit at the Fair, of course, would be the perfect way to attract greater national and international attention to the fight against infantile paralysis. O'Connor got such an exhibit, and could hardly have asked for a better location.

Dedicated nearly three months after the Fair's opening, on July 27, 1939, with the title "Rebuilding Human Lives," the exhibit was located "in the Science and Education wing of the Medicine and Public Health Building," which was located immediately north of the Fair's centerpiece, the Trylon and Perisphere [See Illustration 1]. At the dedication, O'Connor confidently declared that although the struggle against polio "appeared to be futile," the fight had reached a point at which he could confidently claim that "the disease of infantile paralysis can be conquered." "It is not only the duty but the desire of the people of this country," he went on, "that everything possible be done for those physically handicapped. This exhibit evidences that fact." [13]



Fig. 1: Location of MPH building. World's Fair Map, 1939. Queens Museum of Art.

- In 1940 a Guide to the Medicine and Public Health Building was published by the American Museum of Health, Inc. (headquartered at Rockefeller Center). The Guide offered an indexed description of each of the building's exhibits as they existed in the Fair's second season. The polio exhibit, here entitled, "Fighting Infantile Paralysis," received its own description, which showed just how much was packed into the 750 square feet of space allotted to it. The areas of focus included Virus Research, Treatment, Prevention, and Education. The Virus Research display depicted how much was understood by that time about how the polio virus crippled human patients by attacking and killing nerve cells. Also depicted in the exhibit were splints that were fitted onto polio patients as a means of limiting the actual crippling of their affected joints. Prominent in the exhibit was a model of an iron lung, such as the one Fred Snite had to use. The guide description emphasized the coordination between the National Foundation for Infantile Paralysis and its local chapters, through which the income from the Birthday Balls was distributed to help patients on the local level. Visitors to the "Fighting Infantile Paralysis" exhibit could locate their local chapter on what was called a "talking map" of the United States. This was an important factor in the exhibit's ability to generate interest among people who lived beyond the New York metropolitan area where both the Fair and the National Foundation itself (which at the time was headquartered on 120 Broadway in Manhattan) were located. The guide entry ended with the hopeful words, "This is not the End—...The fight against infantile paralysis is just Beginning. [italics and capitalizations of End and Beginning in the originals]."[14]
- The exhibit became a focus for further special occasions at the Fair that supported the infantile paralysis fight. On Christmas night, 1939, two high school teams played a benefit game for the 1940 "Fight Infantile Paralysis" campaign. One team was from Miami, Florida, and the other

was from Garfield, New Jersey. Each team was awarded an honor certificate for their efforts in the early days of January 1940, and while the Miami team's award was received in Miami, the Garfield team's was received at a specially designated "Garfield Day" celebration at the World's Fair, which included for the team a special visit to the Medicine and Public Health Building's "Fighting Infantile Paralysis" exhibit. [15]

- 19 The Fair exhibit, both before and after its opening, apparently generated a popular interest beyond the efforts of the National Foundation and the World's Fair Corporation's own efforts. It also was the subject of a burgeoning form of children's entertainment that was itself just hitting its stride in 1939 and 1940—the superhero comic-book.
- When the fair opened on April 30, 1939, Detective Comics, Inc. (later known as DC Comics) put a special comic book on the stands: "New York World's Fair Comics # 1."[16] The company's recent runaway hit character, Superman, was featured in a story entitled, appropriately enough, "Superman at the World's Fair," written and drawn by the character's co-creators, Jerry Siegel and Joe Shuster. At one point in the tale, Clark Kent is looking for Lois Lane while they are both covering a story about the fair's opening. Clark overhears that a planned exhibit on infantile paralysis is about to be abandoned because it could not be completed by its deadline. A sculptor who was planning to dedicate a specially created work to the exhibit laments the loss to the children for whom the exhibit was supposed to raise contributions. Clark secretly changes into his alter-ego, Superman, and then single-handedly finishes the construction of the exhibit, remembering even to put the sculptor's creation in a prominent place. While doing all this, the Man of Steel remarks, "Here's hoping for an early conquering of infantile paralysis!" The completion of this exhibit in the Superman strip (which of course was set on the Fair's opening day of April 30, 1939) seems to pre-date the opening of the actual Fair exhibit in the real world (which was dedicated on July 27th, 1939) by nearly three months. Yet, Siegel and Shuster already grasped the importance of an exhibit at the World's Fair for generating contributions to the fight against polio. They would not be the last comic-book creators to do so. [17]
- A sister company of Detective Comics, Inc. was All-American Comics, Inc., which would introduce such later stars of the DC Comics superhero lineup as the Flash, Hawkman, and Wonder Woman. In July 1940, as the Fair was already in its second season, All-American Comics # 18 (coverdated September 1940) hit the newsstands, presenting the third adventure of another soon-to-be star, the Green Lantern. Created by Martin Nodell and developed by writer Bill Finger (who had made similar foundational contributions to the development of Batman a year earlier), this original version of the Green Lantern was an engineer named Alan Scott who had come into possession of a mystical lantern, from which he fashioned a ring that could do or create anything his will power commanded it to do. (Tragically, like a modern wonder-device, the smartphone, the ring had to be recharged every twenty-four hours in order to work!) In this story, Alan Scott is visiting the fair (which the narration duly notes is "in its second year"), when he stumbles upon a plot by a gangster to rob a benefit concert that is being given at the Fair's Hall of Music to raise funds to fight polio. (The Hall of Music was an actual location in the real-world Fair. To reach it from the Trylon and Perisphere, a normal person would have to walk across the Empire State Bridge and get to the other side of World's Fair Boulevard. The Hall of Music was just north-west of the Aquacade. Fortunately, with a chargedup power ring, one could get there faster by flying! [See Illustration # 2; the Hall of Music is circled.]) As it happens, the Green Lantern is not in

time to prevent the robbery, but he is able to capture the robbers and return the benefit money to the proper authorities.[18]



Fig. 2: Indication of Scenes of All American, Green Lantern story. Map of 1939 World's Fair. Queens Museum of Art.

By the time this story was published, the real-world "Fighting Infantile" Paralysis" exhibit had already been established at the Fair (in fact, the issue's cover, which depicts the Green Lantern fighting an airplane over the fairgrounds, depicts the location of the Medicine and Public Health Building, which is nevertheless unlabeled, near the Trylon and Perisphere).[19] Both this story and the Superman story the previous year mirrored the exhibit's treatment of infantile paralysis not as an amorphous object of fear that should cause people to shy away from those who were stricken by it, but as a problem that could be conquered with sufficient support from the public. The linking of the fight against polio with the popular "World of Tomorrow" in Flushing Meadows, particularly in the heroic comic-book literature directed at children, created a cultural sense of hope that infantile paralysis could be conquered in the foreseeable future. Doubtless the creation of the National Foundation for Infantile Paralysis, with the nation's most famous polio patient at its helm, helped humanize, in the eyes of the public, the community of people stricken with the disease.



**Fig. 3:** Model, by Frank Cronican, of the Medicine and Public Health, Science and Education Building, World's Fair of 1939. Collection of John Riccardelli.



Fig. 4: The author, Durahn Taylor, at the World's Fair site.

#### The Transitions

- Long Island had hosted this spotlight on "World of Tomorrow," and in the subsequent years of the struggle against polio, the spotlight would continue to fall on Long Island itself in crucial ways. Yet, Long Island's role in the fight would develop alongside and because of important changes in the political and social landscape in America, changes that would alter the way in which the polio fight itself was being waged during the 1940s. For one thing, while FDR was alive the National Foundation's major sources of revenue were the annual Birthday Balls and the donations specifically solicited for the Foundation at individual movie theaters across the nation. After FDR died in 1945, movie studios (whose leaders supported the March of Dimes more because they liked FDR than because of their dedication to the polio crusade) decided to end the individual contributions to the Foundation in favor of including the Foundation in a collection of charities, under the umbrella of the United Way, and holding one general United Way donation drive in the theaters instead of a collection specifically targeted to any single charity. The March of Dimes only got \$30,000 in donations out of this arrangement, and as one official of the Foundation later commented, the decrease in this specific form of income forced the March of Dimes to actively pursue other methods of fundraising. These alternate methods would increase the focus on individual neighborhoods, on the young polio patients themselves, and on their parents and families; the "poster children" and "mother's marches" for which the March of Dimes would become famous in the postwar years grew out of this new approach. As David Oshinsky later characterized the ethos of this incipient "baby-boom" period : "Fighting polio would now be the responsibility of each American family." It would become part of the larger post-war mosaic of raising healthy youngsters, and protecting them, in an increasingly middle-class, childcentered culture."[20]
- 24 Driving that culture, especially in the New York City area, was the growth of such suburban developments as Levittown on Long Island. As Kenneth T. Jackson observes in his classic study, *Crabgrass Frontier*,

"[the] first "Levittown" [built in the Town of Hempstead during the mid and late 1940s] was twenty-five miles east of Manhattan and particularly attractive to new families that had been formed during and just after the war. Squashed in with their in-laws or in tiny apartments where landlords frowned on children, the GI's looked upon Levittown as the answer to their most pressing need....And so many babies were born to [the families who moved there] that the suburb

came to be known as 'Fertility Valley' and 'The Rabbit Hutch.'"[21]

As one of the major locations of this new suburban expansion, in which occurred the rise in childbirths that gave the "baby boom" its name, Long Island was poised after the war to also become a prominent setting for the advances in the polio fight, especially as the news about that fight progressed from the myriad forms of fundraising that were being practiced in local neighborhoods, to news about the preparation and testing of an effective polio vaccine.

## The Trials

- The closing of the 1939-1940 New York World's Fair, along with its exhibit on "Fighting Infantile Paralysis," did not mean that Long Island was finished with either fairs or with exhibits about advances in polio research. The island's suburban residents were aware of their stillprecarious position where polio was concerned six years after the Trylon and Perisphere were taken down. In 1946, the New York Times declared that "Polio is still a mystery" and cited Yale University's Dr. Herbert Wenner's research findings that indicated, as even worse news for Long Island residents, that "the incidence of polio is higher in suburbs than in densely populated cities...."[22] So the technological developments in Long Island communities went on. The 1948 Mineola Fair showcased an exhibit, prepared by the Nassau County Chapter of the National Foundation for Infantile Paralysis, of Blanchard's Portable Plastic Lung. Weighing eighty pounds and able to be carried and operated by a single user, it maintained constant air pressure and assisted the heart in circulating blood, so that the muscles and nerves got consistent circulatory support. Another device displayed at the fair was the Ille Hydremassage, a tank that provided massage for the arms, legs, and hips. Three guided tours a day (for each of the days, September 14 through September 18, that the fair was open), were offered for demonstrating and explaining the Hydremassage, as the Nassau Chapter announced that it had already purchased the device for the use of Nassau patients.[23]
- A few years later, as the Salk vaccine was being prepared for its initial trials, Ruth Hopkins, a 26-year old Patchogue resident who was paralyzed in all four limbs, developed an idea for a telephone she could work by placing her chin on different buttons. She worked with New York Telephone, especially with engineer Fred Carll, to design and build the device, and by January 1954 she was using it to solicit donations for the March of Dimes from her Patchogue neighbors.[24] Although she was limited to either her wheelchair or her bed, needed constant care from either her mother or a nurse, and had to sleep in an iron lung because of the severity of her affliction (which she had acquired as an adult, in her early twenties), she used her special phone during the daytime hours to organize a food sale to raise money for polio research.[25] By the end of the month, her efforts had raised \$600 for the cause.[26]
- The February 4, 1954 edition of *The Long Island Traveler, Mattituck Watchman* contains an extensive example of Foundation President Basil O'Connor's "relentless campaign" in the postwar years to keep the March of Dimes from being absorbed into outside umbrella charity drives. On page ten of that edition is a lengthy, four-column, three-quarters of a page-long statement in which the March of Dimes makes its case. The Editor's Note introducing this statement announces that "The local March of Dimes Committee asked us to publish the following article in answer to many queries made during the campaign." [27]

In this statement, the March of Dimes reveals what it believes to be the key elements in a successful campaign in fighting a public-health threat:

- "1. The presentation of a well-labeled, thoroughly identified cause that the public can see and understand.
- 2. Solicitation of funds without direct or implied pressure or coercion.
- 3. The development of a clear-cut service program to accomplish the job for which the money is being contributed."
- 30 Using language strangely evocative of the Declaration of Independence, language that underlies the defensive tone of the piece itself, the statement goes on to assert that:

"The American people want to know what they are giving to in definite, concrete terms. They will not tolerate coercion. And they expect results.

These are rights to which every contributor is entitled—and which, in the long run, he demands. The March of Dimes guarantees those rights in every respect.

To protect those individual rights, and to assure continued willing support of the fight against polio, the Board of Trustees of the National Foundation—volunteers all—foresightedly established a policy of non-participation with other groups in catch-all-drives in which receipts are shared by more than one organization. This policy specifically states that the March of Dimes shall be the only medium by which funds are raised for the work of the National Foundation and that March of Dimes solicitations must be conducted separately from other fund-raising campaigns."[28]

- 31 To justify its policy, the March of Dimes offered a brief look at the polio fight in the decade-and-a half in which the National Foundation had been in business, overstating its case in some places while being accurate in others:
- "A successful fund-raising campaign is one that educates and informs, one that spotlights specific needs, stimulates the desire to give willingly and demonstrates fully the steps that must be taken to satisfy the need. Health means many different things to many different people [a rhetorical swipe against the "catch-all" health charities in opposition to which the Foundation had defined itself]. Polio means just one thing to all people. Fifteen years ago, polio was part of the general public health problem, but no one did anything about it. Since the advent of the National Foundation and the publicity given the March of Dimes, polio has been recognized as the terrible threat that it is. The public no longer is apathetic to the disease. It is aware of the danger. It is conscious of the need. It is acting to end the threat. Today, because of this positive approach to the problem, science stands at the threshold of victory over infantile paralysis." [29]
- 33 There are areas in this part of the statement that would not resonate well with Long Islanders, indicating that the statement itself was not crafted specifically for this regional audience. Given the experience of the 1916 epidemic, one could hardly say of Long Islanders that they were "apathetic" to polio, or that "no one did anything about it," prior to the establishment of the National Foundation and the March of Dimes

- campaigns in 1938. Yet, they were partially true about one thing: in 1954 their scientific research did stand at the threshold of an important victory over the disease: the development of an effective preventative vaccine.
- By March 1954, Long Island had earned another distinction in the polio fight: Suffolk County had been chosen as the first county in New York State to host the trial vaccinations for the newly developed Salk vaccine. The selection was a dubious distinction, based upon its history. The National Foundation for Infantile Paralysis (NFIP) selected counties for the trials having a population of over 50,000, based upon high incidences of polio for the previous five to six years, high epidemic rate of polio in the previous five years during the summer months, high attack rate among five-to-eight-year-olds, health and education facilities of adequate quality, and finally, factors in the county that would allow the trial administrators to obtain cross-sectional data on trial population. Suffolk's selection as the first county in New York State, and Nassau's selection as the second county, grimly attested to the seriousness of the polio problem on Long Island. New York State Health Commissioner Herman E. Hilleboe announced that the rankings were ultimately based on which counties were the most likely "to have a high polio attack rate" during the upcoming summer of 1954. New York City as a whole was determined to have a "consistently low attack rate," but certain locations within New York City were judged to meet the criteria. These selected areas were Gravesend, Brooklyn (the borough that had been the center within New York City of the 1916 epidemic), the Lower East Side of Manhattan, Flushing and Corona in Queens, Tremont in the Bronx, and all of Staten Island. New York City would actually get "more vaccine than any single area of the state," but only because the New York State and New York City Health Departments had made a special request to the NFIP to include those specific areas of the city in the trials. [30]
- 35 The communities and school clinics to host those first trials on Tuesday, April 27th were: Pierson, Westhampton Beach, Bridgehampton, Southampton, Riverhead, St. John's, Mattituck, Orient, Fishers Island, Islip, Bayport, Sayville, St. Lawrence, Melville School, Huntington's Lincoln School, Village Green School, and Woodbury School, and Northport's Ocean Avenue School. [31]
- The trials were conducted in three stages and involved two groups. One group would get injections of the real Salk vaccine formula, and the other group would get a control substance that looked identical to the "pinkishlooking "Salk vaccine, but would have no actual effect. Indeed, this mass trial, on which so many families had placed their hopes (and for which parents had to give their written consent before their children could participate) was a large-scale human experiment, complete with a control group and an experimental group. The youngsters in neither group would know whether or not they were the control population or the experimental population, and despite the official assurances of the vaccine's safety, no family could be completely clear about which side they wanted to be on: the side that received an empty concoction that would offer no protection against the oncoming polio season, or the side that received a killed-virus formula that might actually increase their chances of being afflicted with polio. David Oshinsky would later describe the emotional situation facing both groups of families in this "vaccine field study" (the term the Foundation preferred to "human experiment") in the following way:

In the end, it came down to a contest between fear and faith. Americans had long supported the foundation in its effort to end the scourge of polio. Did they trust it enough to put their children on the line?[32]

- Actually, a more cynical characterization might put the contest as that between one type of fear and a bigger type of fear: the fear of the small chance of getting polio from a vaccine that "over 5,000 volunteers, including Dr. Salk, his wife, and three young sons," had already been injected with, versus the fear of facing the summer polio season with no protection at all. Either choice posed a risk of getting polio, and the consent of the parents indicated their determination that the vaccine was the less risky choice. [33]
- The three stages of the "field study" were best illustrated in a "Trial Polio Vaccine calendar [sic]" printed in The Long Island Traveler, Mattituck Watchman, page ten (along with, among other things, the television schedule and a series of birthday announcements) on May 6, 1954. "1st Day: First Shot," it announced. "7Days Later: Second Shot. 28 Days after 2nd Shot: Third Shot." The calendar duly noted at the bottom that the trials were "conducted by local health authorities for the National Foundation for Infantile Paralysis."[34] In Suffolk, the first county in New York to have the trials, the process would begin in April 1954, and the third would be completed hopefully in time for the summer "polio season."[35] Dr. Philip J. Rafle, Commissioner of the Suffolk County Department of Health, explained that the first two injections represented the "'alert' and 'tooling' up phases of the immunization process. The third injection [was] expected to set into full motion the production of antibodies and prepare the children to meet the challenge of polio virus in the future." For this reason, when he announced in May 1954 that the initial phase (first two vaccination stages) was complete in Suffolk County, he urged everyone not to miss the next phase, the third and final vaccination, which he called the "booster" injection. A different form of boosterism was used to further encourage attendance at that crucial third injection session; a certificate and button naming him or her as a "Polio Pioneer" would be awarded to each child who completed all three injections in the series. [36]
- 39 Even after completing all three injections, of course, no child or family would know the results of this study until 1955, after another summer season had gone by and health officials had learned who and how many got polio during the summer of 1954. [37]
- When the announcement came, on April 12, 1955 (the tenth-year anniversary of FDR's death) that the vaccine was determined to be "safe, effective, and potent," Suffolk's health officials began the task of administering the real vaccine to those who had gotten the empty concoction (less charitably called the "dummy shots") during the previous year's trials, and booster injections for those who had gotten the real vaccine at that time.[38] Because the polio season started earlier in the South than in the New York area, priority for administering the vaccine went to the states in the South, and Suffolk County found that it had to postpone its expectations for beginning its own vaccinations in late April. Suffolk's Health Commissioner Rafle still hoped and expected that the vaccinations would be available and given before the school year ended and Suffolk's own polio season began.[39]
- The delay did not prevent the vaccine from finally being available in May, during which children in Suffolk, Nassau, and Westchester Counties, as well as the five boroughs of New York City, received their opening inoculations of the tested and verified vaccine. By August 1955, Suffolk Health Commissioner Rafle could look back on a summer during which 51 percent of the eligible children had received the vaccine. [40] Most of

the remaining 49 percent were expected to complete their vaccination following the start of the upcoming school year. As of the 15th of August, there were sixteen total cases of polio in the county; the exact same number of cases as reported for that period the year before. All in all, it seemed as if Suffolk had broken even compared to the previous year: not bad for the county in New York with a polio level that had caused it to top the list for getting the experimental trials. [41]

- There had been one case in Nassau County of a person getting the vaccine and subsequently getting polio, but even this tragic and unsettling news did not shake the faith that those involved in the case had in the vaccine itself. Donita Lent, a six-year-old who had been vaccinated in Bethpage in May 1955, took ill eleven days later, was transported to Meadowbrook Hospital in East Meadow, and became an officially reported case of polio on June 1st. Yet, neither the Nassau County Health Department, nor the New York State Health Department, nor Donita's own father (a lineman for the Long Island Lighting company) blamed the vaccine for the girl's paralysis of the left arm, back, and neck. While the State Health Department warned that cases were possible even among people who had been vaccinated, and the New York City Health Commissioner declared that the Salk vaccine's effectiveness might only be as low as 70 percent, Donita's father, Donald Lent, remarked, "I am sure the Salk vaccine did not give my child polio. I believe she had the germ; the vaccine merely hastened development." As a precaution, the Nassau County Board of Health arranged for Donita's immediate family to receive gamma globulin shots. This measure, which had been used before the Salk vaccine became available, involved using gamma globulin, a human blood derivative, from a person who had been infected with the polio virus but who had subsequently been able to develop a degree of immunity to it. This blood derivative would be injected into another person to give that other person a temporary immunity to the polio virus for as long as it took for the derivative to work its way through and out of the body (usually a period of some weeks). This form of immunity was called "passive immunity," and in cases like that of Donita Lent's family, it was hoped that it would make the other relatives safe from getting infected by Donita for the length of time in which Donita's virus was considered transmittable. [42]
- There was a sense of relief among Long Islanders as the summer vacation season of 1955 got underway. A piece on the editorial page of The East Hampton Star in early July remarked, "Avoiding vacation dangers was largely a matter of luck until scientific research took hold. Now, they are not nearly as terrifying as they were only a year or two ago. Polio is one; [sic] and tick fever is another." The rest of the piece discussed ways to avoid tick fever, and the advances in antibiotic treatment for it that had prevented any fatalities from tick fever in nearly a decade. By almost blithely linking these advances in treating and avoiding tick fever with the recent advances in doing the same with polio, the article reflected a sense that Long Islanders felt that polio was no longer a major impediment to enjoying their summer. [43]
- 44 Symbolic of this was the announcement of the third annual Diaper Derby, to be held that July 31 at the new Memorial Field in Oyster Bay, to raise money for the National Foundation for Infantile Paralysis, Nassau chapter. Here, at the political seat of Theodore Roosevelt, the community which Roosevelt had led in spirited sanitation drives as a way to combat polio during the hysteria of 1916, Long Islanders were now entering their babies in a race to see who could make "the fastest crawling time on the 30 foot track with a run-off between the winners to determine the overall champion." This event attested to the comfort Long Islanders were now feeling about spending the middle of their

summer in Oyster Bay, and bringing their babies and toddlers in contact with each other, as well as the sense that they can deal with the general problem of polio in such a relaxed manner. [44]



**Fig. 5:** Every Dime Counts! Long Island and the March of Dimes Fight Polio. Photograph by the author.

- 45 A year later, 1956, the fortieth anniversary of that terrible summer of 1916, this mix of relaxation and latent awareness persisted. By August 30, there were 25 polio cases in Suffolk County, including a three-yearold boy in Huntington who had had one shot in the Salk vaccine series the previous April. Yet, Dr. Rafle was able to observe that as the number of cases at that point in August 1955 had been 36, the August of 1956 was the first month that had fewer polio cases than were recorded for that month in the previous year. [45] Again, both children and their parents staged events that summer to raise funds for the cause. Karen and Lynn Scheinman, ages 13 and 9 respectively, held a talent show in the back vard of their house in Huntington on July 27. They sold tickets to the show, and the total proceeds of \$5.50 went to the Suffolk County chapter of the National Foundation for Infantile Paralysis. As the opening to a newspaper report put it: "With the stress on polio and inoculations, at this time of the year, adults and children, alike, have become aware of the need for more funds to continue the fight against the 'crippler." [46]
- In that fight, tales of heroic fantasy remained an important weapon for children. At Penataquit Place in Huntington, on the evening of Saturday, August 18, 1956, children gave a benefit performance of "Hansel and Gretel" and hosted a "backyard 'penny' fair" afterwards, all the proceeds going for the cause of polio research and care. The choice of story for the play was ironic, with its themes of children being susceptible to horrible death by an enemy that lures them with something sweet to eat (polio infections occur orally) and how methodical ingenuity enables them to out-smart and eventually defeat that enemy. [47]
- Whether the choice of story in the context of this benefit production was conscious or unconscious, intended or unintended, ultimately does not matter. The comfort that the children of Huntington and their families had with holding such productions in Huntington in the midst of "polio season," and the directing of their summer recreational creativity to this specific cause, shows that both the children and their parents were learning something: polio was not going to be eliminated anytime soon, and even the new vaccine was not an absolute protection against it. Yet, that was no reason to flee Long Island or succumb to hysteria during the summer months. Rather, with the latest medical science behind them, Long Islanders were learning to temper their latent fears with

determination to do what they could to beat back "the Crippler," an enemy as insidious as the witch in "Hansel and Gretel," and as dangerous as any villain in a children's fantasy story. It required a combination of scientific and financial strength with neighborhood courage. As the earliest counties in New York State to experience the trial and actual inoculation stages of the polio vaccine in their communities, Nassau and Suffolk Counties on Long Island became a showcase to New York and the nation of how, in an ironic reflection of how the polio virus itself damaged the body physically, conquering the Crippler in a community took both muscle and nerve.

## Acknowledgements

The author would like to give special thanks to the Archivist of the March of Dimes, Mr. David Rose, to Dr. Gerald Deas of SUNY Downstate Medical Center, to Mr. Joshua Ruff, Director of Collections and Interpretation for The Long Island Museum of American Art, History & Carriages, and to Dr. Marilyn Weigold, the author's colleague in the Department of Economics, History, and Political Science at Pace University, for their ongoing and dedicated friendship and for the many ways in which they supported this study. See David Rose, *Images of America: March of Dimes* (Charleston, S.C, Arcadia Publishing, 2003) for an excellent account and photographic record of the real-life celebrities who publicized the work of the March of Dimes, both during the struggle against polio and during the subsequent campaigns of the organization.

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[4]Apple Dictionary.

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[13] "Exhibit Dedicated to Paralysis Fight," *New York Times*, July 28, 1939, page 8.

[14] American Museum of Health, Inc., Your Health: A Guide to the Medicine and Public Health Building at the New York World's Fair 1940, Containing the Answers to Many Fundamental Questions on Health (New York: American Museum of Health, 1940). Index, Table of Contents, and pages 64-65; Naomi Rogers, Polio Wars: Sister Kenny and the Golden Age of American Medicine (Oxford: Oxford University Press, 2014) attests to the location, in 1940, of the headquarters of the National Foundation for Infantile Paralysis (later known as the March of Dimes) as 120 Broadway in Manhattan. (The current location of the March of Dimes organization is in White Plains, New York.)

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[16] The website, "Mike's Amazing World of DC Comics" (www.mikesamazingworld.com, accessed 10 August 2016) contains the publication dates for this and other comic books mentioned later in this study.

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[18] See Les Daniels, *DC Comics: Sixty Years of the World's Favorite Comic Book Heroes* (Boston: Bulfinch Press, 1995) pages 48-53 for the origins of All-American Comics and of the Green Lantern character; "Mike's Amazing World of DC Comics" website (accessed 10 August 2016) for the publication date; *Golden Age Green Lantern Archives*, Volume 1 (New York: DC Comics, stories copyright 1940, 1941, compilation copyright 1999) pages 25-33.

[19] Golden Age Green Lantern Archives, Volume 1, page 25.

[20] Oshinsky, pages 79-82.

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[26] "Food Sale to Fight Polio Earns \$600," *The Patchogue Advance*, January 21, 1954, page 3.

[27]"March of Dimes," *The Long Island Traveler, Mattituck Watchman*, February 4, 1954, page 10. For the background on O'Connor's dedication to keeping the Foundation's drives independent, see Oshinsky, pages 79-82.

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[31]For a complete list of Suffolk school clinics and the days within that first week in which their trials were scheduled, see "Tuesday is First Day: Polio Shots Scheduled," *The Patchogue Advance*, April 22, 1954, page 4, section 1. For the school designations in the Huntington area, also see "Polio Vaccine Tests Start Next Week in Township," *The Long-Islander*, April 22, 1954, Page 1.

[32] "North Fork Children to Receive Polio Vaccine as Field Trials Begin" *The Long Island Traveler, Mattituck Watchman*, April 29, 1954, pages 1 and 4; Oshinsky, page 190.

[33]See Oshinsky, page 190 for the Foundation-generated quote about "5,000 volunteers, including Dr. Salk, his wife, and three young sons...."

[34] "Trial POLIO VACCINE calendar," *The Long Island Traveler, Mattituck Watchman*, May 6, 1954, page 10.

[35]"Local Children Get Polio Shots Here on Tuesday," *The Suffolk County News*, April 23, 1954, page 1.

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[37] "North Fork Children to Receive Polio Vaccine as Field Trials Begin," *The Long Island Traveler, Mattituck Watchman*, April 29, 1954, page 4.

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[43] "Pleasure and Pain," The East Hampton Star, July 7, 1955, page 2.

[44]"L.I. Diaper Derby at Oyster Bay," *The Long-Islander*, July 28, 1955, section 1, page 3; See Risse, "Revolt Against Quarantine" for a more detailed account of how Theodore Roosevelt and Oyster Bay dealt with the polio crisis of 1916.

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[47]"Children Present 'Hansel And Gretel," *The Long-Islander*, August 23, 1956, section 3, page 5; see Oshinsky, page 8, for a description of how polio, an intestinal disease, "enters the body through the mouth, travels down the digestive tract, and is excreted in the stools," and how it is "spread from person to person through contact with fecal waste: unwashed hands, shared objects, contaminated food and water." For the story of Hansel and Gretel, see "A Fairy Tale About Food, or the Lack of It: Hansel and Gretel," *Fairy Tale Channel*, posted September 23, 2009, located online at http://www.fairytalechannel.com/2009/09/fairy-tale-about-food-or-lack-of-it.html (accessed November 7-8, 2016).

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