The American Association of Immunologists
Oral History Project

Transcript

Anthony S. Fauci, M.D.
December 9, 2015
Bethesda, MD

Interview conducted by
Brien Williams, Ph.D.

Transcription: TechniType Transcripts
Transcript copy editors: John S. Emrich, Ph.D., and Charles L. Richter, M.A.
Final edit by: John S. Emrich, Ph.D.

To cite an interview, please use the following general format: [Name of interviewee], interview by [name of interviewer], [date], The American Association of Immunologists Oral History Project. http://www.aai.org/OHP (accessed [date]).

Williams: This is an interview with Dr. Anthony S. Fauci for the American Association of Immunologists (AAI) Oral History Project. Dr. Fauci is the Director of the National Institute of Allergy and Infectious Diseases (NIAID) and Chief of the Laboratory of Immunoregulation at the National Institute of Allergy and Infectious Diseases. He was awarded the AAI Public Service Award in 2000 and the AAI Lifetime Achievement Award in 2005. We are in Dr. Fauci's office in the National Institutes of Health (NIH) campus in Bethesda, Maryland. Today's Wednesday, December 9, 2015, and I'm Brien Williams.

So, Dr. Fauci, I thought we'd start out by telling me a little bit about your family background, where you come from.

Fauci: Well, I was born and raised in Brooklyn, New York, which is not unlike a lot of scientists who are at the NIH and the AAI. My parents are first-generation Italian American. They were born in New York City, moved to Brooklyn. I was born and raised in Brooklyn, went to elementary school in Brooklyn, Catholic elementary school, and then from there went to a Jesuit High School in Manhattan which was an all-scholarship high school run by the Jesuits, called Regis High School, very much steeped in the classics, Greek, Latin, Romance language, ancient history, with some science.

So although I was interested in medicine while I was in high school, it was in the backdrop of a humanities background, and I actually extended that in college and went to another Jesuit college, Holy Cross, College of the Holy Cross in Worcester, Massachusetts, which was a very interesting hybrid of doing classics again, with Greek, Latin, French, philosophy, together with just enough science courses to get into medical school, and from there I went into medical school.

So I'm New York born and raised and did my elementary school, high school in New York City, and then I actually came back to New York City to go to medical school at Cornell and also do my internal medicine training there.

Williams: Let's step back one generation. What about your grandparents coming from Italy?

Fauci: My grandparents, both sides of my mother and father's parents, were born and raised in Italy. My father's parents were born in Sicily and came to New York City and landed in the famous Little Italy at the turn of the century. A few years later, my father was born in New York City. My mother, the same thing; her family came from a different part of Italy, part from Naples, part from Genoa, again arrived in New York City in the Little Italy section of New York City right around the turn of the century, and my mother was born a few years later in New York City.

Williams: And your father's profession?

Fauci: My father was a pharmacist. He went to Columbia College of Pharmacy in New York City and practiced pharmacy for his entire life. He owned a drugstore in Brooklyn. I remember when I was a child, I used to help him out in the store and help deliver prescriptions on my bicycle in various parts of the neighborhood. We lived in the Bensonhurst section of Brooklyn, which is an Italian American section. New York and Brooklyn at the time was very much regimented into different ethnic sections, and I was born right in the middle of the Italian American section.

Williams: It was Fauci's Drugs and Supplies?

Fauci: It was just Fauci Pharmacy.

Williams: Fauci Pharmacy. [laughs] That has a ring to it, doesn't it?

Fauci: Yeah.

Williams: And your mother, a homemaker?

Fauci: My mother went to Hunter College, and when she graduated and went to college, she got married very early, literally out of high school. My mother and father went to the same high school in Brooklyn, New Utrecht High School, a very well-known, fabled high school in New York City, among many of the other fabled public high schools in New York City, and got married very soon after. My father went to Columbia College of Pharmacy, my mother went to Hunter, and they were married while they were in college. Then when my mother gave birth to my sister, she stopped what she was doing. She had graduated school, but she then became a full-time homemaker.

Williams: And is it just the two of you?

Fauci: Just my sister and I. I have a sister three years older than me.

Williams: Has she pursued a career anything like yours?

Fauci: No. She was, for many years, a schoolteacher, and, again, when she had a family, she then went part-time schoolteaching, raised her children, went back to schoolteaching for a few years, and then retired.

Williams: You say that in about high school years you began to become interested in medicine. Talk about that.

Fauci: Well, I enjoyed very much the humanities and the interaction with individual human beings and the history of human beings, human civilization, almost an anthropological touch to it. Even though I wasn't formally studying anthropology, I was very interested in the humanities and people, but I also had a

very strong affinity for science. I liked the inquisitiveness of science, the experimental nature of science, the issue of solving a problem in a scientific way, and I felt the best way to match my interest in people, my interest in the humanities and people and civilization, together with my scientific bent, I not only liked it, but I had an aptitude for it. I was naturally good at it, and that's the way it was in high school. So I decided that pursuing a career in medicine and science would be the way I wanted to go.

In fact, I did not have the intention to be a scientist physician. I had the intention of being a full practicing physician involved in teaching in an academic setting. So when I went to medical school, I didn't go to medical school for the purpose of getting an M.D. and then going into a lab. That was not yet on my horizon. That happened almost by circumstance as I graduated medical school, went into my internship and my residency. And at that time, there were two factors that were important, in that, one, the clear pathway, be it a clinical or a basic science pathway, to academic medicine was through the NIH. If you look back when I graduated medical school in '66, I did my internship and residency in medicine in the late sixties, did a chief residency in medicine in '72.

I came to the NIH in 1968, one, because the NIH was a pathway to academic medicine, and, two, because we had an unusual situation then. We were in the middle of the Vietnam War, and every doctor was automatically drafted, but you had a choice when you were at the end of medical school, the beginning of your medical training, postgraduate training as an intern and a resident, to either go into the [United States] Public Health Service, the Army, the Navy, or the Air Force. I remember we were in our fourth year of medical school, and a recruiting major in the Marines got up in front of us and said, "Everybody in this room except the only two girls—." We only had two women in our class at the time, eighty-six men and two women, which tells you the sign of the times back then. Said, "Every one of you are going to be in one of the four services when you graduate, so you should put your list of priority and apply."

So since I was getting interested in the interface between immunology and infectious diseases, because at that time there were very few people who were involved in human immunology, and since I was interested in infectious diseases as an exciting, dramatic historical specialty, I also had an interest in wedding that with immunology, particularly human immunology, because I was interested in humans. So I figured going to the NIH would be a good start, so I put NIH first, Public Health Service first, put the Navy second, the Army third, and the Air Force fourth.

As it turned out, I applied for and was accepted at the National Institute of Allergy and Infectious Diseases at the NIH, into the laboratory of my first mentor, Dr. Sheldon Wolff, who at the time was exploring the hosts side of infectious disease, because back then, the classic infectious disease would study the virus or study the bacteria. There wasn't a lot of work on the interaction between the microbe

and the host, because the birth of human immunology was just starting, and he was interested more in the nonspecific host defense mechanisms, and he wanted to build up a cadre of young people who would be interested in the classical immunology interaction with the microbe in question, whatever that microbe was.

Back then when I came to the NIH in 1968 for my three years of a fellowship, I went into the lab and I started studying fundamental basic immunology, and I had never really done basic work before. I did a couple of clinically related lab projects in medical school as an elective, but I certainly didn't have an M.D.-Ph.D., and I didn't have a year off doing research. So it was straight out of clinical training, so I just sort of hit the ground running here.

At the time, there were very few people who were devoted to human immunology. There was Bob [Robert A.] Good, who was in Minnesota at the time, there was Tom [Thomas A.] Waldmann, who was already here at the NIH, and there were a few others who were doing that. So I got interested in that and intensively studied immunology, first in a guinea pig model and then in the human model for three years.

Then I had to make a decision what I wanted to do with my life. Did I want to go back to New York where I had originally planned to get an academic appointment and be a clinical teaching/clinical research doc, or did I want to stay and pursue a much more intense basic immunology wedded with human clinical work? So Dr. [Sheldon M.] Wolff, my mentor, offered me a position to come back to the NIH after I did a chief residency in medicine. So I did three years here at NIH as a fellowship. It was combined at the time. It was a fellowship both in infectious diseases and in immunology and allergies, so that at the end, you got board-certified in both specialties. So at the end of the day, I was certified by the American Board of Internal Medicine, by the American Board of Infectious Diseases, and by the American Board of Allergy and Clinical Immunology.

But, again, I was very interested in that interface between the microbe and the host, so I decided that I would go to New York, do a chief residency, get my clinical training really solidly based so that I was as topnotch a clinician as I could be. Then I came back to the NIH in 1972, and I was made an independent young investigator probing the regulation of the immune system, and I have been probing the regulation of the immune system ever since. Did that for about nine years, from 1972 to 1981, studied probably less infectious disease than immune-mediated diseases, some of the inflammatory vasculitides, what was called Wegener's granulomatosis at the time, polyarteritis nodosa, some of the hypersensitivity, and we were treating the patients with immunosuppressive drugs at the time, glucocorticoids and cytotoxic agents.

So together with Dr. Wolff, who was a very generous mentor, put me in charge of a group of patients and we developed some striking remission-inducing, if not cures, for these formerly fatal diseases. So there was a clinical component to

what I was doing, and I was fortunate to get very successful in essentially finding what was considered a cure, but it was really a high rate of remission in about 93 percent of the patients who were normally 100 percent fatality.

At the same time, I was trying to study what the mechanisms of the cytotoxic and immunosuppressive drugs were on the immune system, because as you suppressed the immune system, the disease went into remission. So we did a whole series of studies from 1972 through 1981, '82, studying the regulation of the immune system and the perturbations of the human immune system, both in disease and when you iatrogenically did it with agents. And that was really a lot of fun and very exciting. I was both at the bench and on the wards, and I was living the life of that dual mission, bench to bedside, bedside to bench, always looking at the immune system and less so the microbes.

But I had this inkling of wanting to do work in a broad global health issue in infectious diseases, and my life actually changed in the summer of 1981. I was sitting at my desk at the Clinical Center, Building 10, where we were seeing our patients, and a publication from the Centers for Disease Control and Prevention called *MMWR*, for *Morbidity and Mortality Weekly Report*, landed on my desk a couple of days after its published date of June 5th, 1981, reporting five men from Los Angeles who developed a very unusual infection called pneumocystis pneumonia that you would never see in someone with a normal immune system. Curiously, they were all gay men. And I had no idea what was going on. I put it aside. I thought it was a fluke. I thought that, well, maybe they took a toxic drug or something that suppressed their immune system. But I was a little bit interested in it because they were immunosuppressed and I was an immunologist. I didn't make much of it.

One month later, on July 4th, 1981, another *MMWR* appeared on my desk, this time reporting twenty-six men now, not only from Los Angeles but from New York and San Francisco. Again, complete puzzle, presenting otherwise well with a variety of infections, pneumocystis, cytomegalovirus, and also Kaposi's sarcoma, which is, again, a rare cancer found in people who are immunosuppressed, usually transplantation patients. Curiously, all of them were gay. And I remember sitting there in my office saying, "Oh, my goodness, this is a brand-new disease."

So I made a decision within a couple of weeks that this was almost certainly a sexually transmitted disease and it was a disease of the immune system. So I said to myself, "Here I am, I've studied infectious disease, I've studied the immune system. I have no idea what this infection is. It's probably a virus, but I've never seen anything like it before." I had already had nine years of experience as a senior infectious disease attending, and I saw a lot of pneumocystis pneumonia, but it was always in cancer patients who were immunosuppressed. I'd never ever seen it in an otherwise normal person. So I said, "This is a virus. Don't know

what it is." It's completely destroying the immune system or at least the secondary effect of this viral infection is destroying the immune system.

So I decided, despite the rather dramatic positive trajectory of my career doing all of these good things in human immunology, I decided I was going to turn around the direction of my career and start studying this bizarre new disease even before we knew it was HIV. So I started intensively studying it. So I kept up the immunology part of my lab that was basic fundamental immunology with some of my postdocs, but I, myself, started the HIV/AIDS program before it was HIV, because this was 1981, '82, and HIV was discovered in 1983, '84. And for the next thirty-four and a half years until today, that's what I've been studying, was HIV/AIDS in the context of a model of the destruction of the immune system.

Williams: I want to go back and just ask you one follow-up question. When you went back to New York, where did you do your—

Fauci: I did my chief residency in the same place that I went to medical school and did my internship and residency. It was called then the New York Hospital-Cornell Medical Center. Now they've changed the name to the New York-Presbyterian/Weill Cornell Medical School.

Williams: So as you became associated with HIV, you became a public spokesman, right? So talk about how that evolved.

Fauci: Well, I was one of the people who was very much visibly pushing the concept that this was a much more important disease than the general public thought it was. In 1984, I became Director of the National Institute of Allergy and Infectious Diseases, and my model of being a director was a bit different than previous models. I took the job only under the condition that I could keep my laboratory and continue to be an active practicing scientist and that I would also continue to actively see patients, because no other Institute director prior to me had ever done both of these. They would just come in and they would be administers. But now, subsequent to that, almost every one has done this model, but I was essentially the first one that said, "I'll do it, but I'm going to be a practicing scientist and I'm going to continue to see patients."

And as I got better known both as a scientist who was making some, I think, relatively important advances in those early years of understanding the pathogenesis of HIV, I became the leader of the research movement for HIV as Director of NIAID, because I started a Division of AIDS, I lobbied for a considerable amount of more money for HIV, one, because I thought it was a very important disease and would soon explode—and it did—and, two, I thought it was incredibly important to understand the workings of the immune system by studying the model of this disease. When I first got involved in studying HIV, there were like 159, 200 reported patients. Today there have been 70 million,

with 37 million deaths and 38 million people living with HIV. So my prediction it would explode, unfortunately, came true.

In fact, it was interesting, because as I made that change from classic immunology to AIDS- and HIV-related immunology, my mentors thought I was nuts. They said, "Why are you throwing away an incredibly promising career to study a disease that who knows it'll go away in a year or so, for all we know about it?" So I remember I had to write what I called my *apologia pro vita sua*, or my Latin version of why I'm doing what I'm doing, my apology for my life, and I wrote an article in the *Annals of Internal Medicine* that I wrote in the fall and winter of 1981. I sent it to *The New England Journal*. They didn't want it because they thought it was a little bit too alarmist, because I said that this disease was going to explode, and anybody thinks that it's going to stay localized to a population really doesn't understand infectious diseases. Got published in the spring of 1982, and that's what I said in the article, and, unfortunately, it was prophetically true, and we had a horrible, you know, one of the worst pandemics in history.

But I was a public spokesman, one, because I felt it was important for the world and the country to understand the very unique problems that HIV/AIDS was creating for us, because it was a disease that was predominantly of a disenfranchised group of people, because gay men at the time were just starting to come out following the 1969 Stonewall riots in Greenwich Village. They were severely, severely impacted by the disease.

The federal government, early on during the Reagan administration, was not paying as much attention to sounding the alarm and putting resources in, which is one of the reasons why I was enthusiastic finally about becoming the NIAID director, because I wanted to call attention to this, and the fact that I was very much pushing the envelope about more resources and doing this as an important endeavor in public health and global health, I naturally, because I was able to articulate this, became the spokesperson for HIV/AIDS and for infectious disease in general. It's something that I enjoyed. I turned out, I guess, to be pretty good at it. So it's something I pursued.

Then a lot happened with regard to the interaction with the activist movement, because the activists were first very much attacking us for not being flexible in clinical trials, for not incorporating them as a community into our thinking about how we were going to scientifically approach the HIV/AIDS pandemic. And I think that was one of the best things I've ever done as a leader was to not reject them because they were being iconoclastic, because they were demonstrating on our campus, smoke bombs and whistles and bells and dramatic theatric costumes, disrupting the ongoings on the campus, but they were doing that because they wanted to gain the attention of the conventional people who were running the show, the scientists and the clinicians. Not very many people were listening to them.

And probably one of the best things I ever did was during one of their disruptions on campus, the police were getting ready to arrest a whole bunch of them, and I told them, "Don't arrest them. Just pick seven, six, five of them, and bring them up to my office." They were absolutely stunned. That was the first time any government official had ever spoken to them, much less engaged in a meaningful dialogue. And that day at the end of 1980s, it was like 1989, 1990, was the beginning of a complete turnaround of the relationship between the activists who always felt they were left out of discussions and the standard scientific community, when we started talking to each other. And when you started listening to what they were saying, what they were saying was actually making a lot of sense.

So I remember I completely changed my attitude, and I said, you know, I, like everybody else, was backing up because they were being very iconoclastic, very confrontational, disrupting everything, but they were doing that because they were in pain. They were doing that because they were fearful for their lives. So I started to interact with them and kind of make friends with them, if you want to call that, and I learned that what they were saying made absolute sense. So I started to become an advocate for the activist group and say, "You know, we really need to start listening to these people. They're making sense, and we need to bring activists into our programs. We need to get them involved in the design of clinical trials. We need to let them be part of the group that decides the direction of where we're going." That, (a), was, I think, the best thing that I had ever done, was to bring them in, but it also put me in the spotlight of the person who was truly the spokesperson for research and science and government support for HIV/AIDS.

Williams: And you were successful in incorporating them into the system, so to speak.

Fauci: I was, absolutely. I was quite successful. In fact, I got a lot of pushback from some of my more classic, rigid scientific colleagues who were friends, who thought I was giving in to the activists by bringing them to the table with us and sitting down with them and listening to them. But every time I opened my ears and listened to what they were saying, they were making absolute sense. So I said, "From now on, we're going to start bringing them in and making them part of our discussion."

And I had a couple of my colleagues who were so against it that they were starting to almost mutiny against me, saying, "You're giving in to the activists. This is terrible." And I had to actually remove a couple of them from positions of influence because they would not get in line with my philosophy that we were going to bring activists—"We're not going to listen to everything they said, but it's their disease. They're dying from it. They should have something to say about how we conduct ourselves in this effort to address the AIDS pandemic." And I was right, no doubt about it, because we're much better off now from having input from the activists.

Williams: You describe yourself as a real pioneer in terms of reading these reports and beginning to put together the connection between the disease and your own research interests, despite the fact your colleagues were saying, "Don't go in that direction." When did you begin to get colleagues coming in with you?

Fauci: Well, I think when it became clear that this was not a peculiarity of gay men, number one, because then injection drug users, women, babies born to infected mothers, even though it was still and is still today in the United States predominantly a disease of men who have sex with men, and 65 percent of the new infections are among men who have sex with men, and there's a great disparity among African Americans, but what we did learn as we got into the end of the eighties was that this was a global disease, and 90 percent of the cases were in the developing world and 67 percent of the cases were in Sub-Saharan Africa.

In the early years, 1981, '82, we were seeing the tip of the iceberg, because the only time a person would come to a hospital and be identified as having AIDS was after they had been likely sick for seven, eight, nine, maybe ten years, because we didn't have a test for HIV. So you didn't come into the hospital until you had advanced disease. So we thought, incorrectly, well, there's only a sprinkling of cases, until Bob [Robert C.] Gallo developed the first diagnostic test in the blood, and then we started to screen populations, gay populations, sex workers, injection drug users, people in Africa, and we found out the *enormity* of the problem, that we weren't talking about handfuls of people, we were talking about millions of people who were infected. And that's when it became very clear that people were saying, "You know, we've really got to get involved in doing this."

One of the things I did when I became director was start a program and argue for some money, a considerable amount of money, to get good, hard-thinking, devoted, talented scientists involved in asking questions about HIV, and that's what happened. A lot of really good scientists got involved in studying HIV/AIDS.

Williams: Talk about the battle of getting funding for that effort.

Fauci: Well, in the beginning, there wasn't much interest. Well, when I became director in 1984, there were still not very many cases at all. The budget was in the tens of millions of dollars, $20 million, $30 million, $40 million. When I became director, I did something that was not standard procedures. I realized that I would have to argue for a considerably amount more money, but that was a no-no back then to go around the president's budget that said, "Your budget is going to be this."

So I argued. I asked the Director of NIH at the time, Jim Wyngaarden, very distinguished physician scientist, if it was okay that I made the case of why we

needed more money, and, to his great credit, he said, "Yes, if you can make a good scientific and public health reason."

At the time, the Assistant Secretary for Health, who at the time was the one who was very much influential in how much money the NIH got, Ed [Edward] Brandt, I went to him personally and I said, "We're dealing what I think is an exploding epidemic. We can't just put an extra $5 to $10 million. We've got to talk hundreds of millions of dollars."

Luckily, at that time the NIH budget was really quite flexible, and we did finally get OMB [Office of Management and Budget] and the Congress, who was very helpful, to start making the budget go from $5, $10, $20 million, a few hundred million, several hundred million, so that today the AIDS budget for NIH is over $3 billion.

Williams: Part of your responsibility probably became appearing before Congress?

Fauci: Yeah, that's something that I take pride in, but also when I think about it I get almost exhausted, because I, for a variety of reasons, have almost certainly testified before Congress more than anyone else in history. And the reason I make that rather bold statement is that when there are important problems in Congress, you usually get someone for a year or two who will testify several times. I've been testifying before Congress for thirty-four years, and I have been involved in every single public health crisis, and whenever there's a public health crisis, you testify before Congress maybe five, six, seven, eight, nine, ten times. During the Ebola crisis, I was in front of the Congress ten, fifteen times. When the anthrax attacks, it was twenty-plus times. During AIDS, there wasn't a week that went by that I wasn't testifying before some congressional committee. So we've estimated that I formally testified, not just briefing, but formally testified before a congressional committee well over two hundred times, well over two hundred times.

Williams: And you must have developed a special skill set for that kind of work. Talk about that.

Fauci: Well, what you do is that you get used to making sure that you have a limited amount of time to make a point to an audience that absolutely needs to understand what you're talking about. So I think the skill, if you want to call it that, that I probably had a bit of it from my former training but also developed it and fine-tuned it, was to make sure that you answer two questions anytime you give a talk, be it in front of the Congress, in front of a television camera, or anywhere is what is your audience, who is your audience, and what is your message. So right away you know your audience is a congressional person, a senator, a congressman, and you kind of get an idea about what their interests are and what their background is. Then you just decide what your message is, and you do it and give the message in as succinct and clear a way as possible, because the degree of interest

and capability of senators and congressmen and background varies greatly. So you may have a committee where there's someone there who has really no interest in science but is interested in the public health issue, you may have someone else that's more interested in the money part, and you have someone else that has a scientific background, and someone who went to the Congress who owned a farm before they came to Congress.

So the goal is always remember never try to appear very, very smart when someone can't understand what you're talking about, because some people get up there and they get so much into the weeds that at the end of it, the congressman or the senator says, "What the hell was that person talking about?" They say, "Wow, he seemed to be really, really smart, but I didn't understand a word they said." I would rather a congressman or a senator say, "You know, I understood exactly what Dr. Fauci was trying to tell me." So you learn that really quickly: be clear, be very articulate, have a message, and know to whom you are speaking. If you follow those rules, testifying before Congress is not only easy, it's fun.

Williams: There were some heroes in this cause of yours in Congress, right?

Fauci: Oh, yeah. Yeah. I mean, we went way back. And some of the heroes—and this is sort of somewhat paradoxical, but it turned out really well—some of the heroes who became really close friends with me over the decades, because I was a government witness, depending upon what party they were in and what the party of the administration was, because I have served five president since I was director: Reagan, Republican; George H.W. Bush, a Republican; Bill Clinton, a Democrat; George W. Bush, a Republican; and President Obama, a Democrat. So how you testify before Congress and how the Congress responds to you, you are either representing something that they are not particularly happy with because they're Democrat, you're Republican, or they're totally supportive of what you're doing. So at any given congressional hearing, you can either be the good guy or you could be the guy that they're throwing grenades at.

That was much more so early on when there was disagreement about the amount of support that Ronald Reagan or George H.W. Bush was putting into HIV/AIDS, because even though all of the congressmen knew me well, they had to act like I was the administration. It was really kind of fun, because they would get up there and be pounding on me, "Why aren't you spending more money? Why aren't you doing this? Why aren't you doing that?"

And I would say, "Fine." I'd give the reasons why we're doing it

Then after the hearing, they'd come over to me at the table, put their arm around me, and say, "Nothing personal. Strictly business." [laughs]

Then when the other side was—for example, when a Democrat president was in and the Congress that you're speaking to was a Democratic Congress, or a

Republican Congress depending, then it would go back and forth. But no matter what it was, the people back then, even today, were really heroes. There were people like Henry Waxman, who was, and is, a giant among congressmen, a man short in stature but a true giant, who cared about people, cared about disease, cared about public health. It was really terrific. On the Republican side, you had John Porter. On the Senate side, you had the great combination of Arlen Specter and Tom Harkin. On the Senate side when you had authorization and oversight, you had Ted [Edward M.] Kennedy, the lion of the Senate, Barbara Mikulski, and on and on. You could just go on. There were some people who were truly great people that I've had the privilege of working with.

When Tom Harkin just retired last year, at the hearing that was his last hearing, he was kind enough—because I was sitting at the table getting ready to testify on Ebola, and he said, "Dr. Fauci, I feel a very special feeling about today because you're sitting there behind the table and I'm here on the podium. This is my last hearing, my thirtieth year in the Congress doing the kinds of things that we want to do for the American public. The first time I ever held a hearing, you were sitting at that table thirty years ago." And it was a fantastic feeling to him. So we both started at the same time. He came in in 1981, '82. It was really great.

Williams: That was a good moment, I'm sure. You mentioned the presidents. Have you had direct relations with each of them?

Fauci: Yeah. I've had direct but somewhat superficial relationship with Ronald Reagan. He was not the kind of—he was a very friendly person, but at the time that I met him, towards the end of his second term, it was cordial interaction, occasional discussion of something.

I became *very* close friends with George H.W. Bush. Of course, when he was vice president, he wanted to learn about HIV because, unlike Ronald Reagan, he perceived that HIV was going to be very important, and he wanted to learn about it. So he asked if he could come to the NIH as vice president and just learn a little bit about it. So I was the only one studying HIV at the time, so the White House introduced him to me and he came and I spent a couple of hours with him here. And we really hit it off, so right after that visit, he started inviting me to lunches and brunches and dinners at the vice president's mansion when he was vice president, Christmas parties and things like that, would invite me to the White House to visit him in his office.

During the debates, the famous thing at the debate when he was debating Michael Dukakis for the presidential debate, when he was asked by Ann Compton who his hero was, he said his hero was Tony Fauci at the NIH, which was broadcast to 50 million people throughout the—I didn't even know he did it. I didn't know it until I came back in to work the next day because I was on travel. And I walked on to the elevator to come up to my office, and people started clapping. And I

said, “What are you clapping about? What did I do?” And they told me what was on the debate last night.

So we really became very good friends. And then when he became president, then that was great. That’s when I had my most influence of getting the budget up, because he would call me in and circumvent all the different things and say, “What do you think we should be doing?” And I kept on arguing very strongly for biomedical research—in general, it was important. You needed to do more money for HIV, but you needed to do more money. And he listened, and the budget really went way up. So that was a great relationship.

I had a very good relationship with Clinton, not nearly as strong as George H.W. Bush, but really quite cordial, because Clinton, at first, when he saw how friendly I was with Bush, thought maybe I was kind of—I’m apolitical; I don’t have any political affiliation—thought maybe I was on the other side. So it wasn’t until Donna Shalala, who was his secretary for eight years of HHS [U.S. Department of Health and Human Services], who we became very good friends, Donna and I. So Donna said, “You know, this guy’s okay. He’s all right.” [laughs] So ever since then, I had a very good relationship with Clinton, but actually even more so with Hillary Clinton because she was very interested in public health and in global health when she was First Lady, and that relationship continued when she became senator and then even got stronger when she became Secretary of State. So the relationship with Clinton was really good.

Then came the relationship with George W. Bush, which I think for me was one of the most important aspects of my career, because I knew him from when he was a staffer in his father’s White House when his father was the president. He was an under-the-radar-screen staffer, and I got to know him a bit, and then he went and left and became president of the Texas Rangers and governor of Texas. Then when he came back, I knew several of the people who were his advisors, like Gary Edson and Josh [Joshua] Bolten and others.

So when he became president, he asked me to do something that was maybe one of the most important things I’ve ever done, because it was at that time that it was clear that AIDS had completely invaded and devastated southern Africa and parts of the Caribbean. So President George W. Bush asked me to go to Africa in 2002 to put together what he hoped would be a game-changing plan to address treatment, prevention, and care of HIV in Africa. He asked me to do that in the spring of 2002, first focusing on treatment and prevention of infection in children.

But then when I came back and put this program together and presented it to him at the White House, he said, “I want you to go back and put down a real transforming program.” So I worked for about seven or eight months with his close staff in the White House, back and forth, different versions, and we came up with what is now known as the President’s Emergency Plan for AIDS Relief, or PEPFAR. So that’s how PEPFAR was born, was through the interest of President

Bush, who told me, "I want you to go to Africa and come up with a plan that's a feasible plan, not a pie in the sky, a feasible plan that is accountable, that's responsible, and that will transform HIV." So my relationship with President George W. Bush was very strong because of his very strong commitment to HIV/AIDS in the developing world, which was one of my major interests.

Then when President Obama became president, President Obama continued that and was very interested in global health, was very interested in the kinds of things that we're interested in. So I had the privilege of advising him on multiple issues: pandemic flu, swine flu of 2009, Ebola. I was at the White House—you know, I can't count how many times I went to the White House to talk either to the president, the vice president, the chairman of the Joint Chiefs of Staff on the security aspects of Ebola.

So just on the basis of the fact that my discipline of infectious diseases and global health was intimately involved in many public health and global health crises, that just by the nature of the fact that I was there for such a long time, that I was a very visible scientist, that I had been the director of the Institute for such a long period of time, I became very much interwoven into the public policy science aspect of it, which was really rather unusual for that to happen.

Williams: While all of this was going on, you still were maintaining the lab, is that true?

Fauci: I was, and still am.

Williams: And how does that figure into your activities?

Fauci: Well, I'm actually an incorrigible workaholic and I organize my time very well. I have a big lab of mostly independent people and a smaller group of people that I work with on my own projects. They're very active. They've been very productive. But I apportion my time very carefully. I get up really early, come in early. I don't leave until quite late. I work all day Saturday and part of Sunday. I put aside time to see my fellows and my staff scientists to go over the data, at the same time that I still see patients on the ward. I was very much involved with taking care of two of the Ebola patients when they were admitted right here. So I love clinical medicine, I love the proximity to clinical medicine, because it continues to feed me with ideas about how I can do some of the more experimental things.

So it's not easy to be able to run a big institution, do continued clinical work, and still run a lab. It's not something you do from nine to five. It's something you've got to make a major, major investment of time. Now, that doesn't mean it's for everybody. I mean, not everybody does that, and if they don't, I don't think that they're falling down on the job. I just think people do what it is they feel they want to do. I happen to feel that that's something right now that I want to continue to push the envelope on because it's so important.

Williams: When you were advocating for all this funding, like with George H.W. Bush, where were the funds going? Was it becoming AIDS research much more diffuse across the country or what?

Fauci: No. Well, actually, there were two things. When I was arguing for funding from George H.W. Bush, it was for HIV/AIDS science in general, one. So that's everything: basic immunology, vaccinology, drug development. We established the clinical trials unit, which is responsible for testing virtually every one of the drugs that is used now that has transformed the lives of HIV-infected individuals. But I also was arguing more generically for funds for NIH in general, not just funds, because I felt it would be counterproductive to just focus on one area. So I argued the importance of HIV/AIDS, but I also said that if you're going to give the NIH money, you've got to give all of the NIH money. You can't just give money to one area. So we were able to be fortunate to get a lot of money for HIV/AIDS, but a lot of money for a variety of other things.

When I dealt with George W. Bush, I didn't ask for a penny for NIH. Every bit of the money that I asked for the PEPFAR program was to go to the developing world to provide prevention, treatment, and care. In fact, that was one of the reasons why Josh Bolten, who was very much in partnership with me in that—he was the deputy chief of staff to the president at the time—Josh was surprised that I didn't ask for money to develop a vaccine and put all the money into NIH and NIAID. I said, "No. If you really want to do something now for the people of southern Africa, you have to do treatment, care, and prevention. I mean, it's great to have a vaccine, but people are dying by the millions per year now, and we've got to do something about that." So I said, "We'll get to a vaccine later. We're doing a lot of good work on it. Right now we need to put a lot of money into the PEPFAR program." When I proposed the PEPFAR program, that it be $15 billion over five years with an average of $3 billion a year, now, subsequently, twelve, thirteen years later, it's eclipsed that by a couplefold.

Williams: My guess is that over your career, you have seen a great expansion in terms of international medicine.

Fauci: Right. Very much so. In fact, my first appearance where I argued for global health research, I got absolutely no response. It was like, "Oh, that's very nice, very interesting. Thank you very much, but we have enough problems at home."

It wasn't until Lowell Weicker, who was the chair of our Senate Appropriations Committee for a couple of years way back in the eighties, that he started taking an interest in that, and we were making the argument that given the globality of everything we do, global economy, global defense, global environment, that global health is really something we need to be interested in. So I started arguing that, first, with no success in the eighties, and then with increasing success, to the point that now it's part of the process. I mean, global health is a given. We all

live in a world that something that happens here will happen someplace else. Things that go on in Africa are going to happen here, and that's very important. So global health has become a major, major mission of the NIH.

Williams: What's the hardest part of your job?

Fauci: Well, I would think that the hardest part of being a director responsible for $4.6 billion of resources and a few thousand people that you have to be responsible for is that because of the constraints in resources and things, you can never every single day make everybody happy. And as someone who's a people person, who welcomes the challenge of leadership—I like it. I think I'm a leader. I like to be a leader. I don't like to disappoint people, and particularly when you have things where you have a certain amount that you can do, and people will come to you for requests, and you have to say no to some people, that's tough, because you'd like to be able to provide everything that everyone wants to do the best science they can, and sometimes you can't do that. You've got to be restrictive. You've got to deny requests that people have, and that's tough. That's always been tough for me. But you have to do it. Otherwise, you wouldn't be a good leader.

Williams: What about the best aspects?

Fauci: Well, there are a couple of the best aspects. One is the individual, as a scientist, the individual satisfaction that we scientists all get when you make any kind of advance forward. It doesn't have to be a eureka big discovery, but the progression of knowledge. So that's something we all share as scientists, and as a still practicing scientist, that's one of the best moments.

The other of the best moments is when you started or conceived of a program that you see over a period of time really matures into something successful, like when I first started the AIDS clinical trial groups to start testing anti-HIV medications before we even had any that worked. It was a brand-new concept, a network of centers around to test these anti-HIV drugs and other drugs for opportunistic infections. Over the years, that has mushroomed into the definitive network that has now provided us with the drugs that have completely turned around HIV infection in the United States and in the world. That's a really great feeling that you were there from the very beginning when you started it a couple decades ago to now what they have.

The other real great feeling is when you're training young people and you see how successful and how contributory they are. In fact, you love to see people who go and leave your nest, as it were, and do really, really important things. So, individual satisfaction of science, results of your leadership, and the training of people.

Williams: What are you telling young people today about a career in biomedicine?

Fauci: Well, I'm trying to be cautiously optimistic with them, in the sense of saying you hear a lot about the constraints in resources, but you've got to remember, even with the constraints in resources, the excitement of a career in science, particularly the biomedical sciences, is really unmatched, because we are now in a period where the scientific opportunities, given the technologies we have, and given the advances that we have made, that for every one of those important advances, you open up the opportunity for even more advances. So I can't think of anything more exciting than being in the field that I am right now, and that doesn't mean just infectious disease immunology, but any field in medicine. But in the field that I'm in, the interface between the host, i.e., the immune system and the nonspecific host offenses and a microbe, I mean, every day we learn something very, very important about that. That's kind of an electrifying feeling you have.

So when young people say, "I want to go into science, but I'm a little bit discouraged because of the support," I say, well, hopefully we'll be getting more support, but even with the support we have, it's wonderful to do it.

Williams: You have a bright outlook on the future of science in this country?

Fauci: You know, I do. I do. We are going through a very difficult period now. I mean, the resources are constrained for a variety of reasons, economic reasons, spending on things like defense that have really diverted money away, a lack of the kind of bipartisan collegiality that we had for so many, many, many years. At least when I started, the ideological differences were there, but the idea of compromising to get something good done was always the standard operating procedure, and everyone agreed that the NIH was something that was extremely important for the country and the world. So even though they had differences, when it came to the NIH, they always agreed that we've got to give more resources. Now both parties are very favorably disposed towards the NIH and towards science, but sometimes the differences between them are such that they don't want to compromise, and what happens is that the end result is that you don't get the kind of increases that you want, not because they don't want to increase you, but because they can't agree on a compromise. So I think that as we get beyond this bipartisan friction, where you have friction of either side, and things get to be more collegial, then it will be clear again that science absolutely needs to be supported, and, in our case, biomedical research needs to be supported.

Williams: Are you confident that the NIH will continue to be a major, perhaps *the* major player in the scientific enterprise?

Fauci: Oh, yeah, I don't think there's any doubt about that. I think that hopefully there will be other contributors, particularly philanthropy. But the thing that the NIH does that pharmaceutical companies don't do, philanthropy almost never does, is to fund basic fundamental investigator-initiated research. Most of the industry, biotech, and even many of the philanthropic approaches, there's always a theme,

"We're going to get a vaccine for this. We're going to get this for that." And they don't focus on "Just give us ideas and I don't even care what the idea is. I just want this idea to pop up in the mind of a bright investigator." The NIH traditionally and historically has been the main funder of that kind of activity, and if you take that activity away, all of the downstream translations of that are going to go away, because what feeds all the translational research is the fundamental undifferentiated investigator-initiated bright ideas. So you have to have that, and the NIH is the major funder of that.

Williams: Have you been on the phone yet with Mark Zuckerberg?

Fauci: I have. I have. I spent an hour on a teleconference with him. So he was on one side, I was on the other. We were talking to each other on our computer screens. One of those computer people fixed that.

Williams: Was this after his announcement—

Fauci: No, this was before. This was before. And I'm sure I was not the only person that Mark was speaking with, and he told me he was speaking to various luminaries in science to try to get a feel of what they thought were important things to do. And I actually made the pitch him, just what I said now, that it's really important to fund basic research. You could say, "Well, I'm going to put this amount of money into malaria," or breast cancer or prostate cancer, but we can't forget funding of the individual scientists with their bright ideas. So hopefully he got the message.

Williams: It'll be interesting to see where that 99 percent goes. Talk just a moment about the role of the American Association of Immunologists in all of this, the AAI.

Fauci: Well, the AAI is, I mean, obviously, the elite organization of immunologists of the country and, in some respects, of the world. It is the most important organization for advocacy of immunology, for celebration of immunology, for convening of immunology with their meetings both at the national meeting and when they team up with the international societies. It's essentially the core home for immunology. I mean, when I was growing up in immunology, the first goal was publish a couple of papers so somebody could put you up for membership in the American Association of Immunologists, and it was something that you were proud of, to be part of a group of people who historically have been the groundbreakers of a very exciting discipline.

Williams: I've been asking everyone a couple of questions. How do you maintain a balance between your work and family responsibilities?

Fauci: You know, I don't, to be honest with you. There's an imbalance there, but not a complete neglect. So I have a wife [Christine Grady, RN, Ph.D.], a wife of over thirty years, who works at the NIH. She's the chairperson of the Department of

Bioethics at NIH. I met her when she was a nurse here at NIH. She understands very much what drives me. She's incredibly supportive. So what we do is that we have fun together. We've raised three young girls, children, together. They're now in their twenties. But we fashioned our life that the time that we spend together is really quality time. We don't waste time. But we spend a lot of time working.

Back when the children were growing up, I probably didn't spend as much time as I should have with the children, but we made a rule that even though I worked really late, that we would eat a meal together every night that I was in town. So I don't want to recommend this, because it's not good for your digestive tract, but virtually every night that I was in town, we would come home and usually eat somewhere around nine o'clock, quarter to nine. So the kids, all of whom played sports, athletics in high school and elementary school, would finish school, grab a snack, go play their sports, come back, have another snack, study. Then I would come home. We've have a meal late, unhealthy as it may be. We were able to sit down together with a meal every night, chat a bit, see how things were going. I'd go into my office, continue work until midnight, one o'clock, and they'd go do the rest of their homework and go to sleep. I've developed probably, again, in a non-healthy way the ability to get away with very, very little sleep, so I sleep less than five hours a night. So I work sixteen, seventeen hours a day.

Williams: Daughters, young scientists?

Fauci: No. Actually, somewhat scientists. My oldest daughter, Jennifer, is in her third year of a five-year Ph.D. program in clinical psychology, so she is going to be a clinical psychologist. So that is medicine-related. My middle daughter is a teacher in New Orleans in charter schools. And my youngest daughter, who went to Stanford and majored in computer science, works for Twitter in San Francisco. So a little, certainly, science, but not the classic health sciences.

Williams: That wasn't my last question. This is. What do you do for fun?

Fauci: I run. I've always run. I mean, I ran marathons. I run 10Ks. I like to stay physically active when I can, when I can squeeze it in. But, I mean, it seems very simple. I like to go out to a nice dinner every once in a while with my wife. I have a very good relationship; my wife is my best friend. We have a lot of fun together. We hike and walk on the canal on the weekends when I'm not working. To me, that's fun. I always keep saying what I really like to do is fish. I love to fish. The only trouble is I fish once a year. [laughs] That's the only time I get to fish, is like once or twice a year. But if I had time, I would fish.

Williams: Dr. Fauci, thank you so much for this interview.

Fauci: You're welcome. You're welcome.

Williams: It was wonderful.

Fauci: My pleasure.

[End of interview]