Distribution Agreement

In presenting this thesis as a partial fulfillment of the requirements for a degree from Emory University, I hereby grant to Emory University and its agents the non-exclusive license to archive, make accessible, and display my thesis in whole or in part in all forms of media, now or hereafter now, including display on the World Wide Web. I understand that I may select some access restrictions as part of the online submission of this thesis. I retain all ownership rights to the copyright of the thesis. I also retain the right to use in future works (such as articles or books) all or part of this thesis.

Campbell Lunsford March 28, 2016

FDR's Influence on Polio Vaccine Development

by

Campbell Lunsford

Dr. Elena Conis
Adviser

American Studies

Dr. Elena Conis

Adviser

Dr. Kim Loudermilk

Committee Member

Dr. Daniel LaChance

Committee Member

2016

FDR's Influence on Polio Vaccine Development

By

Campbell Lunsford

Dr. Elena Conis

Adviser

An abstract of
a thesis submitted to the Faculty of Emory College of Arts and Sciences
of Emory University in partial fulfillment
of the requirements of the degree of
Bachelor of Arts with Honors

American Studies

2016

Abstract

FDR's Influence on Polio Vaccine Development
By Campbell Lunsford

Franklin Delano Roosevelt is one of the most widely known American presidents. Whether it be for his New Deal, fireside chats, role in helping America during the Great Depression, or influence in the lead up to the Second World War, most Americans at that time felt a personal connection to their president. However, his relationship to polio and polio cure research is a less popular topic amongst these other worldly and historical events. This thesis addresses the ways in which Roosevelt and his presidency affected polio vaccine development through his purchase of Warm Springs and continued interest in funding polio research. Even though Roosevelt had died by the time a cure was finally discovered, it could not have happened without his influence, and countless polio patients lived a much more inspired and comfortable life due to his efforts.

FDR's Influence on Polio Vaccine Development

By

Campbell Lunsford

Dr. Elena Conis

Adviser

A thesis submitted to the Faculty of Emory College of Arts and Sciences
of Emory University in partial fulfillment
of the requirements of the degree of
Bachelor of Arts with Honors

American Studies

2016

Acknowledgements

I would like to first of all thank my parents, without whom I would not have even had the opportunity to study this topic that I feel so passionate about. With their consistent support, I have always felt the determination to pursue my educational goals.

I would also like to thank my adviser, Dr. Elena Conis, for sparking my interest in the connection between American history and medicine. Without her course and captivating lectures, I would have never known about this topic. Similarly, my thesis would not be the same without her encouragement and assistance throughout this entire learning process. And a huge thanks for exploring Warm Springs, Georgia with me!

Lastly, thank you to both of my committee members Dr. Kim Loudermilk and Dr. Daniel LaChance for all of your help in this undertaking. As my on-campus liaisons, your dependable and informed advice was such a comfort to me and a huge contribution to my final product.

Table of Contents

Introduction

When you imagine Franklin Delano Roosevelt, you may imagine the New Deal, the only president to be elected for four consecutive terms, the leader of American Liberalism, or the beginning of the Second World War. You may think of his wife, Eleanor, the First Lady who led many important social causes throughout history and supported his presidential success. You may also think of the middle school history class story about his battle with polio and the agreement that he had with the press to hide the severity of his disability. However, the average American does not know the full story of Roosevelt's polio and its subsequent effect on American culture and polio vaccine development.

In 1924, Franklin Delano Roosevelt traveled to rural Warm Springs, Georgia in search of a cure for his polio. Immersing his legs in warm water was the only thing that seemed to ease his pain, and he hoped that long-term physical therapy would be able to cure his paralysis. He decided to buy Warm Springs and turn it into a safe haven for polio patients. This was the beginning of Roosevelt's connection with the cure for polio. Once he was elected president, he gave his friend Basil O'Connor the keys to Warm Springs, along with the responsibility to support the finding of a polio cure. Tied to Warm Springs, Roosevelt and O'Connor soon created the National Foundation for Infantile Paralysis (NFIP or the "National Foundation") and it immediately became a triumphant philanthropic venture for many reasons, but its attachment to Roosevelt's name certainly played a huge role in the foundation's success.

The National Foundation created programs such as the March of Dimes and Presidential Birthday Bashes to keep afloat during the Great Depression, supporting both Warm Springs and the greater search for a cure to polio. All of these fundraising efforts were related to Roosevelt and created an unprecedented nationwide awareness of the disease. Americans soon began to demand a cure, which pushed scientists such as Jonas Salk and Albert Sabin to work faster than ever before on the new vaccine in a "race for the vaccine." Salk was one of few scientists to become a household name in America, which can be accredited to Roosevelt's NFIP and his grants to Salk's research.

I first became interested in this topic in a history class that took the twentieth century decade-by-decade, analyzing the "blockbuster" drug of that decade and how it affected American history; the 1950s focused on the polio vaccine. I have never been particularly interested in the scientific details of medicine, but the fact that medicine could have a symbiotic relationship with culture fascinates me. This is when I was first introduced to Warm Springs, a site seeped in history only two hours away from my undergraduate campus.

One spring day my junior year at Emory, I decided to drive down and see where Roosevelt spent his holidays trying to rehabilitate his legs. I felt it would be an easy way to decipher whether this was a topic I wanted to invest my time in. Shortly after pulling onto the beautifully manicured grounds, I knew that my interests would only deepen after my visit there. My professor joined me and we explored the museum, which was mostly about his presidency rather than his struggle with polio. That struck me as odd—

why would a museum at his own polio rehabilitation home be mostly focused on his life that was centered in D.C. rather than his personal battle with this disease? We continued on to his Little White House where we got to observe where he slept, ate, and still managed to run the country from his office in this small house in this small Georgia town.

Next, the museum advises you to drive a short way down the road to see the actual warm springs pools that he spent his time in, along with the other polio patients on site. This sight was much less pleasant. We parked our car, the only one in the lot, and walked into a dimly lit small museum hall. This site had more informational displays related to his rehabilitation efforts as well as an iron lung and other historical artifacts related to the disease. However, when you walked out onto the pool deck, all you saw was cracked bleached concrete and empty pools. There was one small fountain of water at the bottom of one pool that visitors could go and touch to feel what the water temperature would have been.

It was then that I realized how important my topic was to this historical discourse on both Roosevelt and polio. The fact that the grounds that once played such an important role in Americans' everyday lives was left to disintegrate into its bare bones made me feel disappointed. Warm Springs was the starting point of the cure for polio and Americans needed the opportunity to make that connection, not solely to visit because it was Roosevelt's vacation home. I knew for a fact at that point that Roosevelt and the polio vaccine would be my honors thesis topic.

Clearly, President Roosevelt is tightly woven into the history of the vaccine. Even though the vaccine was not created until years after his death, he publicized the disease as a widely loved president and therefore sparked the national demand for polio research. I prove the long lasting effects that Roosevelt had on the vaccine development, beginning with his own diagnosis and subsequent purchase of Warm Springs. My research demonstrates how Roosevelt's connection with the disease was crucial to the vaccine development and that the vaccine itself was not just a cure. These connections and this disease changed American culture, as well as views towards medicine in general, establishing the importance of this topic in our nation's social, political, and medical history.

Chapter One

The Diagnosis and Warm Springs

Roosevelt's diagnosis with polio changed both his life as well as many American lives, especially those that were similarly affected by polio. His paralysis inhibited him from doing much of what he loved to do physically, such as sailing, but he refused to allow it to affect his mental abilities and continued with his political ambitions, to his mother's dismay. He similarly realized that some Americans might not respect a disabled politician; the press realized this also and supported his desire to stage all of his photos and videos to appear fully physically able and like a strong leader. However, he still travelled to Warm Springs in hopes of curing his paralysis and ridding himself of these daily worries and pains. Warm Springs became a safe haven for both himself and other polio patients, inspiring Roosevelt to search further for a successful polio cure.

The Diagnosis

President Franklin Roosevelt and his family spent their summers in a 34-room red "cottage" perched on a groomed green lawn on Campobello Island, a quiet sanctuary off the coast of Canada for wealthy American investors.[1] Roosevelt cherished the getaway as a place full of active times with his family in the great outdoors. Biographer H. W. Brands observes, "Sailing and the sea absorbed him. He consumed books about boats and the feats of great mariners. He doodled sloops and ketches in

[1] Nina Seavey, Paul Wagner, and Jane Smith, A Paralyzing Fear: The Triumph Over Polio in America

the margins of the work he did for his tutors; his earliest surviving letter to his mother—doubtless the first he wrote, as Sara saved everything— included a remarkably evocative rendering of three vessels under sail."[2] However, Roosevelt's fond memories of this family home were tarnished in the summer of 1921 when he was diagnosed with polio. He was thirty-nine years old, married, and a Democrat politician with a lot of potential. He and Eleanor Roosevelt had five kids, whom he certainly assumed were more likely to get polio than he was.[3] It was rare for adults to contract polio, and the mysterious origins of the disease caused even more confusion when it occasionally struck an adult. When he was officially diagnosed, Eleanor was instantly concerned for her children, as she still had no idea how Roosevelt contracted it, how it spread, or whether this meant her children had already been infected.[4]

Doctors believe that he most likely picked up the disease on a trip that he took out of Campobello on business,[5] but Roosevelt did not start feeling symptoms such as the chills and extreme fatigue until he was already back at the summer home. Van Lear Black, a wealthy businessman and friend took Roosevelt from New York to Campobello on his private yacht. Once on the island the next day, Roosevelt took Black fishing, still completely unaware that he was infected with the disease.[6] Roosevelt remembers noting that the water felt particularly cold, "I hardly went under, hardly wet my head, because I still had hold of the side…. But the water was so cold it seemed paralyzing,"[7]

---

[2] H.W. Brands, Traitor to His Class: The Privileged Life and Radical Presidency of Franklin Delano Roosevelt (New York: Doubleday, 2008) 23-24.
[3] Seavey 46.
[4] Brands 148.
[5] Seavey 47.
[6] Seavey 47.
[7] Brands 145.

clearly unaware that his polio symptoms were beginning and he was soon to be paralyzed. Instead, he brushed it off as a simple chill since the outdoor air was so unusually hot that day.

A couple of days later, Roosevelt took his wife and children out on the water in hopes of teaching his sons to sail, just as his father had done with him. When they sailed out, they spotted forest fires on another island, a common sighting in the area.[8] After the family successfully fought the fires all day, he attributed the continuation of his unusual fatigue to the physical labor.[9] When Eleanor went back to the house to prepare dinner, Roosevelt took the children to swim in their favorite pond on the island to relax and wash all the soot off. Still not feeling rejuvenated after the swim, he jumped into the extremely cold ocean bay, hoping to jolt his body back to life.[10] When he still did not feel alert in the freezing waters, he knew something was wrong. He skipped dinner and got into bed, assuming that he was getting sick.[11] Historian Gareth Williams gravely observes, "The climb to his bedroom was the last time that he walked unaided."[12]

The next day, he was unable to fully move his left leg, and he had a fever.[13] Eleanor called their family doctor, Dr. Bennett, who diagnosed him with a common cold.[14] However, as she observed his symptoms over the next few days, she knew that it couldn't be a cold because she had seen him with many colds in the past. This time, his symptoms were unusual: "His back ached badly; his legs became numb and then

---

[8] Gareth Williams, Paralysed with Fear: The Story of Polio (New York: Palgrave Macmillan) Kindle Locations 2599.
[9] Williams Kindle Locations 2599.
[10] Brands 145-146.
[11] Brands 145.
[12] Williams Kindle Locations 2607-2608.
[13] Williams Kindle Locations 2599.
[14] Williams Kindle Locations 2599.

completely immobile; the paralysis began to creep up his torso. Even his arms and hands started to go limp. He discovered he couldn't hold a pen to write,"[15] demonstrating the extreme difficulty he already faced in performing everyday activities.

They now knew this was an emergency. Dr. Bennett was called back, and he knew that he needed to bring in an expert. They called in Dr. William W. Keen, a surgeon who was vacationing nearby.[16] Louis Howe, Roosevelt's political advisor, knew that Keen had confidentially helped President Cleveland with his medical needs[17] and would be able to keep Roosevelt's mysterious symptoms a secret and protect his political future. Keen concluded that Roosevelt had a blood clot pressing upon his spinal cord, which was causing temporary paralysis and other painful symptoms.[18] He advised Eleanor to massage his legs until the clot diminished.[19] This rehabilitation process only made it worse for Roosevelt, as he felt overly sensitive to any touch on his skin.[20] Even though his pain greatly intensified for a few days, it finally subsided to a dull ache that they could not get rid of, despite following the doctor's orders.[21]

Despite remaining in minor discomfort, Eleanor and Roosevelt mistakenly believed that he was getting better. Howe, however, was not convinced; he continued to search for more answers, aware that something was wrong and that the Roosevelt's were living on false hope.[22] Howe wrote to Fred Delano, Roosevelt's uncle, who relayed Roosevelt's symptoms to multiple doctors in New York and Boston, all of whom

---

[15] Brands 146-147.
[16] Brands 146.
[17] Brands 146.
[18] Brands 146.
[19] Brands 146.
[20] Williams Kindle Locations 2608.
[21] Brands 147.
[22] Brands 147.

diagnosed the symptoms as infantile paralysis.[23] Dr. Robert W. Lovett, chief of the Harvard Infantile Paralysis Commission, travelled to Campobello and confirmed the conclusion of polio.[24] Lovett suggested warm baths, as it was easier for Roosevelt to move his legs under water, and told Eleanor to cease the leg massages to prevent further muscle depreciation and pain.[25] Lovett, an expert in polio cases, warned the family that oftentimes mental depression accompanies the physical symptoms, even if the paralysis were to eventually subside.[26] However, if Roosevelt ever did experience depression-like symptoms, he was sure to never show the public any emotional weakness.

The Disease Itself

The potential range of polio symptoms is large and confusing—oftentimes, people only experience a headache, not even aware that they have come in contact with the disease. But in about one in a hundred cases people are paralyzed when the virus enters their bloodstream.[27] The major cause of death from this disease is when it becomes bulbar polio, affecting the brain stem to an irreversible point and therefore affecting the patient's ability to use his/her breathing muscles.[28] What doctors know now is that poliovirus is a fecal-oral virus, meaning it enters through the mouth and exits through the stool.[29] It typically spreads person to person through the fecal-oral route,

[23] Brands 147.
[24] Williams Kindle Locations 2609.
[25] Brands 147.
[26] Brands 147.
[27] David M. Oshinsky, Polio: An American Story (New York: Oxford University Press, 2005) 8.
[28] Oshinsky 8.
[29] Oshinsky 8.

contaminated water, or direct contact with someone infected.[30] We also now know that humans are the only potential host for the disease.

However, during Roosevelt's time, there was still not much concrete knowledge on the disease. The first American epidemic was in Vermont in 1894.[31] Dr. Charles Caverly wrote down all 123 cases including the sex, age, symptoms, and results of the epidemic; 18 died in the end.[32] It was apparent throughout subsequent epidemics, both abroad and in the United States, that polio was contagious and appeared to typically spread through child-to-child contact. At this point in medical and scientific history, scientists had not discovered much about viruses; all they knew is that "filterable viruses" were microorganisms that could pass through porcelain filters, unlike bacteria. In 1908, researcher Karl Landsteiner discovered different human blood types, changing the future of science and, more specifically, polio research.[33] He was able to extract the poliovirus from the spinal cord of a deceased polio patient and inject it into monkeys.[34] Once the monkeys experienced the same paralytic results as the little boy had, it was clear that Landsteiner had successfully located the poliovirus.[35]

As more American epidemics occurred in the first decade of the twentieth century, researchers and health officials still could not find the linking characteristics between the numerous polio cases, besides age.[36] They were baffled at the fact that

---

[30] "Polio," Diseases and Conditions, Mayo Clinic, 15 March 2016 <http://www.mayoclinic.org/diseases-conditions/polio/basics/definition/con-20030957>.
[31] Oshinsky 10.
[32] Oshinsky 11.
[33] Oshinsky 11-12.
[34] Oshinsky 12.
[35] Oshinsky 12.
[36] Oshinsky 15.

even clean homes were not immune to the disease.[37] The common belief of the time was that diseases only struck the poor or the "dirty," and the twentieth century was a time of obsessive cleanliness nationwide in order to combat these germs.[38] This prompted the closing of pools, public playgrounds, or any public places that people believed could breed the disease amongst children.[39] In reality, polio most often struck the "unprotected privileged" as their immune systems were not very strong, protected throughout life from everyday germ exposures.[40] Furthermore, polio was commonly called "infantile paralysis," signifying the fact that the general public widely associated the disease with young children. Therefore, when Roosevelt contracted polio, the public was in shock to find that this still uncertain disease paralyzed a famous, wealthy, older, and white man.

The Spectrum of Reactions

Growing up, Roosevelt lived an extremely sheltered life as his mother's pride and joy. Sara, his mother, doted on her only child, treating him as an adult and loving every second of time they spent together. Once Roosevelt married, Sara and Eleanor often experienced interpersonal tension, as they disagreed over Roosevelt's future; Sara always wanted Roosevelt to return home to Hyde Park and live in comfortable wealth as

[37] Oshinsky 16.
[38] Susan Richards Shreve, Warm Springs: Traces of a Childhood at FDR's Polio Haven (New York: Houghton Mifflin Harcourt Publishing Company, 2007) 67.
[39] Shreve 67.
[40] Shreve 13.

his father did, whereas Eleanor recognized his political ambitions and understood that Roosevelt may have seen a different future for himself.[41] Naturally Sara was devastated upon hearing of Franklin's diagnosis, but this devastation was made easier by the hope that this meant his political career was over. Perhaps, he would bring her grandchildren to live closer to her, and she could have more time with her only son as he would naturally need more care and attention with polio.[42] However, Eleanor was never too keen on the idea of sharing her family so closely with her mother-in-law and that feeling did not change even when she needed more help after Roosevelt's diagnosis.[43]

Eleanor and Roosevelt's relationship had many complexities outside of Eleanor's disagreement with his mother. Even though they were initially completely infatuated with each other overtime, Roosevelt's infidelity over time caused them to revert to more of a friendship and partnership, working well and staying together for the children's sake. Though Eleanor's trust was wounded,[44] Roosevelt's illness now demanded Eleanor's attention more than ever before, bringing them closer together. Whereas he used to be an athletic, independent man, he now needed his wife to dress him, wash him, and help him with most daily activities.[45] Eleanor was forced to spend more time with her husband, strengthening their partnership. Eleanor fell somewhere in the middle of Sara and Howe's mindsets; she did not want Roosevelt to completely retire as an invalid nor was she necessarily thinking of the presidency, she was just trying to help him and her family survive everyday life in a way they never had to before.

---

[41] Seavey 47.
[42] Seavey 47.
[43] Seavey 47.
[44] Brands 148.
[45] Brands 154.

Howe, on the other hand, never took his eyes off the presidency. Howe knew that polio would be a major obstacle in the previous trajectory of Roosevelt's political career. How would America respond to a disabled politician? Howe knew that it was his job to successfully handle the media's coverage of the illness in order to somehow still benefit Roosevelt's political career.[46] Roosevelt relied on Howe more than ever before, just as he did on Eleanor; Howe was one of the few who knew the full extent of his disability, and Roosevelt had to trust Howe to protect him and his career. This trust first manifested itself when Roosevelt realized he would have to somehow leave Campobello Island and would no longer be so isolated from the public eye. The reporters knew that the summer was ending and he would have to leave eventually, so they anxiously awaited his travel back to New York.[47] Howe successfully conned the reporters, announcing that Roosevelt would be leaving at a different time than he actually did. In addition, Howe paid any individual involved in the operation of moving Roosevelt to the boat to keep it confidential.[48] Even though this hid Roosevelt's ailment for the time being, reporters clearly realized that he had something to conceal from them.

That September, a *New York Times* article declared that Roosevelt had polio.[49] Howe curbed the panic about a potential full-blown media crisis by having their family physician assure the public that Roosevelt would neither remain crippled nor have any personal injury.[50] Despite Howe's reassurance, this announcement cultivated a sense of fear within the public that this disease was affecting even wealthy, famous figures in

---

[46] Brands 149.
[47] Brands 153.
[48] Brands 153.
[49] "F.D. Roosevelt Ill of Poliomyelitis," The New York Times, 16 Sept. 1921.
[50] Seavey 48.

society. The fact that it was now reaching adults was a scary thought. Dr. Louis Harris, the director of New York City's infectious disease bureau, had to release a statement assuring citizens that it was not going to become an epidemic.[51] The *New York Times* article made it clear that, if not handled correctly, Roosevelt's polio could easily ruin his career and reputation due to the public's irrational fear of the unknown.

The Agreement

Polio was one of the first major obstacles that Roosevelt had to overcome in his sheltered life, and the fact that it left a physical and public mark on him made it even worse. Even though the doctor warned about mental depression, Roosevelt refused to show any signs of emotional weakness or effects from the polio. He would have occasional outbursts around his closest confidantes and doctors, but he never let his frustrations and concerns show in large crowds or for extended periods of time. Some argue that this may have been a result of his generation. As biographer H.W. Brands explains, "the mindset of the Victorian era in which Roosevelt grew up had its quirks and foibles, but one of its virtues was its employment of outward denial as a coping strategy. Males of Roosevelt's generation— and to some extent the females too— were expected to meet misfortune with a stiff upper lip and a sturdy smile, to deny that anything serious was wrong and to soldier forward."[52] Even if Roosevelt showed weakness behind closed doors, he was determined that the public would never know of his qualms.

[51] Brands 154.
[52] Brands 154.

One of the most historically famous aspects of Roosevelt's political career was his agreement with the press to not reveal the extent of his physical disability. As time went on, it became increasingly more difficult for Howe and other political advisors to fully conceal Roosevelt's polio and convince the public that it would not be a permanent condition. By the time he bought Warm Springs, it was evident that there was hope for a cure, but no proof that it would occur anytime soon, especially not before his political career was really going to launch. The time between the First World War and the Great Depression was a period of great national pride in America. American reporters felt the need to support politicians and create the appearance of strong leadership to maintain the national identity, rather than modern era political reporting, which scours the negative details of each politician's life. Additionally, this was easier before the improvement of camera technology, as most photos of Roosevelt were pre-planned between the political staff and the press.[53]

Whenever Roosevelt was photographed, he was typically seated in his special car, leaning against a railing standing up, supporting himself on another person, or seated in a chair, as pictured in Figures One and Two below.[54] These two figures both present Roosevelt as an able-bodied man and show no sign of disability. The fact that both figures picture him with a car demonstrates the desire to extinguish all doubts that Roosevelt could not perform daily activities. He also painted his braces black and always wore black socks, so that when standing, his braces blended into his outfit.[55] Susan Shreve, a Warm Springs patient after Roosevelt's time, details that "he was

[53] Jean Edward Smith, FDR (New York: Random House, 2007) 277.
[54] Seavey 50.
[55] Shreve 108.

carried through the back doors of buildings where he was giving speeches, arriving early at events so he could be seated before the crowd arrived; that he was hoisted down shafts and fire escapes, lifted into and out of boats and trains and planes," proving the immense efforts that he took to conceal his disability.[56] Roosevelt refused to allow his polio and paralysis to define his image in the press.

Only two photographs are known to exist of Roosevelt in his wheelchair, one of which is pictured in Figure Three below.[57] Similar to the majority of his staged photos where he does not look disabled, even this photograph of him in his wheelchair is strategic. He appears happy with his dog and a little girl, not struggling to maneuver his wheelchair or in any sort of physical pain. Viewers of this photo would most likely still not feel immense pity for Roosevelt. However, even most photographs taken at Warm Springs pictured him as a gallant swimmer, not a disabled polio patient. Shreve further observes, "there were many photographs of Roosevelt in the halls of the Warm Springs Foundation, and most of them were formal and taken above the waist. There were a few of him standing with someone supporting him, like a human crutch. There was one showing him in a wheelchair…"[58] The average American pictured Roosevelt as robust and strong, demanding respect and standing tall, rather than riding around in a wheelchair. Even with his family, he never fully admitted that he could not walk.[59] A former athlete, Roosevelt was determined to learn to live with this disease, rather than appear frail or incompetent.

---

[56] Shreve 108.
[57] Seavey 50.
[58] Shreve 108.
[59] Shreve 12.

Figure One

“Franklin D. Roosevelt in Warm Springs, Georgia” by National Archives Catalog

Figure Two

“Franklin D. Roosevelt and Bernar MacFadden in Warm Springs, Georgia” by National Archives Catalog

Figure Three

"One of Suckley's photographs of FDR in his wheelchair, with Ruthie Bie and Fala (February 1941)" photographed by Margaret Suckley by FDR Presidential Library & Museum protected by CC BY 2.0

The Warm Springs Purchase

For years doctors tried to help Roosevelt rehabilitate his polio, but none of the doctors' recommendations were working. This led his friend George Foster Peabody to recommend Warm Springs, whose waters were rumored to have healing powers.[60] Roosevelt went to visit in 1924 and, after trying numerous other methods of physical therapy, Warm Springs made the biggest difference of them all. The hotel spa on the

[60] Seavey 47.

grounds was failing and desperately trying to stay in business, and luckily, their warm waters relieved Roosevelt's legs to such a degree he was inspired to buy the grounds. Roosevelt felt that he needed to share this newfound treatment with other polio patients. He asked Basil O'Connor, Roosevelt's former partner at a New York City law firm,[61] to join him in buying and operating the Warm Springs property in the hope that it could be a safe haven for polio patients and a testing place for new potential cures.

O'Connor and Roosevelt knew that they would need more than just personal funds to renovate the run-down spa and turn it into a world class rehabilitation center. The financial needs of Warm Springs prompted the two entrepreneurs to found the Georgia Warm Springs Polio Foundation, later to be re-named the National Foundation for Infantile Paralysis when Roosevelt was President.[62] I will discuss the NIFP in greater detail in Chapter Two, but it importantly sparked various efforts to raise money, initially for Warm Springs, and later for polio research in general once expanded. Susan Shreve, a polio patient at Warm Springs after Roosevelt's time, comments in her memoir, "I was, in short, deliriously happy at Warm Springs, as they desperately hoped I would be, and grateful for the opportunity to get better for free… as a result of President Roosevelt's March of Dimes,"[63] which was one of the National Foundation's many successful philanthropy efforts. Roosevelt applied for endorsement from the American Orthopedic Association, and after they saw improvement in twenty-three patients, the Association awarded Warm Springs the title of a hydrotherapeutic center, adding

[61] Williams Kindle Location 2628.
[62] Shreve 19.
[63] Shreve 7.

legitimacy to Roosevelt's dream.[64] Without the NFIP, Warm Springs would neither have been able to stay in business nor become an accredited rehabilitation center.

Once renovated, Roosevelt spent a lot of time in his Little White House at Warm Springs, pictured in Figures Four and Five. Louis Howe was not too fond of the property, as he felt that Roosevelt should be more closely connected to the political center of Washington DC, not out of reach in rural Georgia, where even regular electricity was scarce.[65] Howe did not see any actual physical changes from the warm waters, just the emotional happiness that the sanctuary brought Roosevelt. The possibility and hope of even being able to rehabilitate his paralysis naturally boosted Roosevelt's mood, but from Howe's politically centered perspective, Warm Springs made it difficult for Roosevelt to succeed.

However, Howe resourcefully found a way to use Warm Springs to boost Roosevelt's reputation. He made sure that newspapers reported the possibility of Roosevelt's physical rehabilitation constantly,[66] thereby reassuring the public that polio and Warm Springs did not affect Roosevelt's life or career goals in any significant way. An *Atlanta Journal* reporter visited the grounds and wrote an article titled, "Franklin D. Roosevelt Will Swim to Health," which is one of many examples of the encouragement that the press offered the public about Roosevelt's time at Warm Springs. These articles not only made it clear that Roosevelt would not remove himself from politics, but also attracted many other polio patients from around the country to flock to Warm Springs.

---

[64] Shreve 18.
[65] Seavey 48.
[66] Seavey 48.

Figure Four

Figure Five

Roosevelt was active with the patients at Warm Springs, swimming and playing with the kids in the pool, passing along warm smiles, and always encouraging everyone that they could have a happy life with polio, as pictured in Figures Six through Nine. Other patients even fondly called him "Doctor Roosevelt."[67] Eleanor Roosevelt, however, was not fond of Warm Springs. She did not like the countryside and the fact that segregation still existed in the town.[68] Still, Roosevelt was determined to rehabilitate himself at his newfound second home regardless of his wife and political advisor's disapproval. On his first day at Warm Springs, he met with Louis Joseph, a polio patient who had learned to walk again after swimming in the waters.[69] Together, they created a strict plan for Roosevelt's exercise and rehabilitation, which he shared with fellow polio patients for the rest of his time at Warm Springs.[70] Unfortunately, even after two decades of dedication to following in Louis Joseph's footsteps, Roosevelt's conditions did not improve from the regime, even though his mental health and outlook on life certainly did. Though Roosevelt was never fully cured of his paralysis, the underwater exercises undoubtedly strengthened his muscles and boosted his spirits.

[67] Shreve 17.
[68] Shreve 14.
[69] Shreve 15.
[70] Shreve 15.

Figure Six

"Franklin D. Roosevelt in Warm Springs, Georgia" by National Archives Catalog

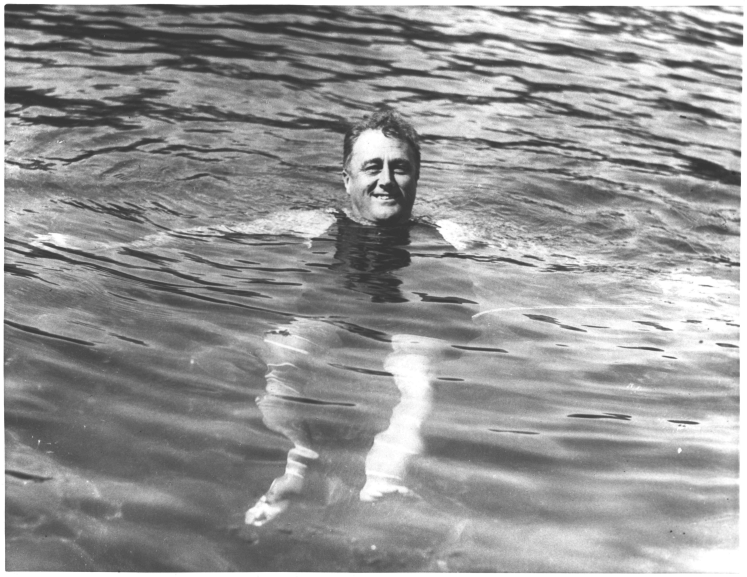

Figure Seven

"FDR swimming in a Warm Springs, GA pool. October 1925." by FDR Presidential Library & Museum is licensed under CC BY 2.0

Figure Eight

"Franklin D. Roosevelt and a farmer enroute to Warm Springs, Georgia" by National Archives Catalog

Figure Nine

"Franklin D. Roosevelt, and seven other men in Warm Springs, Georgia" by National Archives Catalog

On the grounds, no one felt embarrassed by their physical ailments, and they were able to live with hope as new "cures" were constantly being tested. Similarly, they found a social haven where love, friendship, and all aspects of a "normal" life could exist in a safe community. . In 1933, the *Chicago Daily Tribune* describes that the "Little White House in the Woods Becomes Capital of the United States" and reports that there are

> "wheel chairs everywhere. The saddest are the smallest, for they are made for the children. But they children are gay. They sing a song about 'We are the kids with the braces.' You swallow the lump in your throat, but the doctor tells you that's part of the treatment; to make the patient unselfconscious. You look at President Roosevelt and you understand."[71]

The article proves the importance of Roosevelt's initial stays at the grounds, both to heal his own body as well as inspire the children to feel self-confident. Hugh Gallagher, a former Warm Springs patient and current historian on Roosevelt, comments in an interview, "I didn't want to think of myself as crippled and I didn't want to associate with cripples… I made friends at Warm Springs that I have kept my entire life. Warm Springs changed my life totally. It showed me how I could live independently."[72] Susan Shreve remembers weeks of excitement and decorating leading up to the holidays, they even had a parade and Halloween costume contest.[73] These events helped the children forget that they were parading in wheelchairs; they got caught up in the social excitement that their non-polio peers also enjoyed. Even after Roosevelt's death, Warm

[71]Genevieve Forbes Herrick, "'Polio-Physio' Follies Staged for Roosevelt: Little White House in the Woods Becomes Capital of the United States," Chicago Daily Tribune, 3 Dec. 1933.
[72] Seavey 57.
[73] Shreve 76.

Springs continued to be a sanctuary for polio patients and a rehabilitation facility where Roosevelt's was remembered very fondly.

Roosevelt's establishment of Warm Springs and his agreement with the press seem to present contradictory values and goals. On one hand, he created a safe place for both himself and other polio patients, a place of hope for a cure. On the other hand, he realized the ways in which his paralysis could inhibit his political career and chose to hid the extent of his physical disabilities from the general public. Even in the majority of his photos from Warm Springs, he is not captured in his true state; rather than depicting him seated in a wheelchair or wearing braces, attempting to rehabilitate his legs, most photos depicted him swimming or driving a car, always smiling and happy. Roosevelt desired to have two lives: one life where he could cure polio and help other polio patients feel accepted, and another life where he could still remain a successful politician and not lose the support of the general public that may worry about the correlation between a physically weak politician and a weak country.

Chapter Two

Philanthropy and Research

Roosevelt's investment in Warm Springs and his partnership with Basil O'Connor spurred the development of various philanthropic organizations in efforts to find a cure for polio. The National Foundation for Infantile Paralysis was the culminating organization; it supported different types of creative fundraisers such as birthday bashes for Roosevelt and drives to donate a dime to the cause. The National Foundation was one of the first organizations to employ nationwide fundraisers, inherently changing and broadening the possibilities for future philanthropies. Roosevelt's participation in these national events helped his constituents feel a connection to him, both those with and without disabilities. The way in which Roosevelt championed his disease inspired many disabled individuals and also changed the way in which Americans viewed disabilities.

The National Foundation & American Philanthropy

The Great Depression affected the country in many devastating ways, and the Warm Springs Foundation was not immune to the economic downturn. In 1929, the foundation received $369,000 in donations, but only $30,000 in 1932.[74] This almost unbelievable decrease shocked O'Connor into realizing that he had to come up with creative fundraising efforts to stay afloat. Roosevelt started his first presidential term in 1933, removing him from his daily investment of time in the Warm Springs Foundation,

[74] Daniel J. Wilson, "Basil O'Connor, the National Foundation for Infantile Paralysis and the Reorganization of Polio Research in the United States, 1935-41," Journal of the History of Medicine and Allied Sciences 70.3 (2014): 400.

as he now had national responsibilities.[75] O'Connor sought out Carl Byoir, one of his aides, who suggested the innovative idea of using Roosevelt as the poster child for fundraising.[76] Although many Americans already associated Roosevelt with polio, his position as the newly elected and beloved president only added to the possibilities of his influence over the American people. Byoir recommended a Presidential birthday party, a simple idea that turned into an outstanding national fundraising success.

On January 30, 1934, town halls across the country hung streamers, placed cakes on beautiful platters, hired bands, and sent out invitations with Franklin Delano Roosevelt's face stamped on them beckoning the townspeople to attend his "birthday ball"[77] (see Figures One and Two). The commissioners of this ball would encourage people to "dance so that others might walk,"[78] (see Figure Two) ensuring that their ticket funds would benefit polio patients like their beloved President Roosevelt. They encouraged party-goers to donate whatever they could, even just one coin,[79] a possibility for most Americans even during the hardest times of the Depression. These parties were held in a range of venues, from upscale hotels in New York City to local fire halls in small towns.[80] O'Connor was hoping that if they were lucky they could raise $100,000 nationwide.[81] To his great surprise, the first event raised over one million dollars, an amount of money that they couldn't fathom at the time.[82] More than 6,000

[75] Wilson 400.
[76] Wilson 400.
[77] Arthur Allen, Vaccine, (New York: W.W. Norton & Company, 2007) 165.
[78] Allen 165.
[79] Wilson 401.
[80] Wilson 401.
[81] Wilson 401.
[82] Allen 166.

parties occurred all over the nation and Roosevelt exclaimed over the radio at 11:30 P.M., “this is the happiest birthday I have ever known.”[83]

Figure One

“Celebrities Red Skelton and John Garfield cut the cake at a Birthday Ball, Washington, DC, January 29, 1944.” by FDR Library Page

[83] Oshinsky 50.

Figure Two

"Poster for the President's Birthday Ball, an official event associated with the birthday of President Franklin D. Roosevelt to raise funds to fight infantile paralysis" by Library of Congress

The Warm Springs Foundation realized the potential of holding this event annually and created The Federal Commission for Birthday Balls (also known as the President's Birthday Ball Commission or PBBC) in 1934 to continue to grow and foster the fundraising efforts.[84] The commission asked a group of various experts to help advise them on where to invest the money, whether it be for Warm Springs or for other

[84] Wilson 398.

research.[85] One of the members of the Federal Commission for Birthday Balls was Paul de Kruif, a biologist and author of *Microbe Hunters,* which was focused on the scientists who found disease-causing bacteria and invented vaccines to combat them. De Kruif suggested that the commission invest the funds into finding a solution to the "polio problem" rather than solely funding rehabilitation at Warm Springs. Other members included prominent bankers, attorneys, executives, philanthropists, and researchers.[86] This committee provided the PBBC with varying viewpoints and experiences in order to synthesize the most effective advice of how to allocate research funds. The committee then appointed a medical advisory sub-committee, which included more medical professionals and experts than the overarching committee, to review all of the grant applications.[87]

With the first year's funds of $1,016,443, the commission decided to put aside $100,000 for research efforts that were occurring outside of Warm Springs.[88] The next year, before the balls even occurred, the commission decided to allocate 70 percent of donations to care, rehabilitation, and treatment at Warm Springs and 30 percent of donations to medical research against polio.[89] The commission's willingness to sacrifice such a large of a percentage from their rehabilitation efforts proves the growing importance of polio research as well as the growing pressure from the American public to find a cure, rather than just to make patients comfortable once they already had the disease.

---

[85] Allen 165-166.
[86] Wilson 402.
[87] Wilson 398.
[88] Wilson 401.
[89] Wilson 398.

Five years later on Roosevelt's birthday, in the fundraising spirit of the Birthday Balls celebrated all over the nation that day, singer Eddie Cantor urged Americans to send a dime to the White House for the President's birthday.[90] It was Cantor's clever idea to play on the newsreel *March of Time* that was typically shown before feature films at the time.[91] Unexpectedly, 2.6 million dimes arrived at the White House the day after Cantor made his announcement (see Figure Three), ready to support the cause against Infantile Paralysis and proving that even just one dime in an economic hardship can make a huge collective difference.[92] This marked the beginning of the March of Dimes philanthropic effort to find a cure for polio. Based off of the success of the PBBC, the Warm Springs Foundation and Basil O'Connor knew that the March of Dimes could be another huge success. The prosperity of the PBBC encouraged Roosevelt to support O'Connor's desire to create the NFIP in January 1938 with funds from the March of Dimes.[93]

[90] Allen 166.
[91] Oshinsky 54.
[92] Allen 166.
[93] Wilson 398.

Figure Three

"FDR's personal secretary Missy LeHand with the 30,000 letters containing ten-cent contributions to the NFIP…" by Library of Congress

Although funds from the PBBC were a huge start in the fundraising efforts for polio research, it wasn't until the March of Dimes and NFIP were established that the eventually successful cures of Jonas Salk and Albert Sabin began to receive funding, which will be discussed in detail in Chapter Three.[94] As its influence and fundraising expanded, the PBBC was enveloped into the NFIP later that decade,[95] in hopes that these funds could help solidify more research efforts. Even though the name changed and the foundation expanded its scope to focus on various different fundraising efforts,

[94] Wilson 398.
[95] Allen 166.

these birthday balls continued for the rest of Roosevelt's life coupled with the March of Dimes, which continued to raise money for the cause. Pictured in Figure Four is Roosevelt receiving a birthday cake with checks to the NFIP plastered on it, signifying the continued financial importance of the Birthday Balls in the research efforts. Even during the War in January of 1942, Roosevelt told O'Connor to continue with his birthday ball planning, writing him,

> "I feel as you do—that any interruption in this work would be extremely inadvisable unless absolutely necessary. Until it is definitely known how to prevent a disease from occurring or how to prevent it from spreading, the threat of that disease—if it is an epidemic—is one of our gravest dangers."[96]

This article from *The Atlanta Constitution* demonstrates the national interest in the birthday balls. Even during a time of war amongst some of the world's largest nations, the battle against polio remained highly important to Roosevelt.

[96] "Polio Birthday Fetes Okayed By Roosevelt: Fight Against Paralysis Must Go On, Says President." The Atlanta Constitution, 17 Nov. 1942.

Figure Four

"FDR Receives a birthday cake in the Oval Office from William Green of the American Federation of Labor… January 1942." by FDR Presidential Library & Museum protected by CC BY 2.0

The NFIP was inspired by the success of the PBBC and realized that a successful research foundation needed a solid committee of advisors to help direct the funding. Paul de Kruif led the NFIP to initial success as the secretary due to his experience as the former secretary of the PBBC.[97] The NFIP formally called this committee the Committee on Scientific Research (CSR) and appointed Dr. Thomas M. Rivers, a virologist from Rockefeller Hospital, as head of the committee, where he

[97] Wilson 399.

remained for seventeen years.[98] By chairing the committee with various doctors, writers, and researchers, the NFIP successfully supported their passionate efforts with credibility and prestige.

The National Influence on American Philanthropy

The National Foundation for Infantile Paralysis changed the face of American philanthropic efforts. It introduced the idea of creative, nationwide efforts that unified Americans for one cause. The changes in American Philanthropy began to occur with the First World War, which inspired Americans to unite as one to support their country; these efforts created the sentiment that Americans owed their nation something, whether that be towards charity or the war effort.[99] But as discussed earlier, the Great Depression put a quick halt to these charitable tendencies. The March of Dimes successfully overcame the Depression's obstacles, finding a way to merge economic hardship with national unity behind a common cause, once again providing Americans with an all-too-familiar sense of nationalism experienced just a decade earlier.

The March of Dimes reemphasized the importance of innovation; the success of presidential birthday balls and linking a coin to their philanthropy proved that even the most outlandish of ideas could work. Roosevelt now understood that he could use the March of Dimes and the American fight against polio to appeal to the American people in other ways, such as uniting for the World War II war effort. During a March of Dimes radio address in 1944, he stated:

---

[98] Wilson 399.
[99] Oshinsky 50.

> "The generous participation of the American people in this fight is a sign of the healthy condition of our nation. It is democracy in action. The unity of our people in helping those who are disabled, in protecting the welfare of our young, in preserving the eternal principle of kindliness—all this is evidence of our fundamental strength… How different it is in the lands of our enemies! In Germany and Japan, an individual's usefulness is measured solely by the direct contribution that he can make to the war machine."[100]

He clearly used the appeal of helping the nation's children in multiple ways: both to stay physically healthy from diseases such as polio, as well as to protect them from outside military and political threats. This was an American era of solidarity, trust in the government, and patriotism, which in turn united all forms of nationwide efforts. Some may argue that the characteristics of the era are what allowed the National Foundation to be so successful in its philanthropic endeavors, but in reality the National Foundation only served as yet another unifying factor for an already unified nation.

To the NFIP's advantage, even American media was sometimes involved in the fight against polio, often to advance other goals as well, such as encouraging patriotism. The comic book *True Comics* was a medium through which many political messages were communicated, similar to political cartoons in newspapers throughout history. Even Roosevelt's story about polio and Warm Springs was featured during the Second World War in 1944 in an effort to encourage soldiers that even they could overcome their disabilities.[101] Over the span of four pages, the reader experiences a conversation

---

[100] Allen 165.
[101] Bert Hansen, "Medical History for the Masses: How American Comic Books Celebrated Heroes of Medicine in the 1940s," Bulletin of the History of Medicine 78 (2004): 177.

between a soldier and his buddies about polio and Roosevelt. The soldier formerly had polio as a child, and the friends exclaim "we can't believe you've ever had infantile, Phil! Why, you're just like us!"[102] The soldier explains that Roosevelt found Warm Springs to help him with his polio and then founded the National Foundation to search for a cure.[103] Historian Naomi Campbell observes that "the link between polio and the war was made tangible by stories of young men who had 'overcome' polio and joined the armed forces, the ultimate sign of manly citizenship and therapeutic success."[104] This comic was not only propaganda for the military, but also for the National Foundation, indicating how media managed to intertwine various public interests of the time period.

The National Foundation tended to emphasize two opposite ends of the recovery spectrum. The majority of their philanthropy efforts featured first sad, disabled children in need of aid and second fully recovered miracle cases. The 1942 March of Dimes campaign was about Nancy Merki, an Olympic swimmer, and Jean White, a roller skating champion, both examples of incredible transformations.[105] However, at a Waldorf Hotel reception to fundraise for polio research, the physical variation among guests was apparent, as attendees included everyone from five year olds struggling on crutches to Olympic athletes such as Merki.[106] The National Foundation evidently struggled to represent the entire scope of the disease's effects and the varying successes and failures of attempts at a "cure." However, emphasizing the most positive

[102] Hansen 177-178.
[103] Hansen 177-178.
[104] Naomi Rogers, Polio Wars: Sister Kenny and the Golden Age of American Medicine (New York: Oxford University Press, 2014) 149.
[105] Rogers, Polio Wars 156.
[106] Rogers, Polio Wars 156.

cases to prove success as well as the most hopeless cases to prove desperation was a smart fundraising technique.

This period was also the era of movie stars and famous individuals participating in philanthropy. Aside from Roosevelt's connections to the fight against polio, the National Foundation capitalized on other forms of popular support. Roosevelt was pictured with Hollywood actors who played parts in a movie that benefited the NFIP. The NFIP hosted events such as fashion shows at the Waldorf Astoria, where Marilyn Monroe walked with two adorable polio patients down the runway. Even after Roosevelt's death, *The Atlanta Constitution* printed an article advertising a program on WCON-ABC that featured various celebrities "saluting" Roosevelt on his birthday.[107] Today, many celebrities represent philanthropic causes, and the NFIP represents the beginning of this movement. With both political and commercial support, the March of Dimes had created a recipe for fundraising success for years to come.

The Challenges of Defining a Disease

Polio research occurred at a crucial time period in American history. Spanning the decades that encompassed the Great Depression and the Second World War, one can only imagine the great changes that were occurring in American society both in terms of domestic and foreign relations. During a time of unrest, Polio research and the eventual cures not only affected Americans but also the overall discourse on what a

[107] Rita Van Pele, "Polio Fund Program To Salute Roosevelt," The Atlanta Constitution, 30 Jan. 1950.

disease is and what it means to have a disability. In his introduction to *Framing Disease: Studies in Cultural History,* Charles E. Rosenberg notes:

> "disease is at once a biological event, a generation-specific repertoire of verbal constructs reflecting medicine's intellectual and institutional history, an occasion of and potential legitimation for public policy, an aspect of social role and individual… In some ways disease does not exist until we have agreed that it does, by perceiving, naming, and responding to it."[108]

Rosenberg offers an interesting point by suggesting that humans construct disease, and his point certainly applies to the history of polio.

Rosenberg continues his introduction to discuss changing definitions of disease in regards to polio, explaining the differences between how polio was perceived before and after Roosevelt's fame. Polio was widely, but inaccurately, seen as a disease of dirt and poverty.[109] In reality, researchers know now that polio is actually a disease that results from being *too* clean, to put it very simply; the disease typically stemmed from issues of a weak immune system due to lack of exposure to germs.[110] In reality, polio is a virus transmitted through feces, so people in extremely clean environments are less likely to be exposed to it in any form, lacking the ability to build up immunity against the disease. At this point in American history, most people associated all disease with slum-like environments, not with clean and wealthy homes. Therefore, when polio struck a wealthy white man like Roosevelt, the public was in complete shock. Since the origin of

---

[108] Charles E. Rosenberg and Janet Golden, Framing Disease: Studies in Cultural History (New Brunswick: Rutgers University Press, 1992) 1.
[109] Rosenberg 1.
[110] Rosenberg 3.

the disease was unknown, it was even more terrifying as it would strike at random—one member of a family, one neighborhood but not the next, half of a classroom, and so forth. As citywide epidemics became a larger concern, Rosenberg observes that they "highlighted tensions between old and new medical theories and practices… after 1921 the meaning and significance of polio shifted, as the disease began to take on its new image as 'Roosevelt's Disease.'"[111] The quickly changing realization that polio was not actually a disease of only the lower classes proves Rosenberg's point that the perception of diseases are constantly changing due to social constructions.

In addition to class divisions, racial and national divisions define many diseases. In a constant panic and confusion over polio epidemics, many sought others to blame. As historical patterns have shown, this blame often falls on immigrants when a disease is misunderstood. The reality of polio, and of course the majority of all other diseases, quickly put this assumption to rest in the medical world, as polio crossed racial boundaries. Rosenberg notes that "assumptions that poor immigrants through carelessness and ignorance were spreading polio, however, were strong enough to overcome the gradual intellectual changes that public health theory and practice had undergone since the 1890s."[112] Clearly, people's xenophobic and other social views could not be dispelled by medical theories.

Even though the NFIP funded the majority of polio patient care in America, racial divides were not ignored. Eleanor Roosevelt did not care to travel to Warm Springs with her husband, and rightfully so; the extreme racism in the small Georgia town made her

[111] Rosenberg 3.
[112] Rosenberg 3-4.

feel highly uncomfortable. When she suggested that the Foundation build a cabin for African American polio patients at Warm Springs, they told her that "such a thing would not be desirable in Georgia."[113] However, O'Connor knew that they needed to find a compromise in order to benefit Roosevelt's presidency, as he was beginning to attract African American voters.[114] The NFIP decided to fund a polio center for African Americans at the Tuskegee Institute in Alabama.[115] The racist view that African Americans were less susceptible to the disease, and therefore in less need of aid, still circulated the country;[116] although the medical racism is evident, the Tuskegee establishment was at least one step towards equality.

Disabled individuals clearly felt the weight of typical social divisions and prejudices even more heavily than most. The definition and terms used to describe disabled people changed over time. Naomi Rogers observes that the Second World War in particular spurred the conversation over disability politics.[117] Terms such as "crippled" were substituted with "handicapped" or "disabled" to embody a wider range of disabilities.[118] Even though social prejudices still existed, at least on paper disabled persons were receiving more rights and respect in the workforce as well as charity campaigns for their benefit, including many of the NFIP campaigns. One of the most notable examples of the NFIP's support of changing disability politics was a poem titled "Infantile Paralysis Patient," which the Foundation published in the *National Foundation*

[113] Oshinsky 65.
[114] Oshinsky 65.
[115] Oshinsky 65.
[116] Oshinsky 65.
[117] Rogers, Polio Wars 149.
[118] Rogers, Polio Wars 149.

News which Naomi Campbell observes "presented 3 ages of attitudes toward the disease: the dark ages of revulsion; the recent past of scorn; and today's era of medical intervention and recovery".[119] Not only was the world changing for polio victims, but for a much larger group of disabled citizens who were pushed aside for all too long.

The Relatable President

As discussed earlier, Roosevelt became the symbol of polio, especially embodying the ability for those with polio to maintain a high quality of life; if he could be president could ever polio patient find a way to be happy? Naomi Rogers, Yale professor of History of Medicine and Science, accurately describes Roosevelt's role in the larger polio discourse:

> "For most Americans over the age of fifty the word polio has certain consistent images: a smiling freckled girl on crutches on a March of Dimes can; swimming pools closed for the summer; a nurse leaning over a child in an iron lung; rows of children with arms outstretched waiting for their polio vaccine shot; and President Roosevelt seated by a radio microphone, crippled yet strong, America's first handicapped president who refused to allow the press to report his wheelchair, leg braces, or inability to walk."[120]

Many of these images were discussed in earlier chapters as crucial to polio's history as an American disease. Her line "crippled yet strong" rings true in regards to Roosevelt, as he represented the ability to lead the entire country with a mental and emotional

---

[119] Rogers, Polio Wars 158.
[120] Naomi Rogers, Dirt and Disease: Polio Before FDR (New Brunswick: Rutgers University Press, 1992) 1.

strength that overcame his lack of physical strength. Although he concealed the extent of the physical effects of his disease, he proved that polio victims could still have a meaningful and influential career. Roosevelt commented on all the publicity surrounding his disease stating, “Frankly, I cannot see the importance of all this nonsense when I am in perfect health and get through three times as much work in the average day as three ordinary men.”[121] Rogers also notes that “Roosevelt was the first American president to make a disease ‘his disease,’”[122] a huge change in how Americans commonly defined presidents in the past.

Roosevelt made sure that his struggle with polio did not create a barrier between him and his constituents. He refused to appear weak in public, a theme of both his family as well as his era in American history.[123] During a time where most people placed others into categories, whether sex-based, race-based, class-based, and so forth, Roosevelt was a pioneer for disabled people. In reality, most disabled people were seen as incompetent or only part of a whole person; no matter their accomplishments, many felt confined or overshadowed by their disability. During the Great Depression, many disabled Americans felt an intensified fear of losing their job or the crushing defeat of not being able to find one in the first place; when the majority of Americans were unemployed, the disabled were the least likely to be picked from the crowd. Historian David Oshinsky observes that,

---

[121] Oshinsky 44.
[122] Rogers, Polio Wars 154.
[123] Brands 153.

> "Once in the White House, Roosevelt became a potent symbol for polio victims and their families. Like most Americans, they viewed him through the lens that he himself had created: as an inspiring figure who had overcome an illness, not as a cripple with a permanent disability. And like most Americans, they had found a leader to confide in, someone who understood their isolation and their pain."[124]

Even though it is evidently very difficult to accurately define a disease, Roosevelt certainly helped redefine polio for his generation, the effects of which spread to other physically handicapping diseases. Americans now saw hope and inspiration for the possibilities of rehabilitation and recovery, rather than feeling ashamed of their disabled loved ones. A mother of a disabled son wrote to Roosevelt, "Every time I hear your voice on the radio and read about your attitude toward physical handicaps—that they don't amount to a 'hill of means'—I am strengthened and my courage is renewed… your life is, in a way, an answer to my prayers."[125]

Not everyone placed Roosevelt on such a high pedestal, however. He was a politically polarizing figure, as most presidents are. Many accused him of hoarding the money raised for polio for himself, or capitalizing on his physical weakness for pity.[126] The issue of polarization is clear in the following quote from his political opponent, Georgia Governor Eugene Talmadge: "Warm Springs is located in my state. The place is not a charitable institution. I have made several efforts to get pitiful little children who had infantile paralysis in this hospital, and have never succeeded."[127] The decision to link a charitable cause and disease to the President clearly had its challenges and

---

[124] Oshinsky 45.
[125] Oshinsky 45.
[126] Oshinsky 52.
[127] Oshinsky 52.

downfalls; at times, funds would decrease when Roosevelt's popularity fluctuated. For these reasons, Roosevelt handed over the reins to O'Connor, so that the NFIP could succeed without an attachment to the presidency.[128] Even though Roosevelt was the main investor and creator behind Warm Springs and its subsequent foundations, Basil O'Connor rightfully took much of the credit for the successes of the NFIP, as Roosevelt was busy taking credit for the White House and his country.

Despite political opponents' disapproval of him, Roosevelt's overall popularity shone through in his effect on his citizens' daily lives. Many Americans wrote Roosevelt, asking for advice on how to cope with the shame of the physical limits of their disease.[129] Roosevelt would respond with short and inspiring counsel such as "you are making a brave fight."[130] The fact that they felt comfortable enough to write personal letters to the president further proves his ability to connect to the country in various ways. Sharing a personal experience and feeling with the President only served to further unite much of America with the White House; even if they were not disabled, almost every citizen could relate to a feeling of defeat or helplessness during this historical period.

Though the media helped control Roosevelt's disabled image in the political sphere, in the philanthropic sphere Roosevelt championed his disease. Despite the fact that the public never knew the full extent of his disabilities, he still managed to connect to the American people, especially those who were disabled, through his investment in

[128] Oshinsky 52.
[129] Oshinsky 45.
[130] Oshinsky 46.

the fight against polio. Roosevelt and the NFIP helped each other succeed; Roosevelt championed a cause and became relatable to the public and the NFIP could use Roosevelt's name to greatly boost their fundraising potential. Without each other, Roosevelt's success as president and the NFIP's success as an organization would have been very different. Roosevelt's diagnosis affected both his personal life, his political image, his approachability, and the ways in which Americans viewed the limitations of disabilities.

Chapter 3

The Race for the Vaccine

Roosevelt's diagnosis and his investment in searching for a cure through extensive fundraising finally culminated to result in a vaccine for polio. However, it took a lot of money, failed studies, and time to finally find a successful cure. In reality, the first polio vaccine wasn't discovered until a decade after Roosevelt's death, but Roosevelt's name remained attached to the battle for a cure. Even though the President was unable to watch his passions come to fruition, O'Connor and the NFIP were determined to continue his legacy and ensure that future patients would, at the very least, have the amazing health care that Roosevelt did and, at the very most, have a cure. The race for a cure between the two scientists Jonas Salk and Albert Sabin was the key to an eventual doubled success in the battle against polio.

The Early Techniques

Americans felt complete panic at the mention of polio. An unknown crippling disease in one of the most medically advanced countries in the world fostered distress. People attempted to alleviate their fears through public guidelines and posted suggestions such as shutting down public pools, excluding children from entering new or neighboring towns in the summer, avoiding contact with children, avoiding towns with polio patients, and even removing themselves from any situation in which their bodily temperatures would dramatically shift such as "a plunge into extremely cold water on a

very hot day."[131] With epidemics fluctuating across the country, disappearing, and then randomly appearing in full force, citizens could not help but push for a cure. This sentiment set the backdrop for one of the nation's first medical media frenzies over the "race for a cure."

Sister Elizabeth Kenny was an Australian nurse who immigrated to the United States in hopes of finding medical funding and support for her techniques.[132] She was one of the first NFIP-funded successes to try and cure polio through rehabilitation techniques, similar to Roosevelt's hope at Warm Springs. Her ideas were made "standard polio care by the mid-1940s," yet by the mid-1950s her techniques were already being disproven and disregarded.[133] It was apparent that the virus affected the muscles, researchers believed by damaging nerves, but Kenny thought it attacked other parts of the body such as the skin,[134] based on the complains of her patients such as burning sensations under their skin. Kenny was determined to address all aspects of the disease and spread her approach to doctors, physical therapists, and nurses everywhere.

Kenny's manipulation of the press provides evidence for the entangled involvement that media played in the search for a cure for the disease. Historian Naomi Rogers explains how "Kenny knew to speak of 'improvement' rather than 'cure,' but she often did exaggerate her results. As early as the 1930s she learned the power of the

---

[131] Oshinsky 70.
[132] Rogers, Polio Wars ix.
[133] Rogers, Polio Wars ix.
[134] Rogers, Polio Wars 40.

press and the importance of a good story."[135]Additionally, Kenny felt the weight of being a woman in the medical field; O'Connor often had medical experts check in on her at her home base of Minneapolis and report back to the NFIP.[136] She often noticed that she was treated differently than other NFIP-funded researchers.[137] However, O'Connor realized that it was important publicity to permit Sister Kenny to meet Roosevelt due to letters from her as well as American citizens hoping her techniques would be used at Warm Springs. In 1943, Kenny and Roosevelt had lunch with O'Connor, and the NFIP ensured that many reporters were there. O'Connor knew the impact of Roosevelt being connected with all attempts to understand polio in order to successfully continue the NFIP fundraising efforts attached to the President's name. Even if those efforts eventually failed, it demonstrated that both the President and the NFIP were attempting all possible routes to a cure.

Another early attempt at aiding polio patients was the iron lung. Photos of rooms full of children laying flat in huge machines sprinkled the newspapers and pages of history textbooks (see Figure One). Many polio patients were paralyzed to the point where they could not breathe correctly on their own and in 1928 Philip Drinker at Harvard solved that concern. His invention, the iron lung, forced the diaphragm to expand and contract just as it would in someone breathing without polio.[138] When Drinker first created the machine, the intention was to use it as a stepping-stone for recovering polio patients. Researchers and doctors thought that by simulating the

[135] Rogers, Polio Wars x.
[136] Rogers, Polio Wars 38.
[137] Rogers, Polio Wars x.
[138] Oshinsky 61.

breathing action, it would take some of the stress off of the patients' bodies, and in turn teach the bodies how to function and strengthen them to breathe normally once again.[139]However, in reality, polio patients ended up being chronically dependent on these machines. One of the greatest fears of polio patients was that the extent of their paralysis would force them to spend the rest of their lives confined in an iron lung.

Figure One

"The Iron Lung ward at Rancho Los Amigos Hospital" by Food and Drug Administration

The Beginning of the Race for a Cure

Jonas Salk and Albert Sabin had many things in common. Jonas and Albert were both Jewish men from the Northeastern with families who had immigrated from Russia and Poland, respectively, to the United States in order to avoid religious persecution. Both men attended the New York University School of Medicine. Yet their most

[139] Oshinsky 61.

important fact in common is that both men made it their life goal to create a vaccination against polio. One of the distinguishing differences between these two men is how they thought they could cure polio; Salk sought to create a live vaccine and Sabin sought to create a killed vaccine. Thus began their famous "Race for a Cure," a race that was popularly and closely followed by almost all Americans. The media clearly played a big role in the polio discourse, and they especially played a big role in the vaccine discourse. The race was constantly played up in the media; instead of the two men being able to focus on their work in their laboratories, they were being pulled into interviews and radio shows to talk about the race itself. Salk gave into the publicity offers more so than Sabin. Similar to a political election, each scientist had groups of supporters and felt immense pressure from the public to finish their version of the vaccine first.

Unfortunately, Roosevelt was not able to witness his philanthropic passions culminate into this competition for a cure. On April 12, 1945, Roosevelt passed away in the Little White House in Warm Springs, Georgia from a cerebral hemorrhage, in other words, a stroke.[140]He had gone to his favorite vacation home to rest before a United Nations conference, as he had been feeling weary and having issues with his blood pressure for a while by that point.[141] In many ways, the fact that he died at Warm Springs and not the White House or Hyde Park further signifies his true love for the place as his home where he could escape to truly be himself. He was able to still run the

[140] Smith 635.
[141] Smith 628.

country but remain isolated from the press and busy life of the city. Two years later, Salk received his funding to begin his polio vaccine research.

Although Roosevelt did not take part in the NFIP's decision to fund Salk, there would be no NFIP to fund Salk in the first place without Roosevelt's constant drive to find a cure. The NFIP continued to use Roosevelt's influence to push fundraising efforts. The same year that Salk received his funding, 1947 to be exact, Eleanor Roosevelt made her first appearance before a White House microphone since her husband's death to urge Americans to donate two dimes that year instead of one.[142] *The New York Times* reported that the current First Lady, Mrs. Truman, "introduced Mrs. Roosevelt as the 'distinguished woman who has done so much for the fight against infantile paralysis,'" and Eleanor explained in her speech that "'If we are asked to give double what we did last year that's because more has been and is being done than ever before. And that's what the American people want.'"[143]

Eleanor's speech and continued involvement in the March of Dimes after her husband's death proves his integral importance in the fight against polio. Even Eleanor encourages the American people, stating that their dimes are funding "what the American people want," and assuring them that the NFIP is increasing its efforts against the disease. Similarly, on his would-be 70th birthday, *The New York Times* reported that the "1952 Polio Poster Boy" placed a wreath on Roosevelt's grave in Hyde Park.[144]

---

[142] "Polio Fund Helped by Mrs. Roosevelt," The New York Times, 24 Jan. 1947.

[143] "Polio Fund Helped by Mrs. Roosevelt."

[144] "1952 Polio Poster Boy at Franklin D. Roosevelt's Grave," The New York Times, 31 Jan. 1952.

Without the Roosevelt's and FDR's continued attachment to the cause, the NFIP likely would not have received the magnitude of donations that eventually funded the cure.

The Salk Vaccine

Jonas Salk, a New York native was a natural choice for NFIP funding. With extensive viral-research experience, O'Connor felt confident that he could trust Salk to use his innovation and skill to finally find the cure.[145] Salk revolutionized medicine by coming up with a killed virus vaccine, which was an unorthodox idea at the time. Essentially, he would take monkeys' kidney tissue, inject it with the live virus, wait for the virus to spread and multiply in the kidney cells, and then use formaldehyde to kill the virus.[146] In 1952, America experienced the worst polio outbreak in the country's history, with over 24,000 affected by the disease.[147]This outbreak placed even more pressure on Salk to perfect his vaccine and approve it for use, represented by the fact that a March 1954 *TIME* cover featuring Salk asked "Is this the year?" In fact, *TIME* had it right; only one month later, the first national Salk vaccine trial was in motion.

Salk's first nationwide trial of the vaccine was the Francis Field Trial, funded by the NFIP and run by Dr. Thomas Francis Jr. of the University of Michigan, one of Salk's former professors and research partners in other work such as their vaccine against influenza in the Second World War.[148] This polio vaccine trial turned out to be the

---

[145] Richard Lacayo, "The Good Doctor: Jonas Salk (1914-1995)," TIME on the Web 3 July 1995, 20 Feb. 2016 <http://content.time.com/time/subscriber/article/0,33009,983118-2,00.html>.
[146] Jennifer Latson, "The Vaccine Everyone Wanted," TIME on the Web 23 Feb. 2015, 20 Feb. 2016 <http://time.com/3714090/salk-vaccine-history/>.
[147] Latson <http://time.com/3714090/salk-vaccine-history/>.
[148] Lacayo <http://content.time.com/time/subscriber/article/0,33009,983118-2,00.html>.

largest medical experiment in American history; in April 1954 over 20,000 doctors and health officials, 40,000 nurses, and 220,000 volunteers distributed massive amounts of the vaccine.[149] The sheer number of Americans that participated in making this "trial" happen bolsters the idea that the effort to fight this disease served to unify America even further following the war effort. The NFIP supported this trial, even though it was double blind, meaning there was a group of patients who would get a placebo vaccine, a group that would get the real vaccine, and a control group. Salk objected to this type of trial because it meant that the placebo group could potentially get polio. However, they went on with the trial anyways. Each participant would receive three total doses over the course of five weeks and three lollipops to reward each shot.

Although we now think of the polio vaccine as a success story, many modern medical ethical boundaries were crossed to write that success story. Specifically, the trial did not provide its participants informed consent, nor did it not call the vaccine "experimental." Rather, the NFIP used the crusading slogan "Polio Pioneers" to encourage participation in the trial. When one hears this slogan, it is no longer so surprising that the trial received over 1.8 million "pioneers." The NFIP knew that, firstly, the majority of American families lived in fear of their children contracting polio and secondly that the sense of national pride in the country would only serve to further inspire families to want to offer their children as "pioneers." Each pioneer would be provided with a badge and the parents would sign a form requesting that their child to

[149] Thompson, Dennis, "The Salk Polio Vaccine: 'Greatest Public Health Experiment in History,'" HealthDay 2 Dec. 2014, 25 March 2016 <http://consumer.healthday.com/kids-health-information-23/kids-ailments-health-news-434/the-salk-polio-vaccine-greatest-public-health-experiment-in-history-691915.html>.

participate in the trial, rather than the typical form of consent;[150] Basil O'Connor himself signed the "pioneer" certificates. Salk and his wife vaccinated their own son, most likely to provide assurance of the safety of the vaccine. These minor details all added up to an ethically questionable trial.

On April 12, 1955, the tenth anniversary of Roosevelt's death, O'Connor, Francis, and Salk revealed the results of their pioneering trial.[151] Reporters crowded the Rackham Auditorium at the University of Michigan and gave Salk a standing ovation and printed, reported, and exclaimed the successful results in every way possible nationwide.[152] Salk left the auditorium that day as an American hero and celebrity of the unexpected kind, see the newspaper headlines in Figure Two and a public display of gratitude in Figure Three. President Eisenhower even presented him with a gold medal, pictured in Figure Four. Despite the questionable trial practices and the numerous patients who unfortunately had to succumb to the disease in the trial process, within a few years of the final vaccine's introduction, polio cases were cut almost in half.[153]

Additionally, the strategy of announcement the vaccine on the anniversary of Roosevelt's death demonstrates his continued legacy in the fight against polio. In January of 1958, *The New York Times* reported that New York Governor Harriman chose Franklin D. Roosevelt Jr., FDR's son, to "lead a drive to vaccinate all persons in the state under age 40."[154] The governor explained that his decision was due to "'[Franklin D. Roosevelt Jr.'s] long-time interest, as well as that of his father and other

[150] Williams Kindle Location 2452.
[151] Williams Kindle Location 4289.
[152] Williams Kindle Location 4289.
[153] Latson <http://time.com/3714090/salk-vaccine-history/>.
[154] "Polio Drive Headed By F.D. Roosevelt Jr.," The New York Times, 31 Jan. 1958.

members of his family, in the fight against polio,'"[155] connecting the Roosevelt family once again to the battle against polio. Even after the vaccine was created, the Roosevelt name continued to bind all polio efforts together. Not only does this article signify the importance of the Roosevelt's, but it also examines the importance and efficiency with which the polio vaccine was administered to the public.

Figure Two

"Photo of newspaper headlines about polio vaccine tests" by Academy of Achievement

[155] "Polio Drive Headed By F.D. Roosevelt Jr."

Figure Three

"Shopkeeper expresses a nation's gratitude for Dr. Salk's discovery" by March of Dimes Birth Defects Foundation

Figure Four

"Photo of Dr. Jonas Salk receiving a Gold Medal from President Eisenhower" by U.S. Government Photographer

The Vaccine in the Background

While Salk and the NFIP were basking in their success, receiving gifts, White House praises, and movie offers, Albert Sabin was still fervently working on his version of the vaccine. The more the media's focus shifted from the equal race between the two men to Salk's clear triumph, the more Sabin worked. He hoped that Salk's would fail or that his own work would offer something that Salk's could not, and in many ways his hopes came true. Of course Sabin did not desire for children to be denied access to Salk's available vaccine, but he worried that Salk's solution to polio was unsafe and inconsistent. Unlike Salk's vaccine, which only protected the individual, Sabin's oral vaccine protected the community as a whole. Since oral intake was similar to how one contracts polio in the first place, the idea was that the vaccine would get into the environment in a weakened version and protect the community by building up immunity to the weakened version of polio. Unlike Salk's killed virus, Sabin used a live virus and weakened it through a repeat culture, which he believed to be a much safer and more effective route to a cure.

Shortly after Salk's announcement of his successful trial results, vaccinated children began to contract polio across the nation, which quickly changed newspaper headlines from "Polio is Conquered" to "Turmoil Over Salk Shots."[156] By the end of April, almost sixty vaccinated kids had reported their diagnosis.[157] They soon figured out that Cutter Pharmaceuticals had supplied all of the vaccines that infected these children and it was clear they did not follow Salk's production protocols. Over 400,000 children had

[156] Oshinsky 227.
[157] Williams Kindle Location 4393.

already been vaccinated with the Cutter-produced vaccine, and the government feared many more deaths would come.[158] Even though the officials attempted to recall the Cutter vaccine quickly and quietly, it became evident to the public that something was wrong as more and more vaccinate children contracted the disease.

Sabin now had his opportunity. Even though Salk was relatively protected by his recent victory, the Cutter Incident raised a multitude of concerns about using a live virus vaccine. As the Salk vaccine production was put on hold by the American government, the American people still demanded their cure.[159] Even once the Salk vaccine was safely back in production, the vaccine presented many logistical nuisances. Children had to receive it in three separate shots and then a booster shot annually, which immediately created both transportation and monetary barriers for less privileged classes.[160] Even though the vaccine greatly reduced the number of polio cases even within just a few years, it now became a battle of vaccinated versus unvaccinated. As statistics and demands for the vaccine began to dwindle, O'Connor asked the NFIP Board of Trustees to brainstorm new causes to fundraise for in 1958.[161] The natural next fundraising step was for a live-virus vaccine.

Even a decade later, the rights to call themselves the winner of the race for the vaccine lived on. Sabin tested his live vaccine in trials in Russia, returning to the United States full of success stories.[162] Two other scientists, Hilary Koprowski and Herald Cox, were similarly still attempting to perfect a live virus vaccine, but Sabin knew he had the

[158] Oshinsky 2244.
[159] Williams Kindle Location 4422.
[160] Oshinsky 256.
[161] Oshinsky 256.
[162] Oshinsky 261.

upper hand, both in the public as well as in the NFIP due to his long-term stance as "Salk's competitor."[163] Finally Sabin received his chance to run American trials in 1960, along with Cox.[164]

The marketing genius of the NFIP continued with Sabin Oral Sundays, a term coined for the weekly line up of children outside of schools and hospitals every Sunday. Similar to the Salk vaccine lollipop, kids received the oral dosage in syrup or sugar cubes, making the family outing exciting for all.[165] Only a few months later, Sabin's vaccine was approved on a trial basis.[166] Despite his efforts to perfect the safety of his vaccine, Salk felt his control over the polio race vanishing as patients were provided with more convenient options. Similarly, the fact that the public still supported another vaccine option proved the lack of faith in Salk's vaccine, as many vaccinated people still proved to be unprotected. Ironically, even though O'Connor funded Sabin's vaccine, he felt bitter towards the man for shadowing his beloved Salk's success.[167] Even the Centers for Disease Control and Prevent used their 1960s signature "Wellbee" to promote the oral vaccination, as pictured in Figure Five below.

[163] Oshinsky 261.
[164] Oshinsky 262.
[165] Oshinsky 262.
[166] Oshinsky 263.
[167] Oshinsky 264.

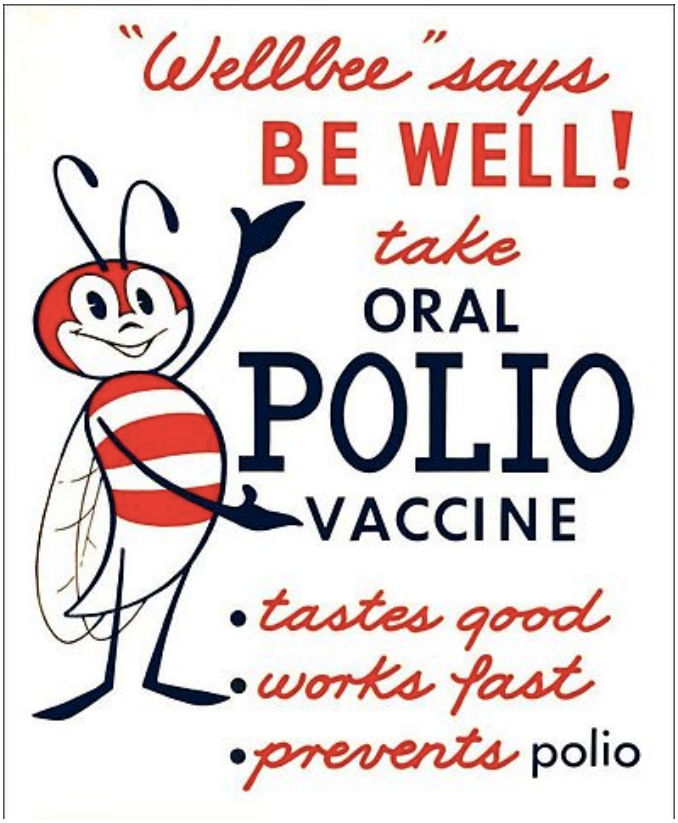

Figure Five

"This 1963 poster featured CDC's national symbol of public health, the 'Wellbee,' who was depicted here encouraging the public to receive an oral polio vaccine" by Centers for Disease Control and Prevention

Opposite of Salk, Sabin sought recognition from his peers over fame or public recognition, but both of these men left a lasting imprint on the polio discourse as well as the medical field itself. Together they not only revolutionized the role that American citizens played in their own healthcare, but also the way that scientists attempted to creatively find solutions. Despite the bitter competition between the two men, they managed to wipe polio from Americans' everyday fears, something that Roosevelt could have only hoped for when he was alive.

Although Roosevelt was not alive to witness the results of his battle, there is clearly a string connecting his diagnosis and the cure. Without Roosevelt, the fight against polio may not have been organized so quickly and successfully, full of wealthy and famous people championing the cause. The fundraising capabilities of the various organizations increased greatly with the ability to incorporate Roosevelt when alive, and incorporate his legacy when dead. The clever ways in which the NFIP and the media played up the "race" for a cure further quickened the development and research, simultaneously changing the way in which Americans viewed scientists and medicine. Even once the vaccine was discovered, politicians and health officials continued to employ the use of Roosevelt's name, knowing that his connection to the disease was timeless.

Conclusion

Roosevelt's polio diagnosis changed his life forever; he never could have expected that a business trip to New York would affect him with a paralysis that would forever change his political image. Polio not only defined various aspects of his career in politics, it also strengthened his relationships with his closest family and friends as it constantly tested his personal ability to persevere. Roosevelt gave fame to a disease that Americans were already afraid of every single day; he simultaneously added to this fear, proving that it could strike anyone. The fact that a wealthy, older, and white businessman could contract the disease denied any ability for Americans to blame slums or immigrants, and they were left to fear an unknown disease once again.

Through both his investment in Warm Springs and the generally positive press support for his struggle with polo, his diagnosis brought faith to other polio patients. Roosevelt taught other patients both that they can still live a fulfilled and happy life with the disease while also teaching the public that a person should not be defined by their handicap. During a time when crippled individuals were often condemned and isolated, Roosevelt proved that his handicap did not affect his mental capabilities by successfully running an entire nation from his wheelchair. Even though he hid the extent of his physical disabilities, polio still humanized Roosevelt, an otherwise intimidating and successful politician from a wealthy background. His diagnosis allowed him to relate to the American population in newfound ways and demonstrate his ability to remain

determined in hard times, a quality that Americans came to greatly value in periods such as the Great Depression and the lead up to World War Two.

Though the water at Warm Springs did not actually have healing powers, the grounds had healing powers in other ways. Roosevelt's belief in the possibilities to cure polio emphasized the power of hope to other polio patients battling the emotional, physical, and social pains of the disease. Patients found a haven in Warm Springs where they could live relatively normal lives around people who were the same as them. They could similarly dream that one day one of the experimental techniques that Warm Springs invested in may work. "Dr. Roosevelt" served as a role model for the children's to have high aspiration; he was sure to always offer smiles and swims in the pools, as he ran their country from his Little White House.

Organizations such as the Warm Springs Foundation, Presidential Birthday Ball Commission, March of Dimes, and the National Foundation for Infantile Paralysis all stemmed from Roosevelt, drawing on his life and eventual legacy to raise funds for the important cause of curing polio. With their birthday parties, dimes, and celebrity support, these foundations found the recipe for philanthropic success and ran the first nationwide charity campaigns, changing the abilities of American philanthropy and media. Without Roosevelt's diagnosis and later purchase of Warm Springs, O'Connor and Roosevelt would have never created these various organizations, which were all individually instrumental in informing the public about polio as well as funding the "race for a cure" between Salk and Sabin. These men all became household names alongside Hollywood celebrities and movie stars, altering a scientist's role in medicine and society.

The fact that citizens followed this race as if it were a political race offers legitimacy to the point that polio was an intense and daily fear in American lives, and Americans felt invested in the race for a cure.

I feel that my research drew strong connections between the President and the cure; however, there are many opportunities to deepen and extend my analysis. If I were to continue my research, I would look at the goals to eradicate polio worldwide. Organizations used the Sabin oral vaccine to easily vaccinate underprivileged communities both in America and around the world. Though this effort lasted well into the late twentieth century, it would be fascinating to find a way to connect it back to Roosevelt's presidency and influence from earlier in the century. I would also be interested in analyzing how the polio vaccine perpetuated racism and classism, as I mostly investigated positive influences on American culture. Although the NFIP created the Tuskegee center, which I wrote about, it is still apparent through both literature and photos that the NFIP's target population to protect was the wealthy white children. Lastly, it would be compelling to find a current disease to compare to the fight against polio such as various types of cancers, heart disease, ALS, and so forth. When researching polio, I found many similarities to philanthropic campaigns and efforts that I have been exposed to and wondered how connected they were to the NFIP's original national campaigns.

Without Roosevelt, polio would be defined very differently in the public eye and the cure would not have been discovered as quickly and successfully as it was. He not only succeeded at becoming one of the most beloved presidents in American history,

but he also changed American culture through both his political ideals and his personal passion of finding a cure to polio. He found a way to connect to every American citizen, whether it was through his Fireside Chats, visits to small rural towns, or daily swim sessions with Warm Springs visitors. Roosevelt's fight against his painful paralysis, visits to Americans in need, and battles against institutionalized prejudices certainly served to humble him and offer insight into the difficulties of life that he was sheltered from during his upbringing. Although a cure for polio would have undoubtedly been discovered eventually, without Roosevelt's perseverance and determination in both his personal battle as well as in the national battle against polio, the race for a vaccine would not have become the nationally unifying success story that it was.

Works Cited

"1952 Polio Poster Boy at Franklin D. Roosevelt's Grave." The New York Times 31 Jan. 1952.

Allen, Arthur. Vaccine. New York: W.W. Norton & Company, 2007.

Brands, H.W. Traitor to His Class: The Privileged Life and Radical Presidency of Franklin Delano Roosevelt. New York: Doubleday, 2008.

"F.D. Roosevelt Ill of Poliomyelitis." The New York Times 16 Sept. 1921.

Hansen, Bert. "Medical History for the Masses: How American Comic Books Celebrated Heroes of Medicine in the 1940s." Bulletin of the History of Medicine 78 (2004): 148-191.

Herrick, Genevieve Forbes. "'Polio-Physio' Follies Staged for Roosevelt: Little White House in the Woods Becomes Capital of the United States." Chicago Daily Tribune 3 Dec. 1933.

Lacayo, Richard. "The Good Doctor: Jonas Salk (1914-1995)." TIME on the Web 3 July 1995. 20 Feb. 2016 <http://content.time.com/time/subscriber/article/0,33009,983118-2,00.html>.

Latson, Jennifer. "The Vaccine Everyone Wanted." TIME on the Web 23 Feb. 2015. 20 Feb. 2016 <http://time.com/3714090/salk-vaccine-history/>.

Oshinsky, David M. Polio: An American Story. New York: Oxford University Press, 2005.

"Polio Birthday Fetes Okayed By Roosevelt: Fight Against Paralysis Must Go On, Says President." The Atlanta Constitution 17 Nov. 1942.

"Polio Drive Headed By F.D. Roosevelt Jr." The New York Times,31 Jan. 1958.

"Polio Fund Helped by Mrs. Roosevelt." The New York Times 24 Jan. 1947.

Rogers, Naomi. Dirt and Disease: Polio Before FDR. New Brunswick: Rutgers University Press, 1992.

---. Polio Wars: Sister Kenny and the Golden Age of American Medicine. New York: Oxford University Press, 2014.

Rosenberg, Charles E. and Janet Golden. Introduction. Framing Disease: Studies in Cultural History. Ed. New Brunswick: Rutgers University Press, 1992.

Seavey, Nina, Paul Wagner, and Jane Smith. A Paralyzing Fear: The Triumph Over Polio in America. New York: TV Books LLC, 1998.

Shreve, Susan Richards. Warm Springs: Traces of a Childhood at FDR's Polio Haven. New York: Houghton Mifflin Harcourt Publishing Company, 2007.

Smith, Jean Edward. FDR. New York: Random House, 2007.

Thompson, Dennis. "The Salk Polio Vaccine: 'Greatest Public Health Experiment in History.'" HealthDay 2 Dec. 2014. 25 March 2016 <http://consumer.healthday.com/kids-health-information-23/kids-ailments-health-news-434/the-salk-polio-vaccine-greatest-public-health-experiment-in-history-691915.html>.

Van Pele, Rita. "Polio Fund Program To Salute Roosevelt." The Atlanta Constitution 30 Jan. 1950.

Williams, Gareth. Paralysed with Fear: The Story of Polio. New York: Palgrave Macmillan, 2013.

Wilson, Daniel J. “Basil O’Connor, the National Foundation for Infantile Paralysis and the Reorganization of Polio Research in the United States, 1935-41.” Journal of the History of Medicine and Allied Sciences 70.3 (2014): 394-424.